

Sunrise Powerlink Project

Mitigation Monitoring, Compliance and Reporting Program

FINAL REPORT

Prepared for
California Public Utilities Commission



Prepared by
Aspen Environmental Group



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Executive Summary

This Executive Summary provides a brief summary of San Diego Gas and Electric Company's (SDG&E's) Sunrise Powerlink Project Final Report. Further details, work descriptions and detailed timelines can be found in analogous sections in the Final Report as noted through this summary.

ES.1 Introduction

SDG&E's Sunrise Powerlink Project involved the construction of a 117.2-mile 230 kV/500 kV transmission line from SDG&E's Imperial Valley Substation near El Centro, in Imperial County, to SDG&E's Sycamore Canyon Substation in coastal San Diego County. In addition to the new 230 kV/500 kV lines, the project included construction of a new substation, reconductoring of existing selected 69 kV lines, and upgrades to several existing substations.

ES.2 Overview of the Sunrise Powerlink Project

The SDG&E Sunrise Powerlink Project was evaluated in accordance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The Final Environmental Impact Report/Statement (EIR/EIS) was adopted by the California Public Utilities (CPUC) as lead CEQA agency and Bureau of Land Management (BLM) as lead NEPA agency. The mitigation measures and applicant-proposed measures (APMs) described in the EIR/EIS were adopted as conditions of project approval by the respective agencies. The CPUC also adopted a Mitigation, Monitoring, Compliance and Reporting Program (MMCRP) to ensure compliance with all mitigation measures imposed on the Sunrise Powerlink Project during implementation.

The Commissioners of the CPUC voted on December 18, 2008 to approve the Final Environmentally Superior Southern Route (FESSR) (Decision D.08-12-058) and a Certificate of Public Convenience and Necessity (CPCN) was issued. The BLM issued a Right-of-Way grant and a Record of Decision (ROD) approving the same route on January 20, 2009. The project also crosses the Cleveland National Forest (CNF), lands under the jurisdiction of the U.S. Department of Agriculture Forest Service (USFS). USFS issued its ROD for the project on July 9, 2010, and Department of Defense (DOD) MCAS Miramar issued its Notice to Proceed June 28, 2011 for a portion of the route east of the Sycamore Canyon Substation and 69 kV line reconductoring located on DOD property.

After the project was approved by CPUC and BLM, SDG&E completed final project design and engineering. As is common on large transmission projects, some project components were modified during final engineering. Project modifications also were made to comply with adopted mitigation measures requiring resource avoidance to minimize or avoid environmental impacts. On May 14, 2010, SDG&E submitted to the CPUC and BLM a Project Modifications Report (PMR) that defined the changes made to the project along the entire route subsequent to publication of the Final EIR/EIS. The CPUC accepted public comments on the Final PMR from May 14 to June 7, 2010, and considered all comments while evaluating the proposed modifications. The CPUC and BLM published the CEQA and NEPA Determination on SDG&E's proposed project modifications, as documented in a CPUC Determination Memorandum and a BLM Determination of NEPA Adequacy. In accordance with CEQA and NEPA requirements, the CPUC and BLM determined that the changes to the Sunrise Powerlink Project were within the scope of the CPCN and ROD issued by the CPUC and BLM, respectively.

ES.3 Mitigation Monitoring, Compliance, and Reporting Program

ES.3.1 Purpose of the MMCRP

The Final EIR/EIS for the Sunrise Powerlink Project included procedures for preparing and implementing a MMCRP to ensure compliance with mitigation measures approved in the Final EIR/EIS, as well as with

the terms and conditions associated with the right-of-way (ROW) grant on BLM lands. The MMCRP was developed to provide guidelines and standardize procedures for environmental compliance.

ES.3.2 Jurisdictional Agencies

ES.3.2.1 Agency Roles

The CPUC and BLM, as Lead Agencies, and the USFS as a Cooperating Agency were responsible for ensuring that all mitigation measures were implemented throughout construction and operation.

- In addition many other local, state, and federal agencies have jurisdiction over lands crossed by the project route or resources affected by the project. These agencies and their role are summarized in Section 3.2.1.

ES.3.3 Compliance Monitoring and Reporting

ES.3.3.1 Roles

CPUC Project Manager

The CPUC Project Manager, Ms. Billie Blanchard, had the overall responsibility for ensuring that mitigation measures were implemented as adopted by the CPUC. The CPUC delegated field monitoring and reporting responsibilities to Aspen Environmental Group (Aspen), its third-party monitoring firm. Ms. Blanchard issued Notices to Proceed (NTPs) for construction of each segment or combination of segments as well as issued variance approvals as requested by SDG&E on State and private lands.

BLM Field Manager and Project Manager

The El Centro Field Manager, Mr. Tom Zale, was the authorized officer making decisions for BLM relative to the project. The Field Manager issued all NTP authorizations and permits for the use of BLM land. The Field Manager also addressed changes to the project including Determination of NEPA Adequacy (DNA) evaluations and joint agency variances. The BLM Project Manager, Mr. Daniel Stewart, reported to the Field Manager and was responsible for coordinating the implementation of the project between the BLM staff at the field, District, and State office levels. The BLM headed coordination efforts with Native American tribes along the Sunrise Powerlink.

CPUC (and BLM) Third-Party Monitors

The CPUC delegated daily monitoring and reporting responsibilities to Aspen. The BLM also was assisted by Aspen.

Aspen Monitoring Staff

Aspen's Monitoring Manager, Ms. Vida Strong, supervised Aspen's Environmental Monitors (CPUC EMs). She also was responsible for preparing draft NTPs and Variance/DNA approvals/denials for consideration by the CPUC Project Manager and BLM Field Manager. The Monitoring Manager was assisted by Mr. Fritts Golden, who focused on public complaint and safety issues as they arose. Ms. Anne Coronado conducted detailed compliance reviews of preconstruction submittals, requests for NTPs, variances, and DNAs. Ms. Cassandra Garza, the CPUC Lead EM oversaw day-to-day monitoring activities of the CPUC EMs in the field, and was the primary point of contact with in-field agency personnel. Mr. Brian Woodward, and Ms. Valerie Yep served as CPUC EMs. Two additional general CPUC EMs were made available and two rotating CPUC EMs were assigned specifically to helicopter compliance. They monitored construction activities for compliance with project mitigation measures, compliance plans, and permit conditions.

United States Department of Agriculture Forest Service

The approved project route crosses CNF, land under jurisdiction of the USFS. This required issuance of a Special Use Permit (SUP) from the Forest Service. Forest Supervisors, Mr. Bob Hawkins and Mr. Rich Tobin, were responsible for the overall permit administration. Work was monitored and enforced by the USFS. The CPUC EMs monitored work on CNF on behalf of the CPUC and coordinated with the USFS and its permit monitors. The CPUC EMs assisted the USFS specialists in monitoring when requested.

United States Department of Defense – Marine Corps Air Station (MCAS) Miramar

A portion of the approved route east of Sycamore Canyon Substation (approximately 0.7 miles) and the Sycamore-Elliot reconductoring crossed land administered by the Department of Defense (DoD) MCAS Miramar. As part of the project, SDG&E obtained the following permits from MCAS Miramar: FAR Part 77 Request (via FAA) and SECNAVINST 11011.47A (for access roads outside of the easement). MCAS Miramar chose to conduct its own separate monitoring program.

ES.3.3.2 Coordination and Communication

As prescribed in the MMCRP, effective coordination and communication between SDG&E, the CPUC, BLM, and the Aspen team, as well as participating jurisdictional agency representatives was essential. During the pre-construction phase of the project, as well as during construction, numerous meetings, regular conference calls, and on-site visits occurred between SDG&E specialists, the CPUC, BLM, and other agencies, and representatives from Aspen.

As construction of the Sunrise Powerlink Project progressed, several communication protocols outlined in the MMCRP were updated to reflect the project's communication needs. Various incidents generated the need for these changes, which included the development of a Cultural Communication Protocol; the development and implementation of MMCRP Attachment Q: Protocol for Reporting Environmental and Safety Events; and CPUC Monitor Helicopter Flight Protocol. Please see Section 3.3.2 for a complete description of the added communication protocols.

ES.3.3.3 Reporting

Both SDG&E and Aspen/CPUC drafted weekly reports which captured construction progress, as well as reported compliance and any issues that arose in the field. The reports were posted to the CPUC website for the Sunrise Powerlink Project to provide any interested party access to the reports. They can be found at <http://www.cpuc.ca.gov/Environment/info/aspen/sunrise/reports.htm>.

In addition, numerous mitigation measures as well as permit conditions on specific resources required SDG&E to submit weekly, monthly, quarterly and/or annual reporting throughout construction. These included quarterly construction emissions, vehicle maintenance, wash station logs, archaeological monitoring reports, and sensitive wildlife. Reporting also extends into project operations and maintenance (O&M) depending on the resources being monitored.

ES.3.4 Variances and Temporary Extra Workspaces

The MMCRP acknowledged that temporary and permanent changes, such as the need for additional workspace, were anticipated and common practice for construction efforts on the scale of Sunrise Powerlink Project and that a formal Variance Request and/or Temporary Extra Work Space (TEWS) requests would be required for these changes. On BLM federal lands the BLM conducted a similar Determination of NEPA Adequacy (DNA) process. On CNF lands, the USFS processed Variance requests; CPUC and BLM were not involved in this review.

The CPUC and BLM Project Managers along with the CPUC EMs ensured that any variance process or deviation from the procedures identified under the monitoring program was consistent with CEQA and NEPA requirements. Variances were strictly limited to minor project changes that did not trigger other permit requirements, did not increase the severity of an impact to a level of significance or create a new significant impact, and clearly and strictly complied with the intent of a mitigation measure where applicable. See Sections 3.4 and 8.1 through 8.5 of the Final Report for a detailed summary of project variances, DNAs, and TEWS.

A TEWS was defined as a workspace that could be used by SDG&E during construction for a period of up to 60 days. SDG&E had to demonstrate that the TEWS was located in a disturbed area with no sensitive resources or land uses onsite or adjacent to the proposed workspace, that SDG&E had permission from the landowner to use the workspace, and that use of the TEWS would not result in any significant environmental impacts.

In total, 85 variances, 4 DNA's and 39 TEWS were approved by the CPUC, BLM and USFS during construction. Cumulatively, changes including extra workspaces slightly increased the acreage of permanent project impacts. The as-built impacts to special status species habitats are close to what was projected in the PMR and often less. To account for any small increases SDG&E had acquired a surplus of mitigation acreage to meet its original obligations, which was available to mitigate project variance changes. The only notable increases in impacts occur in flat-tailed horned lizard (FTHL) areas; however, mitigation for FTHL habitat impacts were mitigated by payment of an in lieu fee. Please see Tables 1 and 2 of the Final Report for projected and as-built habitat acreages.

ES.4 Pre-Construction Compliance Review and Notices to Proceed (NTPs)

Many mitigation measures and permit conditions required SDG&E to conduct numerous surveys and studies and prepare relevant plans and obtain jurisdictional approval of these documents prior to commencing construction. In addition to NTP Requests for the transmission line, separate NTP Requests were made for specific construction yards, the Suncrest substation, upgrades at existing substations, and communication facilities. The purpose of the pre-construction process was to ensure that all actions and submittals required under the MMRCP were completed. This allowed the CPUC, BLM, and other agencies to issue Notice to Proceed (NTP) authorizations for each project component, rather than require completion of all requirements for the entire project before issuing an NTP. See Section 4 of the Final Report and Table ES-1 below which lists NTPs as they relate to specific construction components.

Each NTP letter and associated NTP Compliance Status Table documented the thorough evaluation of all activities covered under that NTP. The evaluation process ensured that all mitigation measures and permit conditions applicable to the location and activities covered in the NTP were implemented, as required in the CPUC's Decision, BLM's ROD, USFS's ROD, and MCAS Miramar's FAR Part 77. Construction could not start on any project component before SDG&E received a written NTP from the CPUC Project Manager, BLM, USFS, or Miramar, as applicable. All approved NTPs are posted on the CPUC website. In addition all required permits and plans, surveys, studies, and coordination documentation submittals are also posted.

ES.4.1 Notices to Proceed

ES.4.1.1 State and Private Lands NTPs

The CPUC issued 13 NTPs throughout construction as specific pre-construction mitigation requirements were fulfilled (see Table ES-1). The first nine NTPs were for existing substation and facility upgrades, and for mobilization to construction yard areas. Construction on the Sunrise Powerlink Project itself started

November 23, 2010 with the issuance of NTP #10, which covered Link 4 (the 230 kV underground line). NTP #11 approved work on the Suncrest Substation. NTP #13 covered the largest area of construction, which included private land areas of Links 1 and 2, encompassing the 500 kV overhead portion of construction, and Link 5, which covered the 230 kV overhead construction. NTP #13 also approved 69 kV re-conductoring work, 12 kV relocations, as well as use of a number of construction yards.

ES.4.1.2 BLM Lands NTPs

The BLM issued two NTPs as specific pre-construction mitigation requirements were fulfilled (see Table ES-1). The first NTP was for upgrades to the existing Imperial Valley Substation, issued on February 3, 2011. New Sunrise Powerlink Project construction on federal lands started April 4, 2011, with the issuance of NTP #2, which covered BLM jurisdictional areas in Links 1, 2, 5. NTP #2 also approved use of designated material staging yards on BLM lands.

ES.4.1.3 USFS Lands NTP

The USFS issued one NTP for Sunrise Powerlink Project construction on USFS lands August 9, 2011 which covered CNF areas of Links 1, 2, 5.

ES.4.1.4 MCAS Miramar NTP

The MCAS Miramar issued one NTP for Sunrise Powerlink Project construction on MCAS Miramar lands beginning June 28, 2011, which covered Link 5 work just east of the Sycamore Canyon Substation and the 69 kV line re-conductoring.

Table ES-1. Work Component and Approval Summary

Work Segment	Approval Documents	Location/Construction Details	Start of Work Date	Energization/ End of Work Date
500 kV Overhead Links 1 & 2	CPUC NTP #13, 01/14/11 BLM NTP #2, 04/04/11 USFS NTP, 08/09/11	Links 1 and 2 the 500 kV overhead transmission line connects the existing Imperial Valley Substation to the new Suncrest Substation and crosses a patchwork of USFS, BLM, State and private lands from milepost (MP) 0 to MP 88.8. The transmission line is strung across a combined 338 new lattice steel towers and TSPs.	Jan 2011	Energized June 17, 2012. Punchlist items, clean-up and restoration continued post energization
230 kV Overhead Link 5	CPUC NTP #13, 01/14/11 BLM NTP #2, 04/04/11 USFS NTP, 08/09/11 MCAS Miramar NTP, 06/28/11	Link 5, the 230 kV overhead double transmission line connects the new Suncrest Substation and the existing Sycamore Canyon Substation. It is comprised by two parts, separated by an underground segment in Alpine (Link 4). Almost 22 miles in length, Link 5 crosses a patchwork of USFS, BLM, MCAS Miramar, State and private lands from MP 89.2 to MP 92.0 and MP 98.2 to 117.2. The 230 kV double circuit transmission lines are strung across 100 new lattice steel towers and TSPs.	Jan 2011	Energized June 15, 2012. Punchlist items, clean-up and restoration continued post energization
230 kV Underground Link 4	CPUC NTP #10, 11/23/10	Link 4, the underground 230 kV transmission line occurs within the community of Alpine and consists of 6.2 miles of double circuit lines between MP 92 and 98.2 and separates the Link 5 overhead transmission line.	Nov 2010	Energized June 15, 2012 Active construction wrapped up Dec 2011
Suncrest Substation	CPUC NTP #11, 12/15/10	The substation site is located east of the community of Alpine, in San Diego County. The Suncrest Substation was constructed to accommodate the termination of a single 500 kV overhead transmission line circuit (Links 1 and 2) and two 230 kV overhead transmission line circuits (Link 5).	Dec 2010	Energized June 15-17, 2012. Punchlist items and refinements to screening plans and vegetation work continued post energization

Table ES-1. Work Component and Approval Summary

Work Segment	Approval Documents	Location/Construction Details	Start of Work Date	Energization/ End of Work Date
Imperial Valley Substation Upgrades	BLM NTP #1, 02/03/11	The Imperial Valley Substation is the eastern 500 kV terminus of the Project and is located on BLM land near El Centro, Imperial County.	Feb 2011	Jun 2012
San Luis Rey Substation Upgrades	CPUC NTP # 1, 04/28/10	The San Luis Rey Substation is located in Oceanside, San Diego County and is not directly connected to the new Sunrise Transmission Line.	Sep 2010	Apr 2013
Southbay Substation Upgrades	CPUC NTP #2, 04/29/10	The South Bay Substation is located immediately adjacent to San Diego Bay, in Chula Vista, San Diego County. The substation is not directly connected to the Sunrise Transmission line.	Sep 2012	Oct 2010
Encina Substation Upgrades	CPUC NTP # 6, 09/28/10	Encina Substation is located in the City of Carlsbad, San Diego County and lies adjacent to the Encina Power Station. Encina Substation is not directly connected to the Sunrise Powerlink Project.	Oct 2010	June 2013
Pomerado Substation Upgrades	CPUC NTP # 8, 10/06/10	The Pomerado Substation is located in Poway, San Diego County. It is connected to the 69 kV reconductoring work.	Mar 2012	Nov 2012
Scripps Substation Upgrades	CPUC NTP # 9, 10/06/10	The Scripps Substation is located in the City of San Diego, San Diego County. It is connected to the 69 kV reconductoring work.	May 2011	Aug 2011
Sycamore Canyon Substation Upgrades	CPUC NTP #13, 01/14/11	The Sycamore Canyon Substation is the western terminus of the Sunrise Powerlink Project ROW. The reconductoring of existing 69 kV tie-lines between the Sycamore Canyon Substation and Elliot Substation, Scripps Substation, and Pomerado Substation occurred.	May 2011	Nov 2012
69 kV Reconductoring	CPUC NTP #13, 01/14/11 MCAS Miramar NTP, 06/28/11	Upgrades and reconductoring of three existing 69 kV tie-lines were completed. Tie-line upgrades included 6.4 miles between the Sycamore Canyon Substation and Scripps Substation, 8.2 miles between Sycamore Canyon Substation and Elliot Substation, and 1.9 miles between Sycamore Canyon Substation and Pomerado Substation.	May 2011	Aug 2012
12 kV Relocations	CPUC NTP #13, 01/14/11	Small stretches of 12 kV lines were relocated near/along Jacumba Valley Ranch, McCain Valley Road, Loritz, Alpine Boulevard, El Capitan, Buckman Springs Road, Bell Bluff Truck Trail and on MCAS Miramar lands.	April 2011	Sep 2011
White Star Facility Upgrades	CPUC NTP #7, 09/28/10	White Star Communication Facility upgrades.	Oct 2010	Nov 2010
Alpine Yard	CPUC NTP #3, 05/20/10	Located in the community of Alpine, San Diego County	Sep 2010	Sep 2012
Alpine Regional Field Offices	CPUC NTP #4, 05/28/10	The Alpine Field Office site was located in the community of Alpine, San Diego County. The County of San Diego approved a Minor Use Permit for the conversion of the complex to permanent use April 4, 2013.	Sep 2010	N/A
Rough Acres Yard	CPUC NTP #5, 09/28/10 CPUC NTP #12, 12/23/10	Located in the community of Boulevard, San Diego County.	Sep 2010	Oct 2012
Wilson Yard	CPUC NTP #11, 12/15/10	Located east of the community of Alpine, San Diego County.	Jan 2011	Sep 2012
Tomas Yard	CPUC Variance #1, 11/10/11	Located near El Centro, Imperial County.	Nov 2010	Sep 2011
S2 Yard	CPUC NTP #3, 01/14/11	Located northwest of Ocotillo, Imperial County.	Feb 2011	Jan 2012
AER Yard	CPUC NTP #13, 01/14/11	Located east of the town of Jacumba, San Diego County	July 2011	Jan 2012
Fromm Yard	CPUC Variance #22, 08/04/11	Located east of the town of Jacumba, San Diego County.	Aug 2011	Sep 2012
Jacumba Valley Ranch Yard	CPUC NTP #13, 01/14/11	Located northeast of the town of Jacumba, San Diego County.	Feb 2011	Sep 2012

Table ES-1. Work Component and Approval Summary

Work Segment	Approval Documents	Location/Construction Details	Start of Work Date	Energization/End of Work Date
Bartlett-Hauser Yard	CPUC NTP #13, 01/14/11	Located northwest of the town of Campo, San Diego County.	Feb 2011	Sep 2012
Kreutzkamp Yard	CPUC NTP #13, 01/14/11	Located northwest of the town of Potrero, San Diego County.	Feb 2011	Sep 2012
SWAT Training Facility Yard	CPUC NTP #13, 01/14/11	Located southeast of the community of Alpine, San Diego County.	Feb 2011	Oct 2012
El Monte (Hartung) Yard	CPUC NTP #13, 01/14/11	Located northwest of the community of Alpine, San Diego County.	Feb 2011	Apr 2012
Helix Yard	CPUC NTP #13, 01/14/11	Located east of Lakeside, San Diego County.	Feb 2011	Sep 2012
Sycamore Estates Yard	Variance #2, 03/18/11	Located southeast of Poway, San Diego County.	July 2011	Sep 2012
Dunaway Yard	BLM NTP #2, 04/04/11	Located east of Ocotillo, Imperial County.	Apr 2011	Dec 2011
Plaster City Yard	BLM NTP #2, 04/04/11	Located northeast of Ocotillo, Imperial County.	Apr 2011	Dec 2011
McCain Valley Yard	BLM NTP #2, 04/04/11	Located north of Boulevard, San Diego County.	Aug 2011	Jun 2012
Barrett Canyon Yard	BLM NTP #2, 04/04/11	Located immediately adjacent to the Barrett Substation.	Sep 2011	Jun 2012
Thing Valley Yard	USFS NT, 08/09/11	Located along La Posta Truck Trail within CNF.	Aug 2011	Aug 2012

ES.5 Description of Construction and Compliance

The Sunrise Powerlink Project’s 117.2-mile ROW begins at the Imperial Valley Substation (MP 0) and terminates at the Sycamore Canyon Substation (MP 117.2). The project crosses a patchwork of jurisdictions, including State and private lands (CPUC), BLM lands, USFS, MCAS Miramar and tribal lands. The line also crosses numerous sensitive species habitat areas including peninsular big horned sheep, barefoot banded gecko, flat tailed horned lizard, golden eagle, Quino checkerspot butterfly, arroyo toad, California gnat-catcher, least Bell’s vireo, southwestern willow flycatcher, sensitive bat colonies, as well as sensitive vegetation communities. Jurisdictional waters and wash areas were crossed. Areas of desert pavement were crossed, as well as sensitive paleontological and cultural resource areas. Many construction areas were geographically isolated and in challenging terrain; therefore, helicopter construction was extensively employed.

The construction segment approvals, start, end and energization dates are provided in Table ES-1 above. A comprehensive environmental compliance discussion follows. Full details are provided in Section 5 of the Final Report. Appendix A to the Final Report identifies all new Sunrise Powerlink Project towers, associated jurisdiction, construction type (conventional or micropile), site access and associated sensitive species.

Sunrise Powerlink Environmental Compliance

Prior to construction, notifications to the public were posted and mailed, and crews were given Safe Worker and Environmental Awareness Program (SWEAP) training. New crew members were trained as they joined the project. Additionally, daily tailboards were conducted prior to starting work activities, alerting crews to any site-specific issues. SDG&E monitors also briefed crews on precautionary measures required during construction.

Biological monitors were present for pre-construction surveys, survey sweeps immediately preceding construction, vegetation clearing and ground disturbing activities. Depending on the location and sensitivity of resources, Biological monitors would either be present for all activities or when appropriate they would conduct spot checks throughout construction. Archaeological, paleontological, and Native American monitors were present depending area resources and/or ground disturbing activities. Monitors ensured implementation of all applicable mitigation measures, permits and plans and the staking and integrity of Environmentally Sensitive Area (ESA) boundaries and exclusion fencing. Appropriate monitoring was verified by the CPUC EMS.

Prior to construction CPUC EMs conducted field reviews to verify site staking. Documentation approval was required to release areas to begin construction.

Several paleontological discoveries were made along Link 1 and at the Imperial Valley Substation. Samples were collected and the appropriate agencies were notified in accordance with the approved Paleontological Monitoring and Discovery Treatment Plan.

Several unanticipated cultural discoveries were made along Links 1, 4 and 5, at the Suncrest Substation and at the Wilson, Dunaway and Rough Acres Yards. ESAs were established and the procedures and guidelines for Treatment for Unanticipated Discoveries as set forth in the Final Historic Properties Management Plan were implemented. Along Link 4 at the Interstate 8 bore site, measures were taken to protect an historic wall near Alpine Creek. An archaeologist was present to monitor any shifting of the wall during construction; none was noted. In February 2011 at the Suncrest Substation, work to relocate a cultural resource was coordinated with Cultural Monitors and representatives from the Viejas Tribe. A cultural ESA along Link 1 was breached resulting in a Noncompliance Report (NCR). Crews had walked across a culturally sensitive area without proper monitoring and the incident was not reported to the CPUC or BLM in a timely manner. Corrective actions included a refinement of project communication protocols with regard to culturally sensitive areas.

A significant number of avian surveys were conducted during the nesting season both before and concurrent with construction under the direction of the Nesting Bird Management and Monitoring Plan (NBMMP). (Please see Section ES.8 of this Executive Summary and Section 8.1 of the Final Report for further detail.) Bird buffers were established. At times the buffers constrained access. From March through May 2012 overland access to the Helix Yard was impacted due to a least Bell's vireo nest and associated buffer. To dissuade nesting, bird deterrents were placed on equipment and materials.

Barefoot-banded gecko and arroyo toad exclusionary fencing was installed prior to the commencement of construction activities in their respective habitats. During construction, SDG&E reported that exclusionary fencing was being inspected and maintained on a regular basis; however, CPUC EMs monitored the fencing and notified SDG&E when obvious repairs needed to be made.

Vegetation salvage efforts were conducted. Cactus salvage occurred during initial grading throughout various parts of the project for use in later restoration efforts. A number of sensitive milk-vetch populations were flagged with ESA signage at the Rough Acres Yard. Where appropriate, top soil and plant salvage was conducted. In January 2011, an endangered plant, Dehesa beargrass (*Nolina interrata*), was identified along the access road from El Capitan to the Bauer Property and an ESA was established. In December 2010, prior to the construction of Suncrest Substation, spiny redberry, a rare plant, was identified and relocated.

In August 2011, cholla salvage occurred at the Fromm Yard. On Link 4 Biological Monitors identified an endangered plant (*Nolina interrata*) and an ESA was established.

During construction all trenches were ramped or sloped to prevent wildlife entrapment. Steel plates were also placed over excavated areas. In compliance with Mitigation Measure B-3a and the Weed Manage-

ment Plan, wash stations were installed at yards in order to wash equipment and vehicles in order to prevent the spread of noxious weeds between different locations of the project area.

Areas of the alignment as well as the AER and Fromm Yards that were located within PBS habitat and subject to compliance with the PBS Construction Monitoring Plan, which only permitted access from October 1 to December 31 and required approved Biological Monitors to review work areas and surroundings daily to ensure that PBS were not in the area. On June 24, 2011, the period of access was extended by the wildlife agencies to July 1 through December 31. Repeated violations of the PBS Construction Monitoring Plan led to the eventual issuance of a project NCR. Numerous other ESA breaches were identified and are summarized father in Section 6.5, Incidents, of the Sunrise Powerlink Final Report.

In July and August 2011, daytime temperatures in the Imperial Valley became too hot to build steel structures. SDG&E was allowed to construct 24 hours a day in Imperial Valley County, and structure building shifted to nighttime hours while other activities were conducted during the day. The use of lighting for nighttime construction within areas of Link 1 and in the S2, Plaster City and Dunaway Yards was closely monitored to protect wildlife, in particular FTHL where exclusionary fencing was installed.

El Monte Yard was located less than 0.3 miles southwest of the El Monte Golden Eagle Buffer. During helicopter operations, pilots were repeatedly reminded that they must avoid the buffer during the golden eagle breeding season which extended from December through June. On April 14, 2011, it was noted to SDG&E that the size of a nesting bird buffer within the Wilson Fly Yard had been reduced without USFWS and CDFW approval. Corrective action was taken immediately and the nesting birds appeared to be unaffected according to the on-site Biologist. In order to deter birds form building nests on materials and equipment stored in the yards, netting and other nesting deterrents were installed on equipment and materials.

During the Sunrise Powerlink Project, impacts to local non-sensitive species and species of special concern were reported. Thousands of relocations occurred and included numerous sensitive species. Numerous fatal impacts also occurred. Table ES-2 identifies wildlife fatalities. When a species of special concern was relocated, injured, or killed, the appropriate agencies were notified. Listed species also were observed and noted during construction, for example a male Quino checkerspot butterfly in March 2011 and peninsular bighorn sheep in Mountain Springs Grade during December 2011.

A number of areas of the project required boulder busting and/or blasting. SDG&E submitted a Blasting Plan and Well and Springs Report prior to construction and submitted Site Specific Plans for review and approval by the CPUC prior to commencing blasting operations.

A large effort went into meeting State Water Resources Control Board (SWRCB) Stormwater Pollution and Prevention Plan (SWPPP) requirements throughout construction. BMPs were installed, repaired, and regularly maintained. Monitoring occurred both before and after storm events. Rumble plates were installed to help minimize trackout of dirt onto roads. Street sweepers were em-

Table ES-2. Wildlife Fatalities

Sensitive species	Sensitive Species Fatalities	Non-sensitive Species Fatalities (counts not provided)
Belding's orange-throated whiptails	2	Chaparral whip snake
Coronado skinks	11	Cottontail rabbits
Coastal rosy boa	2	California quail
Coast horned lizards	6	Anna's hummingbird
Flat-tailed horned lizards	25	Olive-sided flycatchers
Patch-nosed snakes	4	Northern three-lined boa
Coast patch-nosed snakes	14	Red diamond rattlesnakes
Silvery legless lizards	33	San Diego wood rats
Two-striped garter snakes	14	San Diego Gopher
		San Diego ringneck snakes
		Southern Pacific rattlesnake
		Coastal whiptail
		Barn owl

ployed when trackout occurred. Hydroseed and hydromulch were applied to slopes for stabilization and to help minimize sediment movement. Some incidents and permit violations were reported during construction. On May 10, 2011 a water truck refueled within 200 feet of a jurisdictional waterway. Corrective action was taken and crews were briefed and retrained. Another SWPPP issue of note occurred when a release of approximately 1,000 gallons of potable water was made by a subcontractor's water delivery truck near Evan Hewes Highway, west of Painted Gorge Road in Ocotillo. The potable water reached Coyote Wash. The release was reported to the U.S. Army Corps of Engineers (USACE), the SWRCB, and the California Department of Fish and Wildlife (CDFW). On June 2, 2011, a release of approximately 50 gallons of melted ice water reached a dry wash, East Coyote Wash, 13-DW-13. Electronic reporting was made to the SWRCB and the USACE. On December 28, 2010, along Link 4 construction sediment from a vacuum truck spill ran to a tributary leading to Viejas Creek. CPUC, CDFW, ACOE, SWRCB, and the County of San Diego Public Works Department were notified of the release. On December 20, 2011, a "Waters of the U.S." and "Waters of the State" Final Notification Form was filed with the USACE, SWRCB, and CDFW when a one-time discharge of approximately 5 gallons of concrete slurry occurred within the low-flow channel of Chocolate Creek. The slurry was removed by hand from the stream bank and did not result in any permanent fill or damage to the structure or function of the streambed, bank, or adjacent wetlands vegetation. A number of regulatory field reviews were conducted by SWRCB and other agencies throughout construction. In March 2011, reviews were performed at the Suncrest Substation by the SWRCB and led to the issuance of a Non-Compliance by the USACE. SDG&E had not successfully prevented sediment and excessive erosion from entering waters of the U.S. Section 6.4 of this Summary further discusses the USACE Non-Compliance issued.

Hazardous materials releases were monitored during construction. On October 12, 2011 approximately 50 gallons of diesel fuel were released off of Puetz Valley Road. The site was cleaned and stained soil was removed. Numerous minor (< 1 gallon) leaks of hydraulic fluid, motor oil, diesel fuel, and gasoline were reported during construction. All materials were immediately contained and no hazardous materials entered storm drains, waterways, hydrological resource areas, or ESAs. Monthly release reporting was made to the County of San Diego Public Works Department, Watershed Protection, and the County of San Diego Stormwater Hotline.

Pre-construction Phase I environmental site assessments indicated that some underground areas along the Link 4 alignment had potential for contamination to be encountered. In January 2011, potholing was conducted along Alpine Boulevard in "Potentially Impacted Zones 1 and 3" for underground contamination; however, no indication of contamination was found. In August 2011, soil contamination was discovered as anticipated at Soil Management Plan Zone 1. Construction was halted in this area and the sampling and disposal plan was initiated. SDG&E's Environmental Laboratory conducted soil sampling. SDG&E's Environmental Services HazMat group used the analysis to determine appropriate shipping and disposal procedures.

In May 2011, two pieces of unexploded ordinance (UXO) were found on Link 1. A trained UXO expert inspected and properly removed and disposed of the devices. UXO was discovered at the Dunaway Yard in May 2011 as well. The appropriate agencies were notified and the UXO was destroyed onsite by the Imperial County Bomb Squad.

Implementation of the Sunrise Powerlink Project Fire Plan was monitored. Numerous small fires occurred along the project. For example in April 2011, two separate instances of vandalism occurred on Link 2 where wattles were removed from the worksite and lit on fire. Along Link 4 in May 2011, a small fire occurred at a vault as crew members were grinding trench plates to prepare for welding. Sparks landed in dry grass at the edge of the road. Quick action by the contractor's fire watch limited the fire to an area of 5' by 7'. On August 5, 2011, a small brush fire started when a hot rock chip flew 25 feet into dry vegetation while riprap was being placed along Bell Bluff Truck Trail (BBTT). The crew quickly responded

with fire tools and a water truck that was working nearby. The fire blackened an area of approximately 50' by 50' before being extinguished. Sunrise Base was immediately notified and the project's Fire Marshal arrived onsite to evaluate the area. Another fire was reported in August, when a truck delivering an auger sparked a fire on Highway 79, approximately 1/8 mile north of BBTT. The chain holding the auger on the truck snapped and created sparks, igniting a roadside fire. The fire was extinguished within approximately 10 to 15 minutes, after burning an estimated 2 acres. USFS and Alpine Fire Department were notified of all incidents.

Water trucks and helicopter water drops were used for dust control. However, on several occasions fugitive dust was observed. Imperial County Air Pollution Control District (ICAPCD) filed a Notice of Violation on October 6, 2011, at the Plaster City Yard when opacity exceeded regulatory standards. On January 23, 2012, it was reported that a significant amount of dust was seen coming from the closed S2 Yard over the weekend. A new watering and monitoring schedule was provided and a thicker layer of tackifier was applied to the yard. On April 24, 2012, a significant amount of dust was observed at the McCain Valley Yard. The dust was a result of Aircrane operations taking place in the yard. Improved coordination among contractors for yard watering was initiated the following day.

Trash control was an ongoing effort at the yards. Several times SDG&E needed to be reminded that trash was becoming a problem.

A complaint from a resident regarding visibility of the project led to extensive review of the Suncrest Scenery Conservation Plan. In partial response, the slats were installed in the chain link fence to obscure some elements of the substation and an onsite warehouse received special camouflage painting treatment. Refinements were also made to the Suncrest Screening Plan.

Mainline construction, as well as the yards, were monitored for visual impacts. In accordance with Mitigation Measure V-1a: "Reduce visibility of construction activities and equipment," SDG&E installed slats in the perimeter fencing at a number of yards. As helicopter construction activities commenced, it was quickly discovered that the fencing slats created a wind barrier and helicopter rotor wash was causing fences to be blown over. In an effort to prevent this from reoccurring, SDG&E installed screening materials that did not impede air movement as much as the slats.

In accordance with the Revised Construction Lighting Mitigation Plan approved on July 7, 2011, SDG&E's construction contractor performed nighttime construction activities at the S2, Plaster City, and Dunaway Yards during July and August 2011 as mentioned above. CPUC EMs routinely inspected the nighttime activities and reported findings to SDG&E. The number and angle of lights were adjusted to lessen the light plants' impacts on the surrounding environment. A number of public complaints were logged during this activity at the S2 Yard. All complaints were reviewed and addressed as they came in.

Interaction with the public, as well as public safety protocols, were monitored. The final projectwide traffic impact study was submitted to the CPUC on April 28, 2010, and was approved by San Diego County on September 29, 2010. During construction numerous traffic and encroachment permits were obtained for hauling, temporary lane closures and delivery of large equipment including transformers. Traffic control was a significant issue during Link 4 construction. One or the other of the double lanes along Alpine Boulevard were blocked throughout the duration of Link 4 construction, lasting approximately a year and a half. SDG&E reported several complaints made to the Public Complaint Hotline regarding traffic delays, bike lane closures, traffic cone impacts, as well as access and noise impacts to local businesses. SDG&E made efforts to respond to all issues brought forward and to improve traffic impacts. See Section 11 of the Final Report.

Several public protests of the Sunrise Powerlink Project occurred prior to, during, and post-construction. During the December 9, 2009, groundbreaking ceremony at Rough Acres Yard public protestors were

present. Two protests were held in the community of Alpine, including one on March 1, 2011, when a dozen people protested the Sunrise Powerlink Project in downtown Alpine. On October 7, 2011, it was reported by SDG&E to the CPUC that protestors were taking photos and blocking access roads to Towers EP295 and EP296. Post construction, a small number of protestors made a presence during the dedication ceremony in July 2012 post energization.

Full compliance discussions can be found in Sections 5.1 through 5.6 of the Final Report.

ES.6 Compliance Monitoring & Reporting

The initiation of construction was dictated by issuance of NTPs for given locations or line segments.

The CPUC EMs ensured that appropriate monitoring was being conducted by SDG&E and documented all observations and communications in their logbooks. The CPUC EMs determined whether the observed construction activities were consistent with mitigation measure and APM requirements, permit conditions, and project parameters. All compliance issues were documented in the daily/weekly reports. The weekly reports were posted to the CPUC Sunrise Powerlink Project website:

<http://www.cpuc.ca.gov/environment/info/asper/sunrise/reports.htm>

ES.6.1 Monitoring

Any regulatory agency with jurisdiction over an area or resource had the authority to issue compliance violations regardless of any actions taken by the CPUC and BLM.

ES.6.1.1 Private & BLM Land Monitoring

The CPUC and BLM were supported by the CPUC EMs, who served as day-to-day in-field representatives ensuring compliance with the MMCRP. The Lead EM roamed the entire project based on need. CPUC EMs would reach active construction sites by vehicle or helicopter. CPUC EMs noted site details (e.g., ESAs, SWPPP compliance, disturbance boundaries), photographed activities, and noted any compliance issues encountered. Compliance issues would be brought to the attention of onsite personnel, recapped during the daily check-in call with SDG&E environmental representatives, and noted in the Incident Table in CPUC's Weekly Reports. If a repeated compliance issue, and/or resources were threatened or complete disregard to adhere to project requirements was observed, the CPUC EMs would issue either a Project Memorandum (PM) or Non-Compliance Report (NCR) depending on the severity of the non-compliance activity. SDG&E, the CPUC Project Manager, and the BLM Project and Field Managers would be notified immediately when a PM or NCR was issued.

ES.6.1.2 USFS Monitoring

USFS land was monitored by USFS monitors. The CPUC EMs supplemented USFS monitoring. USFS Monitors had restricted access to project helicopters. Since the CPUC EMs did not have restricted access, they assisted in the review of remote locations only accessible by helicopter. The CPUC EMs would relay any compliance concerns to the USFS monitoring group for their consideration and follow-up.

ES.6.1.2 Miramar Monitoring

MCAS Miramar was monitored by its own biological department. Information on construction progress on Miramar was documented by SDG&E and provided to the CPUC EMs.

ES.6.2 NCRs, PMs, and Stop Work Orders on Private Land and BLM Land

The CPUC issued seven PMs over the course of Sunrise Powerlink Project construction. The majority of violations resulted from crews and/or equipment including helicopters repeatedly entering unauthorized work areas, not having biological “sweeps” performed prior to their entry onto a site, or not having monitors present. Others were the result of SDG&E crews conducting activities without required prior authorization of a resource agency or not providing timely notifications to the agencies. A total of six NCRs and one Stop Work Order were issued by the CPUC. Three NCRs were a result of repeated violations of the PBS Construction Monitoring Plan. Two NCRs were issued for crews breaching cultural and desert pavement ESAs and for notification failures. Lastly, one NCR was issued for the repeated improper rigging of external loads to helicopters. Sections 6.2 through 6.5 of the Final Report provide a complete discussion of PMs and NCRs issued.

A Stop Work Order for helicopter operations was issued by the CPUC as a result of a series of eight helicopter safety incidents. Helicopter safety issues are covered in greater detail in Section 7.1 of this Summary and the Final Report.

ES.6.3 Non-Compliance & Shutdowns for USFS Land

The USFS issued five FS NCRs during construction. Two were issued for Fire Plan and Traffic Control Plan violations. On January 7, 2012, the Fire Plan again was violated and a FS Stop Work Order was issued for work on USFS Land. An NCR was issued for SDG&E notification failures. Another was issued for incursions into golden eagle habitat buffers. Finally, an NCR was issued when problems with the color of installed structures was discovered. The Scenery Conservation Plan had not been appropriately implemented. Thirteen installed structures and 10 partially assembled structures were discovered to be the wrong color. SDG&E was required to compensate the CNF with a combination of mitigation land and funding.

ES.6.4 U.S. Army Corps of Engineers and State Water Resources Control Board Non-Compliances

On March 8, 2011, the USACE issued a Notice of Non-Compliance with permit conditions based on information observed by SWRCB and reported to the USACE following a site visit to the Suncrest Substation construction area on March 2, 2011. SDG&E had not successfully prevented sediment and excessive erosion from entering waters of the U.S. during project construction. In addition, SDG&E had not appropriately notified the USACE of stormwater/runoff issues and failed BMPs at the Suncrest Substation construction site. The USACE under their non-compliance letter, stipulated resolution within 30 days. SDG&E responded to the letter and took actions to bring the situation back into compliance.

ES.6.5 Other Incidents

A total of 100 noted incidents occurred on private, BLM and USFS lands during the construction of the project. Please note that these are discussed in detail in Final Report Section 6.5.

Twenty-three biological resource incidents were noted throughout the construction of the Sunrise Powerlink Project, where the majority of biological incidents involved ESA breaches and crews beginning work without a monitor or appropriate clearance. Three cultural resource incidents were noted and included ESA breaches and an occurrence where a crew member knocked down a cairn within an ESA. There were four reported fire-related incidents throughout construction. All were quickly extinguished.

Twenty-four incidents were related to helicopter use. The majority involved drops. Other incidents included low elevation flights in restricted areas or sensitive resource buffer breaches. See Section 7.1, which details the helicopter incidents and a related stop work order.

A total of 19 off-ROW incidents were noted on the project. These did not involve sensitive resource areas.

Seven safety incidents were noted during Sunrise Powerlink Project construction. Please see Sections 7.2 and 7.3 of the Final Report, which detail the safety incidents and the development of the “Safety Incident Reporting Protocol.” For example an injury occurred when a tower leg fell onsite. In another a contractor employee lost his footing working on a tower and fell approximately 25 feet. 911 was called and the employee was transported for emergency care/treatment. The employee was alert and stable when transported from the site. In another incident a crew member lost control of a piece of tower bracing which dropped, struck the tower, and then hit another crewmember causing lacerations to both his legs.

Seven incidents related to SWPPP implementation and/or hazardous materials occurred during construction. An additional 13 miscellaneous incidents occurred on the Sunrise Powerlink Project which did not fall into any of the categories above. Many were project related dust or trash.

ES.7 Safety

ES.7.1 Helicopter Incidents and Stop Work Orders

The 117.2-mile Sunrise Powerlink Project was one of the largest helicopter-supported construction projects on record. By the time it the line was energized, the project had logged nearly 30,000 flight hours, with as many as 240 to 300 flights a day. The use of a large helicopter fleet on a linear project of this type was a learning experience for the utility, CPUC, and the federal and State agencies with jurisdiction over various aspects of the project.

Several incidents and accidents occurred during helicopter operations:

- February 12, 2011 – Rotor strike
- June 7, 2011 – Aircrane drop of a lattice structure
- June 10, 2011 – Aircrane drop of a lattice structure
- July 11, 2011 – Skid fell off K-MAX helicopter
- August 4, 2011 – Air compressor drop
- August 23, 2011 – Rotor strike
- September 19, 2011 – Micropile pipe drop
- September 22, 2011 – Plywood drop
- September 26, 2011 – Straw wattle drop
- October 19, 2011 – Helicopter door drop
- December 16, 2011 through February 14, 2011 – Bird buffer violations
- January 13, 2012 – Compressor drop
- February 25, 2012 – Hard landing incident
- March 2, 2012 – Timber drop

Aspen and FAA representatives in the San Diego Flight Standards District Office established a close working relationship on helicopter-related issues.

Stop Work Orders directly affecting helicopter operations were issued twice on the project. The first one was an internal SDG&E stop work order which grounded Aircrane operations only, and was associated with the Air crane’s malfunctioning cargo hooks. The helicopter was taken out of service and replaced.

The other Stop Work Order was issued by the CPUC and applied to all air operations and was issued on September 27, 2011. This Stop Work Order was issued because of persistent helicopter-related safety problems. CPUC required SDG&E to cease all helicopter-based work and undertake specific actions, including: conducting a safety stand-down; to retrain personnel on proper procedures and rigging; condition that rigging be performed only by certified personnel; reducing helicopter traffic; develop incident reporting procedures. On October 4, 2011, CPUC determined that SDG&E had complied with the requirements in the Order and approved the resumption of helicopter operations.

Equipment failures and the securing of external loads continued to be a problem. On April 16, 2012, Edward Randolph, Director, CPUC Energy Division, directed SDG&E by a compliance letter to initiate specific actions, including: ensuring a sufficient inventory of rigging supplies at each yard; ensuring that supplies were readily available and that personnel were instructed on their use, and that in the absence of appropriate netting or containers the loads were not to be lifted; ensuring photo documentation of every load with archive available upon CPUC request. By reply letter, SDG&E agreed to the measures and undertook to implement them immediately.

ES.7.2 Development of Safety Incident Reporting Protocol

Following the CPUC issuance of the Stop Work Order for Helicopter Operation on September 27, 2011, SDG&E developed Attachment Q of the MMCRP detailing a “Protocol for Reporting Environmental and Safety Events,” to clarify responsibilities for reporting to the CPUC. Two reporting categories were developed: (1) any event requiring agency notification; and (2) any event that may pose a risk to public health and safety. See Section 7.3 for greater detail.

ES.8 NBMMP Development & Implementation

Both BLM and CPUC NTPs for the overhead portions of the Sunrise Powerlink Project were approved in early 2011. Many of the work areas required vegetation clearing and tree trimming prior to active construction. As a condition of approval for the project, the CPUC, BLM, and USFS required measures to protect nesting birds and their eggs, as they are protected under the Migratory Bird Treaty Act and/or California Fish and Game Code. Mitigation Measure B-8a adopted in the EIR/EIS and MMCRP required conducting vegetation clearing between August 16 and January 14 and tree trimming/removal between September 16 and December 31 to avoid the “take” of nesting birds. In order to begin work on the overhead areas that required tree trimming, SDG&E submitted a variance request to the CPUC. After gaining wildlife agency concurrence, and after review by the CPUC’s biological consultant, CPUC Variance #3 and CPUC Variance #3 Modification were approved January 2011, allowing limited tree trimming between January 1 and September 15, 2011, on non-federal lands only. The wildlife agencies (USFWS and CDFW) required special conditions be followed during tree trimming activities.

The desire to undertake vegetation clearing and tree trimming on federal lands remained and was revisited during a number of intensive multi-agency conference calls beginning in February of 2011. The ability to conduct tree trimming and vegetation clearing activities and avoid “take” was debated. After extensive deliberation, a “Nest Survey Protocol” was approved in April 2011 by the CPUC and BLM to allow vegetation clearing and tree trimming during the 2011 avian breeding season. SDG&E could not conduct any vegetation clearing or tree trimming without prior concurrence from the wildlife agencies. The need for further clarifications arose, and a draft Nesting Bird Management and Monitoring Plan (NBMMP) for 2011 was developed. SDG&E was required to submit vegetation analyses and Nest Survey Reports (NSRs) for each area to be cleared or trimmed. A separate NBMMP was prepared for the USFS. The CPUC/BLM version went through approximately five revisions between July 2011 and its approval in February 2012. Subjects of continuing discussion were the definition of “active” with reference to nests and what constituted an “effective buffer,” and how buffers were determined.

For greater detail and lessons learned during the development of the NBMMP please see Sunrise Final Report Section 8.6.

ES.9 Final Inspection & Pre-Energization

Energization of the Sunrise Powerlink had been planned to occur during the summer of 2012. On March 13, 2012, the California Independent System Operator (CAISO) sent a letter to SDG&E encouraging the utility to take all steps necessary to have the line energized by June 1, 2012. Ongoing problems with the Southern California Edison San Onofre Nuclear Generating Station had significantly impaired the import of power into the San Diego region. With summer demand approaching, availability of the Sunrise Powerlink was critical.

The EIR/EIS and MMCRP outlined several mitigation measure requirements that were necessary prior to energization. In addition, several project permit requirements stipulated completion prior to line energization as well. Starting in April 2012, SDG&E and Aspen held weekly conference calls to discuss project status and confirm completion of all necessary pre-energization tasks. The 230 kV portions of the line (Links 4 and 5) were energized June 15, 2012. On June 17, 2012, the 500 kV portion of the Sunrise Powerlink (Links 1 and 2) became fully energized and control was transferred to CAISO.

Please see Section 9 of the Final Report for a full table of requirements and completion documentation.

ES.10 Restoration & Revegetation

CPUC EMs monitored restoration activities throughout project completion. Restoration activities involved restoring original slopes and/or engineered areas, and application of prescribed hydroseeding/hydro-mulching to temporary disturbance areas at tower pads, pull sites, temporary access roads, guard sites, and construction yards. Permanent 100'x 100' tower pad sites and permanent access roads were re-graded to promote proper water flow. In certain areas, salvaged vegetation was replanted to promote a faster recovery during the revegetation process.

To meet the requirements of Mitigation Measure B-1a, SDG&E had Site Specific Restoration Plans (SSRPs) prepared by a qualified restoration contractor. Approximately 65 SSRPs were prepared to cover all 260 temporary impact areas of the project.

Site preparation, seeding, and cactus planting (if applicable) have been completed for the Sunrise habitat restoration sites. Each habitat restoration site has a rotating monitoring and maintenance schedule. Please see Section 10 of the Final Report for success criteria and status.

A review of the restoration sites was performed on March 21 and 22, 2013 with a member of SDG&E's restoration team, the CPUC EM, and a Restoration Biologist from Aspen to confirm that the requirements put forth in the site-specific restoration plans were being met. A report documenting this review was provided to the CPUC Project Manager. In summary SDG&E currently is on track to meet their restoration goals although dry conditions are limiting revegetation growth.

ES.11 Public Complaint and Resolution Summary

Public complaints and inquiries about Sunrise Powerlink Project activities reached SDG&E and CPUC through various avenues.

- SDG&E established a project community relations office in Alpine, separate from the SDG&E operations center. Mr. Todd Voorhees, SDG&E, was in charge of the office and community relations, including responding to complaints and concerns. An SDG&E-established website provided contact informa-

tion and general project information. As required by the CPUC, SDG&E maintained customer complaint logs identifying the name, date/time, issue, SDG&E responsible department, and resolution for contacts from the public.

- **CPUC** maintained a separate project telephone line (hotline) and a dedicated email address for people to contact the Commission regarding the project. The CPUC-maintained Sunrise Powerlink Project website provided the contact information, as did public notices.
- The **San Diego County Supervisor** representing the eastern portion of the County developed an informal communication channel with CPUC/Aspen and SDG&E. This came about because constituents would contact the Supervisor's office, which in turn contacted SDG&E and CPUC/Aspen. The Supervisor's office was both a conduit for complaints by other others and the source of concerns expressed on its own behalf.

Two aspects of the project generated the greatest number of contacts by far: helicopter operations and underground construction on Alpine Boulevard through the community of Alpine. As the activity for both of these operations increased, so did the number of complaints.

Most complaints or information requests were adequately addressed with one or two telephone calls or emails. A few individuals required considerably more attention regarding their particular issues.

Section 11 provides a detailed discussion of the complaints received and their resolution.

ES.12 Operations and Maintenance

A number of Sunrise Powerlink Project mitigation measures and permit requirements, such as those in the USFWS Biological Opinion, have requirements that extend post-construction, into O&M.

SDG&E has since outlined O&M tasks and timetables and proposed refinements to "implementation and approach" of O&M requirements. In summary, the USFWS Biological Opinion will need to be reinitiated or an amendment/addendum prepared to formalize changes to species conservation measures; the BLM will need to agree, and then the USFWS and BLM will formally consult. SDG&E will simplify and clarify language in the O&M Implementation Plan and prepare a stand-alone PBS O&M Avoidance and Minimization Plan that can be referenced by USFWS. SDG&E must have a process that will document any changes to species' habitat over time. The details of this process would be included in the newly reinitiated BO or an amendment/addendum.

ES.13 Lessons Learned

The Sunrise Powerlink Project alignment approved by the CPUC was a combination of alternatives analyzed in the Final EIR/S. Therefore, prior to project approval, SDG&E had conducted only very preliminary engineering. This combined with the size and complexities of the Sunrise Project (transmission line length, new and upgraded substations, undergrounding, location and number of yards, helicopter use, etc.) and the number of jurisdictions and sensitive environmental areas traversed by the Project, led to new challenges as identified below:

Final Engineering and Construction: Subsequent to project approval, SDG&E had to conduct detailed engineering for the approved Sunrise alignment. As is common, some project components were modified as engineering was completed. Modifications resulting from compliance with adopted mitigation measures which required resource avoidance to minimize or avoid environmental impacts and final engineering design requirements were also made. In addition, some project components were relocated to accommodate landowner location preferences.

As discussed in Section 2 of the Final Report, SDG&E submitted to the CPUC and BLM a Project Modifications Report (PMR) that defined changes made to the project along the entire route after publication of the Final EIR/EIS. Subsequent to review, including public comment, the CPUC and BLM published the CEQA and NEPA Determination on SDG&E's proposed project modifications as documented in a Determination Memorandum and BLM Determination of NEPA Adequacy. In accordance with the CEQA and NEPA requirements, the CPUC and BLM determined that the changes to the Sunrise Powerlink Project were within the scope of the Certificate of Public Convenience and Necessity and Record of Decision issued by the CPUC and BLM respectively.

As discussed in Sections 5 and 8 of the Final Report, construction of the project required additional changes not contemplated by the Final EIR/S or PMR. While most of these changes were related to the need for additional construction workspace and access, several changes were permanent such as the relocation of radio communication facilities and helicopter landing pads for operations and maintenance. CPUC and BLM processed these requests as variances and DNA's, respectively. Project changes were also addressed by the USFS (primarily Fire Plan related) and local jurisdictions (primarily Noise Ordinance related).

LESSON LEARNED: Projects of this scale and complexity are prone to evolution as a result of final engineering **and construction needs**. While it is understood that the utility should not be expending rate payer funds on final engineering for a project that has not yet been approved, to facilitate the identification of project changes related to constructability, the CPUC should encourage the utility to bring on a contractor or individual knowledgeable of construction needs as early in the process as possible.

Mitigation Obstacle #1 – Constructability: As discussed in Section 8.6 of the Final Report, the Sunrise Final EIR/S included Mitigation Measure B-8a which stipulated no clearing of vegetation shall occur during nesting season (January 15 thru August 15). This mitigation measure made the project practically unconstructable for seven months in areas that had not been previously cleared. After much consultation with the Wildlife Agencies, discussions with SDG&E, and the development of the NBMMP, clearing was allowed to occur in areas that were sparsely vegetated, but each request for clearing had to be submitted for review with a vegetation density analysis and nesting survey results.

LESSON LEARNED: While the minimization of resource impacts is the guiding intent of CEQA and NEPA, if a project is approved it must be constructable within a reasonable timeframe, or the “temporary” nature of the impacts need to be further assessed and disclosed (i.e., **what is considered temporary?**). Mitigation measures need to provide the guidelines (aka safety nets) to allow construction to proceed **under stipulated circumstances**. Alternatively, if mitigation measures are extremely restrictive, the CEQA/NEPA documents need to disclose the longevity and/or repetitiveness of an impact so that full public disclosure is accomplished.

In the case of nesting birds, the CPUC should consider the submittal of a NBMMP as part of an applicant's PEA so that impacts resulting from NBMMP **implementation can be assessed**. The NBMMP needs to define proposed buffers by bird species, usage of helicopters, nest log format, nesting deterrents, and **survey protocols and frequency**. Lead agency consultation with Wildlife Agencies during EIR/S preparation also needs to be conducted in order to come to agreement on what are considered acceptable impacts and assignment of responsibility for nesting related requests such as buffer reductions.

Mitigation Obstacle #2 – Mitigation Responsibility: Mitigation Measure B-8a required the establishment of 100/250/300/500-foot buffers (species dependent) for nesting birds and if a buffer reduction was desired, each buffer reduction request would need to be evaluated by the “Wildlife Agencies.” To

further complicate matters, CDFG code does not define what constitutes an “active nest.” On June 29, 2011, CDFG informed the CPUC and BLM that because of staff constraints and the volume of nesting related requests, that CDFG would no longer be able to review the requests. At that time, it was decided that the CPUC biological consultant would take over the task.

LESSON LEARNED: Previous to the Sunrise EIR/S, the Wildlife Agencies had requested the responsibility for reviewing biological resource related issues, as reflected in Mitigation Measure B-8a. However, when the Wildlife Agencies could no longer fulfill the obligation stipulated by Mitigation Measure B-8a, the mitigation was unclear as how to proceed. As discussed under Mitigation Obstacle #1, lead agency consultation with Wildlife Agencies needs to occur during EIR/S preparation so that level of impact and responsibility can be defined and agreed to prior to project approval.

Mitigation Obstacle #3 – Conflicting Mitigation Requirements: The Sunrise mitigation measures have conflicting requirements with respect to Operations & Maintenance (O&M). For example, there are prohibition periods for golden eagle, PBHS, California gnatcatcher, least Bell’s vireo, and raptors (basically spring to early summer). These prohibition periods overlap survey and clearing windows for fire abatement (the intent of the fire abatement measures is to not have crews out clearing vegetation during the peak of fire season).

LESSON LEARNED: Potential mitigation can often impose conflicting requirements as is the case for the Sunrise Powerlink Project (i.e., biological resource protection versus fire abatement during O&M). All parties involved in the preparation of CEQA/NEPA documents, including the applicants, need to be mindful of such potential conflicts. In addition, the applicants should be asked to better describe their O&M activities, including timing and frequency, as part of the PEA review and EIR/S preparation process.

Helicopter Usage: As discussed in Section 7.1, the 117-mile Sunrise Powerlink Project was one of the largest helicopter-supported construction projects on record. By the time the line was energized, the project had logged nearly 30,000 flight hours, with as many as 240 to 300 flights a day. The number of helicopters working on the project at any one time varied, but the fleet consisted of up to 40 aircraft at its busiest. Several incidents and accidents occurred during helicopter operations which resulted in two Stop Work Orders including Aircrane tower drops, a skid drop, a compressor drop, tail rotor strikes, bird buffer violations, hard landing incidents, and a timber drop.

LESSON LEARNED: As demonstrated by Sunrise construction, the industry is moving toward helicopter-based construction to minimize impacts and subsequent restoration. Utilities need to better define their anticipated usage of helicopter construction techniques and EIR/S preparers need to better assess the magnitude of helicopter construction and safety impacts and available mitigation. Consultation with FAA should be conducted during this analysis.

The installation of GPS tracking devices on helicopters proved very effective in the monitoring of helicopter flight paths and times of operations. Examples include the identification of intrusions within established nest buffers and the validation of complaints received regarding helicopter operations. GPS tracking of helicopters needs to be captured in the mitigation developed for future projects.

Visual Obstacles: Preparation of a USFS approved Scenery Conservation Plan (Plan) was a requirement of Mitigation Measure V-45a of the 2008 Sunrise Powerlink Project EIS/EIR. The plan included a transmission structure color analysis and assignment for Sunrise towers on USFS lands. The Plan was approved in December 2010. In late 2011, it was discovered that SDG&E had installed 13 structures of the wrong

color on the CNF/USFS lands and had an additional 10 partially assembled structures of the wrong color in construction yards waiting for installation on the CNF.

Further, within the Suncrest Substation, facilities were installed that had not been treated to minimize glare which was contrary to Mitigation Measure V-7a which required that a Surface Treatment Plan be prepared for the Suncrest Substation to identify measures to reduce glare and minimize visual intrusion.

LESSON LEARNED: In both cases, towers and substation facilities were ordered well in advance of the finalization of visual plans because of the extensive lead times for such structures. Since extensive manufacturing lead times are an unfortunate reality of major transmission line/substation construction, mitigation should be developed requiring that all structures that could be visible to the public be treated to prevent glare. In the event of color choices involving multi-party review, the mitigation needs to provide a timeline for timely completion of the review.

Permanent Yards: In the Sunrise EIR/S all construction yards were analyzed as temporary facilities. As discussed in Section 5.6, the Alpine Regional Field Offices supported the Sunrise Powerlink Project throughout all construction activities. At the completion of construction, SDG&E identified the need for additional permanent facilities for future projects and O&M activities, and requested that the Alpine Regional Field Offices remain in place. In addition, as the Sunrise Powerlink Project reached completion, the landowner of the Rough Acres Yard requested that site restoration activities not occur and that yard improvements, including base rock, remain in place, because the property had been optioned to a solar developer and the County of San Diego was processing a Major Use Permit for an 80 MW solar farm. Finally, Variance #43 was approved to allow project improvements to remain at five construction yards (Bartlett-Hauser, El Monte, Helix, Kreuzkamp, and Sycamore Estates) to accommodate landowner requests.

LESSON LEARNED: The convergence of construction yards to permanent facilities subsequent to the completion of a project construction is a likely outcome as demonstrated by the Sunrise Powerlink Project. As a result, the CEQA/NEPA analysis of major infrastructure facilities should consider that a percentage of construction yards will remain as permanent facilities (in the case of Sunrise either the entire yard or certain project improvement at remained post construction at 35% of the yards).

Evolving Plans: During pre-construction review, many plans were developed to address various mitigation requirements. These plans often needed multiple agency/review approvals. During review, Aspen would coordinate with CPUC, expert reviewers, and appropriate agencies. Once it was confirmed that a plan or report met all requirements, CPUC approval would be granted for that specific version of the plan or report. However, SDG&E continued to refine and modify plans after CPUC approval, without making it clear to Aspen or the CPUC that changes had been made. This was most often the case with biological resource plans (e.g., the Weed Control Strategy and the Sensitive Plant Restoration Plan).

LESSON LEARNED: In preparing project mitigation measure language and the MMCRP, it would be prudent to stipulate that, once a plan has been approved by the CPUC or other lead agency, the plan cannot be changed without re-review and subsequent approval of any modifications. A plan amendment process should be developed.

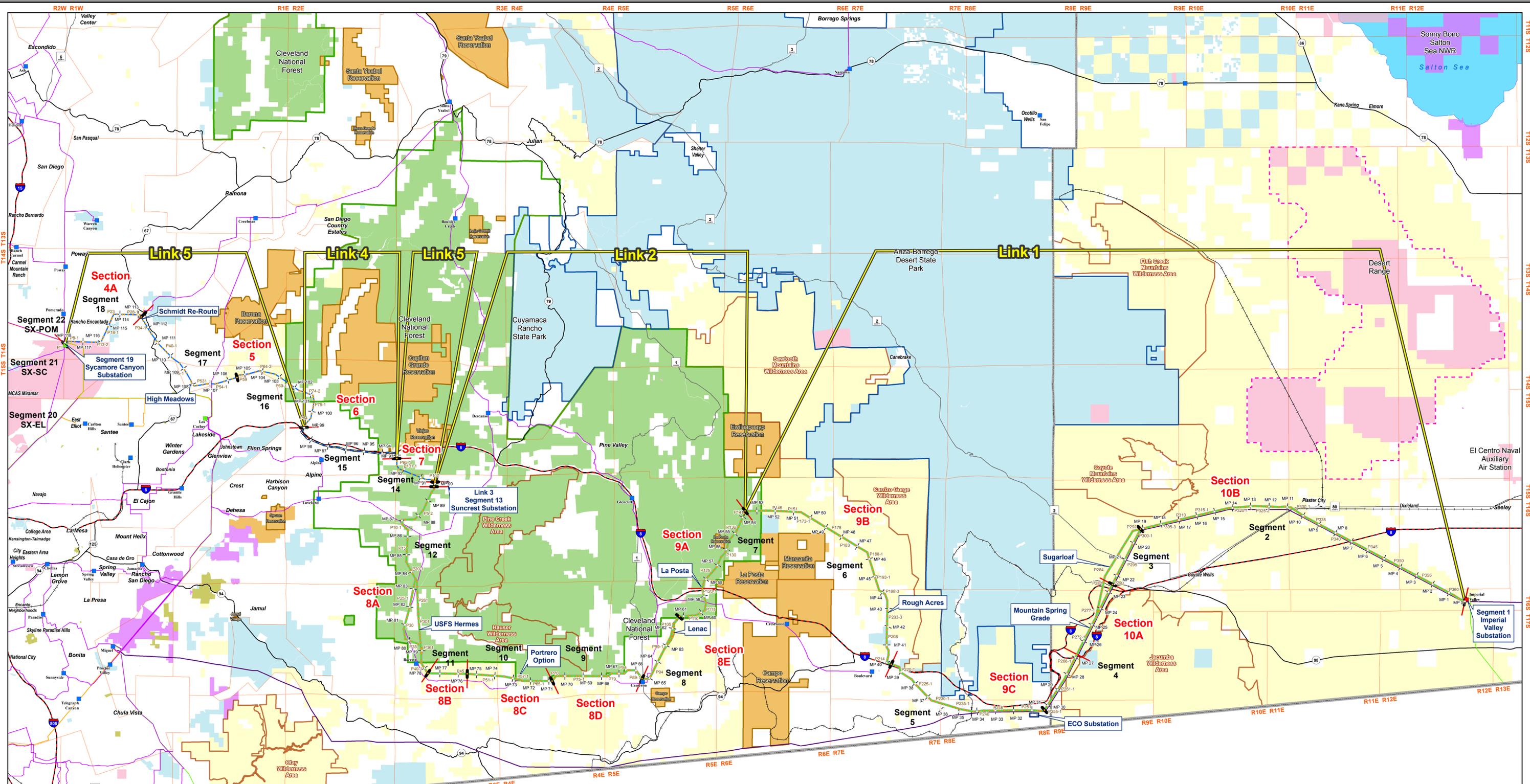
1. Introduction

San Diego Gas and Electric Company's (SDG&E's) Sunrise Powerlink Project is a 117.2-mile 230 kV/500 kV transmission line from SDG&E's Imperial Valley Substation near El Centro, in Imperial County, to SDG&E's Sycamore Canyon Substation in coastal San Diego County. In addition to the new 230 kV/500 kV lines, the project included construction of a new substation, reconductoring of existing selected 69 kV lines, and upgrades to several existing substations.

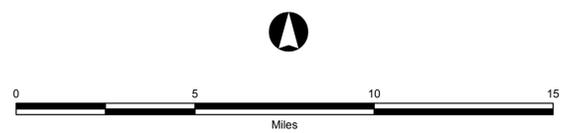
A new single-circuit 500 kV electric transmission line extends from the existing Imperial Valley Substation in Imperial County to the new Suncrest Substation in central San Diego County. From there, a new double-circuit 230 kV line continues west to the existing Sycamore Canyon Substation in coastal San Diego County.

Map 1 illustrates the overall Sunrise Powerlink Project. (The 69 kV lines and the upgraded substations west of Sycamore Canyon Substation are not shown.) The transmission line route begins at Imperial Valley Substation located west of El Centro in Imperial County. From there, the 500 kV transmission line route extends northwest, paralleling the existing 500 kV Southwest Powerlink transmission line. Crossing Interstate 8 west of El Centro, the route continues northwest to a point west of Plaster City, where it turns west, passing north of the community of Ocotillo. The line then continues southwest, passing through Mountain Springs Grade in the wide median island separating east- and westbound Interstate 8. As the line crosses into San Diego County near Jacumba, the route parallels the south side of Interstate 8 and turns westward before diverging from the Southwest Powerlink. The route turns north, crossing Interstate 8 once more near the community of Boulevard, and continues north through McCain Valley. The route loops west and then south, crossing Interstate 8 again west of the La Posta Reservation and continuing southwest to Cameron, where it turns west near State Route 94 to Barrett. From here, the route turns north to the new Suncrest Substation, located east of the community of Alpine and south of Interstate 8. The 500 kV line terminates at the substation. A double-circuit 230 kV line continues west from the substation. Approaching Alpine, the 230 kV line transitions to underground and continues underground through Alpine. At the west end of Alpine, the line crosses north under Interstate 8 before returning aboveground. The aboveground 230 kV line continues north to El Capitan Reservoir, where it turns northwest and continues along the northern side of El Monte Valley and northwest past the San Vicente Reservoir, roughly paralleling State Route 67. Northwest of the San Vicente Reservoir, the route turns west and continues to the existing Sycamore Canyon Substation located east of Interstate 15 and south of Scripps Poway Parkway, at the northern edge of Marine Corps Air Station Miramar. The 230 kV line terminates at this substation. Existing 69 kV lines from Sycamore Canyon Substation were upgraded by installing new conductor to increase capacity. Several existing substations in San Diego County were upgraded to accommodate the Sunrise Powerlink into the SDG&E system.

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Legend					
	Structure		Environmentally Superior Southern 500 kV Overhead Route		Bureau of Land Management Land
	Existing 500 kV Substation		Environmentally Superior Southern 230 kV Overhead Route		U. S. Forest Service Land
	Existing 230 kV Substation		Environmentally Superior Southern 230 kV Underground Route		Department of Defense Land
	Existing 138 kV / 115 kV / 69 kV Substation		County Boundary		Federal Land
	Existing 500 kV Transmission Line		Township / Range Boundary		U. S. Fish and Wildlife Land
	Existing 230 kV Transmission Line		Proposed Substation Site		National Park Service Land
	Existing 138 kV Transmission Line		Fly Yard / Staging Area		Department of Homeland Security Land
	Existing 69 kV Transmission Line		State Park Boundary		Indian Land
	Interstate		Federal Wilderness Area		Department of Homeland Security Land
	Major Road		Cleveland National Forest Congressional Boundary		Indian Reservation Boundary
	Road		Indian Reservation Boundary		Major Water Body
	Railroad		Desert Range		



State Plane Coordinate System
 California Zone 6, NAD 83
 Lambert Conformal Conic Projection
 1983 North American Datum
 Linear Unit: Foot US



Environmentally Superior Southern Route

SDGE
 A Sempra Energy utility

Map Extent: San Diego and Imperial Counties, California

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2. Overview of the Sunrise Powerlink Project

The SDG&E Sunrise Powerlink Project was evaluated in accordance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The Final Environmental Impact Report/Statement (EIR/EIS) was adopted by the California Public Utilities Commission (CPUC) as lead CEQA agency and Bureau of Land Management (BLM) as lead NEPA agency. The mitigation measures and Applicant Proposed Measures (APMs) described in the EIR/EIS were adopted as conditions of project approval by the respective agencies. The CPUC also adopted a Mitigation, Monitoring, Compliance and Reporting Program (MMCRP) to ensure compliance with all mitigation measures imposed on the Sunrise Powerlink Project during implementation.

The Commissioners of the CPUC voted on December 18, 2008 to approve the Final Environmentally Superior Southern Route (FESSR) (Decision D.08-12-058) and a Notice of Determination was submitted to the State Clearinghouse (SCH #2006091071). The BLM issued a Record of Decision (ROD), approving the same route, on January 20, 2009. The project also crosses the Cleveland National Forest (CNF) lands under the jurisdiction of the U.S. Department of Agriculture Forest Service (USFS). USFS issued its ROD for the project on July 9, 2010, and Department of Defense (DoD) Marine Corps Air Station (MCAS) Miramar issued its Notice to Proceed June 28, 2011 for upgrades at Sycamore Canyon Substation, 230 kV tower installation and 69 kV line reconductoring located on DOD property.

After the project was approved by CPUC and BLM, SDG&E completed final project design and engineering. As is common on large transmission projects, some project components were modified during final engineering. Project modifications also were made to comply with adopted mitigation measures requiring resource avoidance to minimize or avoid environmental impacts. In addition, some project components were relocated to accommodate landowner location preferences.

On May 14, 2010, SDG&E submitted to the CPUC and BLM a Project Modifications Report (PMR) that defined the changes made to the project along the entire route subsequent to publication of the Final EIR/EIS. The final PMR explained the reason for each change, and compared environmental impacts of the project components analyzed in the Final EIR/EIS with those presented in the PMR. The CPUC accepted public comments on the Final PMR from May 14 to June 7, 2010, and considered all comments while evaluating the proposed modifications.

The CPUC and BLM published the CEQA and NEPA Determination on SDG&E's proposed project modifications, as documented in a CPUC Determination Memorandum and a BLM Determination of NEPA Adequacy. In accordance with CEQA and NEPA requirements, the CPUC and BLM determined that the changes to the Sunrise Powerlink Project were within the scope of the Certificate of Public Convenience and Necessity (CPCN) and ROD issued by the CPUC and BLM, respectively.

For purposes of construction, SDG&E divided the Sunrise Powerlink Project 230 kV/500 kV transmission line and new substation into five segments that it identified as Links. This terminology is preserved in this report for reference.

3. Mitigation Monitoring, Compliance, and Reporting Program

3.1 Purpose of the MMCRP

The Final EIR/EIS for the Sunrise Powerlink Project included procedures for preparing and implementing a MMCRP to ensure compliance with mitigation measures approved in the Final EIR/EIS, as well as with the terms and conditions associated with the right-of-way (ROW) grant on BLM lands. The MMCRP was developed to provide guidelines and standardize procedures for environmental compliance. Section I of the Final EIR/EIS provided the recommended framework for the implementation of the MMCRP by the CPUC and BLM, and described the roles and responsibilities of agencies in implementing and enforcing adopted mitigation measures. The MMCRP included the information provided in EIR/EIS Section I, as well as specific protocols to be followed by the CPUC's third-party Environmental Monitors (CPUC EMs) and SDG&E project staff prior to and during construction. Subsequent to project completion, long-term oversight during operations and maintenance (O&M) is being addressed through consultation and O&M Plan development with the appropriate resource agencies. (See Section 12, Operations and Maintenance.)

The project's MMCRP included direct participation from SDG&E, the CPUC and CPUC EMs. The success of the program depended on requirement and protocol adherence by the project management staff, SDG&E monitors, and construction contractor personnel.

3.1.1 Authority for the MMCRP

Mitigation monitoring is required through both CEQA and NEPA. Section 21081.6 of the California Public Resources Code requires a public agency to adopt an MMCRP when it approves a project that is subject to preparation of an EIR and where the EIR for the project identifies significant adverse environmental effects. *CEQA Guidelines* Section 15097 was added in 1999 to further clarify agency requirements for mitigation monitoring or reporting.

The Council on Environmental Quality (CEQ) has established regulations for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508). Monitoring is required by 40 CFR 1505.2(c), and additional specificity on implementation is provided in the BLM NEPA Handbook (H-1790-1), Chapter 10 (Monitoring). BLM served as the lead federal agency for Section 7 consultation under the Endangered Species Act and Section 106 consultation under the National Historic Preservation Act, and was responsible for conducting Tribal Consultation. BLM was responsible for ensuring that mitigation measures adopted in its ROD were implemented and other terms and conditions associated the ROW grant were adhered to on BLM land. The goals of the MMCRP were to prevent problems during project implementation and facilitate timely, comprehensive communication.

3.2 Jurisdictional Agencies

3.2.1 Agency Roles

In addition to the CPUC, BLM, and USFS, many other local, state, and federal agencies have jurisdiction over lands crossed by the project route or resources affected by the project.

The CPUC and BLM, as Lead Agencies, were responsible for ensuring that all mitigation measures were implemented throughout construction and operation. In addition, the CPUC's EMs verified SDG&E's compliance with conditions of permits issued by other agencies. The designated representatives of juris-

dictional agencies also visited construction areas and requested information regarding the status of compliance with particular mitigation measures and permit conditions.

Additional information on communication protocols is presented in Section 3.3.2 below. Long-term monitoring during O&M will be addressed through consultation and plans with the appropriate resource agencies (please see Section 12).

Jurisdictional federal, state and local agencies and their respective permits relative to the project include:

Lead Agencies – CPUC and BLM

- **California Public Utilities Commission** – Certificate of Public Convenience and Necessity [issued on December 18, 2008]
- **BLM** – Right-of-Way grants [issued on January 20, 2009], Temporary Use Permit, Antiquities and Cultural Use Permit, Plan of Development, Notice to Proceed, Clean Air Act Conformity, Fire Prevention Control Plan

Federal Agencies

- **U.S. Department of Agriculture (USDA) Forest Service (USFS)** – Special Use Permit, Special Use Easement, Record of Decision, Plan Amendment [issued July 9, 2010]
- **U.S. Fish & Wildlife Service (USFWS)** – Consultation per Section 7 of the Endangered Species Act, Biological Opinion [issued January 2009, reinitiated November 11, 2010]
- **U.S. Army Corps of Engineers** – Individual/Nationwide Section 404 Permit – Dredge and fill of jurisdictional waters of the U.S. [issued January 22, 2011]
- **U.S. Department of Transportation, Federal Highway Administration** – Encroachment Permits, review of obstruction and objects affecting airspace
- **U.S. Department of the Treasury, Bureau of Alcohol, Tobacco and Firearms** – Explosive User’s Permit
- **Federal Aviation Administration** – Helicopter Lift Plan, Form 7460-1
- **U.S. Department of Defense, Marine Corps Air Station Miramar** – FAR Part 77 Request (via FAA), SECNAVINST 11011.47A (access road outside of easement).

State Agencies

- **California Independent System Operator** – Interconnection approval
- **California State Lands Commission** – Right-of-Way Easement
- **California Department of Fish and Wildlife (formerly California Department of Fish and Game)** – Lake or Streambed Alteration Agreement (Fish and Game Code §§1600-1616) [November 29, 2010], California Endangered Species Act Incidental Take Permit (Fish and Game Code §§2081(b)(c)), Mitigation Monitoring, Compliance and Reporting Program Plan, Certification of EIR, Recorded Conservation Easements. CDFG 2081 permit for Barefoot Banded Gecko [Amended August 25, 2011]
- **State Water Resources Control Board** – Clean Water Act Section 401 Water Quality Certification and associated Waste Discharge Requirements [November 15, 2010]; Stormwater Construction General Permit 99-08 DWQ (issued by State Board, then separately issued by Regional Boards)
- **Regional Water Quality Control Board, Region 7 (Colorado River Basin)** – Storm Water Construction General Permit 99-08-DWQ;

- **Regional Water Quality Control Board, Region 9 (San Diego)** – Storm Water Construction General Permit 99-08-DWQ.
- **California Department of Transportation** – Encroachment Permits, Traffic Control Plans
- **California Department of Toxic Substances Control** – EPA Hazardous Waste Generator ID
- **California State Historic Preservation Office** – Cultural Resources Use Permit, Field Use Authorization, or an Archaeological Resources Protection Act (ARPA) Permit (if required), Consultation for Section 106 of the National Historic Preservation Act
- **California Air Resources Board** – Portable Engine Registration for specified non-mobile portable engines
- **California State Reclamation Board** – Encroachment Permit

Local Agencies

- **Imperial County** – Road/Highway Encroachment/Crossing Permit, Grading Permit, Flood Control/Drainage Channel Encroachment/Crossing Permit, Explosives Permit
- **San Diego County** – Road/Highway Encroachment/Crossing Permit/Review, Grading and Wall Permit/Review, Traffic Control Plans, Explosives Permit, New or Expanded ROW Grant, Flood Control/Drainage Channel Encroachment/Crossing Permit/Review, Excavation Permit/Review
- **Imperial County Air Pollution Control District (APCD), San Diego County APCD** – Permit to Operate, Dust Control Plan
- **San Diego and Imperial Counties, Environmental Health Services** – Hazardous Materials Business Plan, Spill Prevention Control & Countermeasures Plan
- **Cities of San Diego and Poway** – Road/Highway Encroachment/Crossing Permit/Review, Flood Control Channel, Encroachment/Crossing Permit/Review, Temporary Use/Occupancy Permit/Review – Material and Storage Yards

3.3 Compliance Monitoring and Reporting

3.3.1 Roles

CPUC Project Manager

The CPUC Project Manager, Ms. Billie Blanchard, had the overall responsibility for ensuring that mitigation measures were implemented as adopted by the CPUC. The CPUC delegated field monitoring and reporting responsibilities to Aspen Environmental Group (Aspen), its third-party monitoring firm. Aspen also prepared the project EIR/EIS for the CPUC and BLM. The CPUC Project Manager oversaw Aspen's work through meetings, telephone calls, review of weekly status reports, and project site visits. The CPUC Project Manager was notified of all non-compliance situations and suggested measures to help resolve the issues. She issued Notices to Proceed (NTPs) for construction of each segment or combination of segments requested by SDG&E on private lands. Where an NTP included BLM, CNF, USFWS, CDFW, or other jurisdictional lands or resources, the CPUC's NTP did not authorize construction to start without appropriate separate jurisdictional approval or permit issuance. The NTP only documented compliance with relevant mitigation measures and permit conditions. All construction exclusively on BLM, CNF, or MCAS Miramar land was authorized by separate NTPs issued by BLM, CNF, or MCAS Miramar. In addition, all variance requests were submitted to the CPUC Project Manager for review and approval.

BLM Field Manager

The El Centro Field Manager, Mr. Tom Zale, was the authorized officer making decisions for BLM relative to the project. The BLM Field Manager worked with the CPUC Project Manager and the Aspen third-party monitoring team. The Field Manager issued all NTP authorizations and permits for the use of BLM land. For portions of the project on BLM land under the jurisdiction of BLM's Palm Springs–South Coast Field Office, the El Centro Field Manager sought concurrence from the Palm Springs–South Coast Field Manager before issuing a decision. The Field Manager also addressed changes to the project including Determination of NEPA Adequacy (DNA) evaluations and joint agency variances.

BLM Project Manager

The BLM Project Manager, Mr. Daniel Stewart, reported to the Field Manager and was responsible for coordinating the implementation of the project between the BLM staff at the field, district, and state office levels. The BLM Project Manager was the primary point of contact with SDG&E and other agencies for review of documents, reports, mitigation progress, and project planning on BLM land.

BLM Resource Specialists

BLM resource staff was involved with implementing the project. The staff assisted the BLM Project Manager with evaluation of conditions and project status relative to mitigation requirements. Support staff included archaeologists, biologists, geologists, and others as required. The BLM headed coordination efforts with Native American tribes along the Sunrise Powerlink. The tribes were represented by Native American Monitors in the field.

CPUC (and BLM) Third-Party Monitors

The overall monitoring program was under the direction and oversight of the CPUC and BLM Project Managers. The CPUC delegated daily monitoring and reporting responsibilities to Aspen. The BLM also was assisted by Aspen.

The number of CPUC EMs and frequency of site inspections varied, depending on the number of concurrent construction activities and their locations with respect to sensitive resources, land uses, and compliance with project mitigation measures and permit conditions during construction. SDG&E employed its own monitors, who had primary responsibility for ensuring that construction activities were conducted in accordance with approved project mitigation measures, compliance plans, and permit conditions. Using verbal and written communications, the role of the CPUC EMs (Aspen) was to ensure and document that compliance was achieved,

Aspen Monitoring Manager

Aspen's Monitoring Manager, Ms. Vida Strong, supervised Aspen's CPUC EMs. She determined the appropriate level of inspection frequency and was responsible for preparing weekly reports that were distributed to all participating agencies. The Monitoring Manager also was responsible for preparing draft NTPs and Variance/DNA approvals/denials for consideration by the CPUC Project Manager and BLM Field Manager. In addition, the Monitoring Manager served as the main point of contact with the CPUC and BLM Project Managers for major issues and non-compliance matters. The Monitoring Manager was assisted by Mr. Fritts Golden, who focused on particularly time-consuming issues as they arose, thereby allowing the CPUC EMs to remain focused on their field monitoring duties.

CPUC Lead Environmental Monitor (CPUC LEM)

Ms. Cassandra Garza, the CPUC LEM, oversaw day-to-day monitoring activities of the CPUC EMs in the field, and was the primary point of contact with in-field agency personnel. She coordinated preparation of draft weekly reports and NTP and Variance/DNA field validations and also served as an EM.

CPUC Environmental Monitors (CPUC EMs)

Ms. Anne Coronado conducted detailed compliance reviews of preconstruction submittals, requests for NTPs, variances, and DNAs. She coordinated with SDG&E project planners and tracked compliance documentation. She ensured that reports and documents were posted to the CPUC project website as needed. Mr. Brian Woodward and Ms. Valerie Yep, CPUC EMs, were an integral part of the project team led by Ms. Garza, who also served as a CPUC EM. For efficiency, the CPUC EMs were assigned to specific segments of the project. They monitored construction activities for compliance with project mitigation measures, compliance plans, and permit conditions. The CPUC EMs documented compliance through daily logs, photographs, and use of a mitigation measure tracking table. As they were identified, issues were brought to the attention of the SDG&E field representative for remedy. The CPUC EMs also provided input for the weekly monitoring reports. They noted problems revealed during monitoring, notified designated project members of the issues, and reported problems to the CPUC Project Manager. The CPUC EMs also field-validated NTP and Variance/DNA requests. The enforcement and work shutdown authority of the CPUC EMs in the field was limited to imminent safety issues or resource endangerment. It applied to the work at hand, and not to an entire segment or the project as a whole. However, no field-initiated shutdowns were required during construction.

Enforcement Authority

The CPUC and other jurisdictional agencies were responsible for enforcing the procedures adopted for monitoring, with the help of the CPUC EMs assigned to each segment (MCAS Miramar was the only exception). CPUC, BLM, USFS, and MCAS Miramar had the authority to halt construction, operation, or maintenance activities associated with the project on land under their jurisdictions. Shutdowns are discussed in Sections 6.1.2 and 7.1 of the Final Report.

United States Department of Agriculture Forest Service

The approved project route crosses CNF land under jurisdiction of the USFS. This required issuance of a Special Use Permit (SUP) from the Forest Service. Therefore, the USFS was a Cooperating Agency during preparation of the Final EIR/EIS in compliance with NEPA, the CEQ regulation for implementing NEPA (40 CFR 1500-1508), and the USDA Forest Service Handbook (CFR 1909.15, Environmental Policy and Procedures Handbook). The USFS's ROD documented the decision to issue a SUP to SDG&E for the construction, maintenance, and use of the 500 kV and 230 kV transmission lines along with ancillary improvements within the Descanso Ranger District of the CNF. The SUP incorporated the appropriate terms and conditions that apply to National Forest System lands, and was monitored and enforced by the USFS. The CPUC EMs monitored work on CNF land on behalf of the CPUC and coordinated with the USFS and its permit monitors. The CPUC EMs assisted the USFS specialists in monitoring when requested.

Forest Supervisors, Mr. Bob Hawkins and Mr. Rich Tobin, were responsible for overall permit administration. Decisions to amend the permit or revoke or suspend permit operations were made at this level. The USFS issued a number of variances and non-compliance reports during construction.

The Descanso District Ranger was delegated the authority to administer the day-to-day activities associated with the permit and would issue letters of non-compliance if necessary. The District Special Uses

staff handled permit administration for the District Ranger and Forest Supervisor, including preparation of correspondence, plan review, NTPs, and field inspections.

The Project Coordinator reported to the Forest Lands Staff Officer and was responsible for coordinating the permit implementation between the various staff units on CNF. The Project Coordinator was the primary point of contact with the permittee and other agencies for plan review and approval prior to the SUP being issued.

Various USFS resource staff members were involved in plan review and approval under the permit, as well as in assisting the Permit Administrator and Permit Monitors with evaluating conditions in the field relative to permit requirements. The support staff included engineers, botanists, biologists, earth scientists, fuels specialists, and others as required by permit conditions.

United States Department of Defense – Marine Corps Air Station (MCAS) Miramar

A portion of the approved route east of Sycamore Canyon Substation (approximately 0.7 miles) and the Sycamore-Elliott reconductoring crossed land administered by MCAS Miramar. Therefore, under NEPA, MCAS Miramar was a Cooperating Agency for the EIR/EIS. As part of the project, SDG&E obtained the following permits from MCAS Miramar: FAR Part 77 Request (via FAA) and SECNAVINST 11011.47A (for access roads outside of the easement). The CPUC EMs contacted MCAS Miramar to ask whether it would like CPUC EMs to monitor the project on its land. MCAS Miramar chose to conduct its own separate monitoring program.

United States Army Corps of Engineers

Section 404 of the Clean Water Act (CWA) authorizes the U.S. Army Corps of Engineers (USACE) to regulate the discharge of dredged or fill material to the waters of the U.S. and adjacent wetlands. The USACE issuance of a Section 404 permit for the project triggered the requirement that a Section 401 water quality certification be obtained.

The CPUC EMs verified and reported on implementation of USACE permit conditions in the field. When issues arose during construction, the CPUC EMs notified the CPUC Project Manager and BLM Field Manager, and coordinated with the USACE's representative.

United States Fish and Wildlife Service

Under the Federal Endangered Species Act's (FESA) Section 7 and the Fish and Wildlife Coordination Act, BLM consulted with the USFWS and the CDFW. As part of the FESA Section 7 consultation process, USFWS issued a Biological Opinion (BO) in January 2009, which was reinitiated in November 2010. In the BO, USFWS stated that SDG&E had committed to implement general and species-specific conservation measures to avoid, minimize, and offset the impacts of the project on endangered and threatened species and their designated and proposed critical habitats. Where conservation measures related to construction activities, the CPUC EMs ensured that the conservation measures in the BO were implemented. When violations occurred during construction, the CPUC EMs notified the USFWS as well as the CPUC and BLM Project and Field Managers, so that appropriate action could be taken.

California Department of Fish and Wildlife

The CDFW has jurisdiction over the conservation, protection, and management of California's fish, wildlife, and native plants, and the habitats necessary for their sustenance. CEQA Lead Agencies have a legal obligation to consult with CDFW as to their projects' impacts on biological resources. The Department

issued California Endangered Species Act (CESA) Incidental Take Permits (ITPs) pursuant to Fish and Game Code Sections 2081(b) and 2081(c), and California Code of Regulations, Title 14, Subdivision 3, Chapter 6, Article 1, commencing with Section 783. The CDFW required a Streambed Alteration Agreement for the Sunrise Powerlink Project, pursuant to Section 1600 *et seq.* of the Fish and Game Code. The CPUC EMs coordinated with the CDFW during construction. The CPUC EMs monitored and reported on implementation of CDFW permit conditions in the field. If an issue arose during construction, the CPUC EMs notified the CDFW representative, as well as the CPUC and BLM Project and Field Managers, so that appropriate action could be taken.

California Environmental Protection Agency – State Water Resources Control Board

The approved project route traverses two Water Quality Control Regions — Region 7, the Colorado River Basin Regional Water Quality Control Board (RWQCB), and Region 9, the San Diego RWQCB. Because of the multi-regional nature of the project, the State Water Resources Control Board (SWRCB) became responsible for the project's Water Quality Certification under Section 401 of the CWA for discharges of dredge and fill to State waters including wetlands. The SWRCB also administers Storm Water Construction General Permit 99 08 DWQ, which is enforced by Regional Board staff. The SWRCB's purpose was to avoid or minimize impacts to waters of the State from the project. The CPUC EMs coordinated with the SWRCB and verified and reported on implementation of SWRCB permit conditions. If an issue arose during construction, the CPUC EMs notified the SWRCB representative and the CPUC and BLM Project and Field Managers, so that the appropriate corrective action could be taken.

3.3.2 Coordination & Communication

As prescribed in the MMCRP, effective coordination and communication between SDG&E, the CPUC, BLM, the Aspen team, and participating jurisdictional agency representatives was essential. During the pre-construction phase of the project, numerous meetings, conference calls, and on-site visits occurred between SDG&E specialists and representatives from Aspen, CPUC, BLM, and other agencies.

As construction activities became imminent, the group worked cooperatively to process SDG&E requests for CPUC NTPs and Variances, and BLM NTPs and DNAs. SDG&E initiated the process by providing NTP Requests for specific aspects/segments of construction. These requests included documentation of compliance with relevant mitigation measures. The Aspen monitoring team reviewed the NTP requests to ensure all resources within the work area were addressed and provided timely comments to SDG&E. When mitigation measure conditions were satisfied and the review completed, a recommendation of approval was provided to the CPUC Project Manager or BLM Field Manager, depending on the lands involved. With agency approval, NTPs were issued, highlighting specific mitigation measures applicable to that particular project area. Prior to actual construction activities commencing, field reviews were coordinated with an SDG&E Construction Engineer and a CPUC EM to review the work areas covered in the NTPs. This provided an opportunity for the CPUC EMs to ensure that the required staking of disturbance areas was installed onsite and that cultural and biological Environmentally Sensitive Areas (ESAs) were properly marked to restrict access and activities. The field review also evaluated other items specifically noted in the NTP to ensure these were addressed. Once all required field items were completed, the site was released for construction to proceed.

The CPUC LEM and two primary field EMs ensured compliance with the project EIR/EIS and MMCRP during construction. CPUC EMs participated in daily safety tailboards (on-site meetings) with construction crews to establish the day's work activities and locations, identify safety concerns and any restrictions, including helicopter activity, and make contact with SDG&E construction monitors. As construction progressed, it was found that the assigned CPUC EMs needed occasional assistance to ensure compliance

throughout the 117.2-mile ROW, 19 construction yards, and numerous helicopters operating on the project. Aspen assigned Mr. Fritts Golden to assist the Aspen Monitoring Manager in addressing numerous issues that were consuming too much EM time. Two additional general CPUC EMs were made available and two rotating CPUC EMs were assigned specifically to helicopter compliance. These staff were needed to handle the growing construction effort for the project beginning in October 2011. The general EMs filled in for or assisted the assigned EMs where necessary (e.g., when work in multiple remote areas at great distances from each other required review). The helicopter EMs observed flights and monitored specific construction yards with a high concentration of helicopter activity to ensure that external loads were rigged according to the guidelines set by SDG&E. Onboard GPS units captured data on helicopter flight tracks for future review as needed. Through field observations and review of flight path data, the monitors ensured that sensitive land uses and resources were avoided. On a weekly basis these CPUC EMs reviewed any possible no-fly buffer violations. Particular attention was paid to golden eagle buffers. The CPUC EMs identified any corrective action that may have been needed to improve helicopter compliance with buffer restrictions and to ascertain whether any events were matters of non-compliance. CPUC EMs maintained frequent contact with one another during the day, often contacting the LEM and Aspen Monitoring Manager when issues were of particular concern or needed their attention. When appropriate, issues were elevated to the CPUC Project Manager and BLM Field Manager.

The CPUC EMs would communicate compliance questions or concerns to SDG&E's on-site Monitors, Lead Field Monitors, and Mitigation Monitoring Coordinator to promote in-field resolution of issues as they were identified. SDG&E provided the CPUC EMs with both daily work schedules and three-week look-ahead schedules in order to keep the CPUC EMs abreast of construction activity and future plans. Additional communication occurred through daily calls among SDG&E and CPUC EMs and regular weekly conference calls between SDG&E and agency representatives. These lines of communication allowed the CPUC EMs an opportunity to identify and discuss concerns regarding construction compliance. Most issues were resolved in the field and did not become elevated for group discussion.

Communication Protocol during Construction

In addition to the lines of communication discussed above to ensure that the CPUC EMs received accurate information regarding ongoing surveys, construction activities, and schedules, and that SDG&E management and responsible agencies were kept informed, the following protocols were established:

- The CPUC EM's primary point of contact was SDG&E's Lead Environmental Monitor. If he/she was not available, the Construction Segment Monitor for that particular part of the project was the point of contact. If an issue could not be resolved at the EM/SDG&E Monitor level it was elevated to the CPUC Monitoring Manager/SDG&E Mitigation Monitoring Coordinator via email or telephone.
- SDG&E was to inform CPUC EMs of all survey and construction activity, including status of permits and work locations, in a timely manner. Timely notification allowed reasonable time for CPUC EMs to reach the site of the activity.
- The CPUC EMs and/or any other designated agency representatives were allowed to talk to anyone on the construction site to ask questions about their activities; however, construction personnel had the option to refer the CPUC EM to the Construction Segment Manager for a response. Construction Segment Managers were the most appropriate contacts for information on construction activity schedules and construction practices.
- SDG&E provided a list of all project construction monitoring personnel and segment managers. The list identified by segment the title and contact information for each person. SDG&E also provided resumes for its biological and cultural monitors.

- CPUC EMs first identified compliance concerns to SDG&E and SDG&E Monitors and gave them a reasonable amount of time to resolve compliance before contacting resource agencies directly. These communications, along with documentation of subsequent actions to achieve compliance, were reported.
- Appropriate resource agencies were to be notified immediately by SDG&E of any issues that arose (e.g., non-compliance events, special status species sightings). The CPUC EM was to receive immediate notification as well. SDG&E developed a plan to handle issues/situations with the respective agencies, explain their strategy for resolution, and receive agency concurrence.
- If a species “take” was imminent or there was a safety risk/hazard, the CPUC EM could request that work be stopped immediately in the area (as long as this could be done safely); however, this did not occur during the Sunrise Powerlink Project.
- Meetings and conference calls were conducted regularly, with CPUC EMs, SDG&E’s Lead Environmental Monitor, and agency staff participating.

Interagency Conference Calls

During the pre-construction process and throughout construction, the Lead Agencies and SDG&E determined that regular conference calls were an effective means to discuss mitigation and permit compliance with the responsible and permitting agencies, including USFS, USFWS, CDFW, and SWRCB. Bi-weekly calls occurred from September 2009 through November 2012.

Refinement of Communication Protocols

As construction progressed, several communication protocols outlined in the MMCRP were updated to reflect the project’s communication needs. Various incidents generated the need for these changes, which included the development of a Cultural Communication Protocol, the development and implementation of MMCRP Attachment Q (Protocol for Reporting Environmental and Safety Events), and CPUC EM’s Helicopter Protocol. These are discussed below.

In order to avoid circumstances that led to the issuance of NCR #1 regarding a breach of a cultural ESA, SDG&E developed a “List of Reportable Cultural Resources Issues.” This list outlined seven instances/issues that would be reported to CPUC EMs and Aspen cultural consultants if encountered in the field:

1. Any unanticipated discovery (Notification ASAP);
2. Any avoidable new discovery (Notification ASAP);
3. Any violation of an ESA by heavy equipment, vehicles, or other activity that is ground disturbing (Notification ASAP);
4. Any pedestrian intrusion to an ESA without prior approval by an Archaeological Monitor (Notification within 24 hours);
5. Any failure by project personnel to follow instructions issued by an Archaeological or Native American Monitor (Notification ASAP);
6. Any no shows, for both Archaeological or Native American Monitors (Notification within 36 hours);
7. Any Native American incident or issue that arose in the field (Notification ASAP, or as reason dictates).

Implementation of this list by the Archaeological and Native American Monitors led to a much-improved field response and dissemination of information regarding cultural incidents.

Following the issuance of a Stop Work Order for Helicopter Operations on September 27, 2011 (see Section 7.1 for greater detail), SDG&E developed Attachment Q of the MMCRP that provided a Protocol for Reporting Environmental and Safety Events to clarify reporting responsibilities. Two reporting categories were developed: (1) any event requiring agency notification because of regulatory or mitigation requirements; and (2) any event that may pose a risk to public health and safety, involvement of emergency responders, or a “near miss” involving large equipment (including helicopters). SDG&E would immediately make contact with appropriate agency personnel, providing a “Preliminary Notification” following up with a “Final Notification” with complete details of the incident, developments, and corrective actions (if needed).

As the project moved into the final construction stages in spring 2012, CPUC EMs experienced problems with SDG&E helicopters being available to facilitate monitoring remote sections of ROW. Following a conference call on April 19, 2012, between the SDG&E helicopter group, the CPUC Project Manager, and Aspen, a CPUC Monitor Helicopter Flight Protocol was established. This protocol allowed CPUC EMs to schedule flights while also allowing the SDG&E helicopter group to allocate a dedicated helicopter. This ensured flight safety by identifying areas of high helicopter volume on a given day, and assisted pilots in planning the best route.

Mitigation Implementation Dispute Resolution

Dispute resolution regarding mitigation implementation also was outlined in the MMCRP. The steps were:

Step 1. Disputes and complaints (including those of the public) were to be directed to the CPUC Project Manager for resolution. The Project Manager attempted to resolve the dispute with SDG&E’s Project Manager.

Step 2. Should this informal process fail, the CPUC Project Manager could initiate enforcement or compliance action to address deviations from the Proposed Project or adopted Mitigation Monitoring Program.

Step 3. If a dispute or complaint regarding the implementation or evaluation of the Program or the mitigation measures could not be resolved informally or through enforcement or compliance action by the CPUC, any affected participant in the dispute or complaint could file a written “notice of dispute” with the CPUC’s Executive Director. The Executive Director would issue an Executive Resolution describing his/her decision, and serve it on the filer and other affected participants.

Step 4. If one or more of the affected parties were not satisfied with the decision as described in the Resolution, such party(ies) could appeal it to the Commission via a procedure to be specified by the Commission. Involved parties could also seek review by the Commission through existing procedures specified in the Commission’s Rules of Practice and Procedure.

Separate enforcement steps by the regulatory agencies may not have followed these steps.

3.3.3 Non-Compliance levels

The following non-compliance levels were identified in the MMCRP:

Compliance and Non-Compliance Violation Levels

Project compliance and non-compliance violation levels and specific corrective actions are defined as follows:

- **Level 0 Compliance.** This level indicated that all mitigation measures and permit conditions were being complied with and there were no violations. No corrective action was necessary.
- **Level 1 Non-Compliance.** Lack of compliance with one aspect of a mitigation measure resulting in partial implementation of a mitigation measure, but no significant impact occurred. An oral warning would have been issued to SDG&E's Environmental Coordinator (or assigned designee) and corrective action required within a stated maximum period, determined on a case-by-case basis. If corrective action was not taken within the stated period, a Project Memorandum would be issued.
- **Level 2 Non-Compliance.** Lack of compliance with one or more aspects of a mitigation measure, making the mitigation ineffective and resulting in minor impacts. If allowed to continue, this lack of compliance could result in significant impact over time. An oral warning followed by a Project Memorandum would be submitted to SDG&E's Environmental Coordinator (or designee). Corrective action would be needed by the next construction day. If corrective action was not initiated by the next construction day, a Non-Compliance Report would be issued.
- **Level 3 Non-Compliance.** Lack of compliance with one or more of the aspects of a mitigation measure and/or deficient or non-existent implementation of a mitigation measure, resulting in significant impact(s), or immediate threat of major, irreversible environmental damage or property loss. An oral warning, followed by a Non-Compliance Report, was given to SDG&E's Environmental Coordinator (or designee). Corrective action needed to begin immediately. All non-compliance activity would be reported by Aspen to the CPUC Project Manager via immediate notification or daily or weekly reporting, based on the severity of the non-compliance. Based on the severity of a given infraction or pattern of non-compliance activity, the CPUC Project Manager had the authority to shut down project construction activities. When a shutdown of construction activity occurred, construction could not resume until the CPUC Project Manager authorized it to do so. No Aspen personnel (Project Manager, CPUC LEM, or CPUC EM) had the authority to shut down or restart construction activities on a segment- or projectwide scale. However, the CPUC EM had the authority to redirect work if an immediate threat to safety or a sensitive resource is imminent.

See Sections 6.2 through 6.4 for specific non-compliance incidents that occurred during construction. See Section 7.1 for details on helicopter operations shutdowns and Section 6.3 for shutdowns on USFS lands.

3.3.4 Reporting

Numerous mitigation measures as well as permit conditions required weekly, monthly, quarterly, and/or annual reporting throughout construction. Reporting also extends into O&M depending on the resources being monitored. Both SDG&E and Aspen/CPUC drafted weekly reports which documented construction progress, as well as reporting compliance and any issues that arose in the field. The Aspen/CPUC weekly reports were distributed to all jurisdictional resource agency representatives affiliated with the project. In addition, the reports were posted to the CPUC website for the Sunrise Powerlink Project to provide any interested party access to the reports. SDG&E also provided periodic reporting on specific resources. These included quarterly construction emissions, vehicle maintenance, wash station logs, archaeological monitoring reports, and sensitive wildlife.

3.4 Variances and Temporary Extra Workspaces

The MMCRP acknowledged that temporary changes, such as the need for additional workspace, were anticipated and common practice for construction efforts on the scale of the Sunrise Powerlink Project

and that formal Variance Requests and/or Temporary Extra Work Space (TEWS) requests would be required for these changes. The CPUC thoroughly evaluated all activities covered in variance and TEWS requests, making certain that no new impacts or increase in existing impact severity would result. See Sections 8.1, 8.3, and 8.4 for discussions of all project variance requests. For changes on federal lands the BLM conducted a DNA process (see Section 8.2).

Project Changes after Final Engineering

Following approval of final design plans and during project construction, the need for extra workspace or minor changes was identified. Similarly, permutations to the project requirements (e.g., mitigation measures, specifications) were needed to facilitate construction or provide more effective protection of resources. SDG&E and the relevant resource agencies worked together to find solutions when variations or adjustments were necessary for specific field situations to avoid conflicts with adopted mitigation measures, conservation measures, or specifications. In total, 85 variances, 4 DNAs, and 39 TEWS were approved by the CPUC, BLM, and USFS during construction. Cumulatively, changes including extra workspaces slightly increased the acreage of permanent project impacts. The as-built impacts to special status species habitats are close to what was projected in the PMR and often less. To account for any small increases, SDG&E had acquired a surplus of mitigation acreage to meet its original obligations, which was available to mitigate project variance changes. The only notable increases in impacts occur in flat-tail horned lizard (FTHL) areas; however, FTHL habitat impacts were mitigated by payment of an in-lieu fee. Please see Tables 1 and 2 for projected and as-built habitat acreages.

Table 1. Vegetation Impacts Estimates and As-built Calculations

Vegetation Type	Vegetation Community	EIS/EIR* Permanent (acres)	EIS/EIR* Temporary (acres)	PMR* Permanent (acres)	PMR* Temporary (acres)	As-Built* Permanent (acres)	As-Built* Temporary (acres)
Chaparrals	Chamise Chaparral					34.524	16.824
	Northern Mixed Chaparral					75.013	28.757
	Redshank Chaparral					1.442	2.017
	Scrub Oak Chaparral					0.959	0.687
	Semi-desert Chaparral					20.109	102.795
	Southern Mixed Chaparral					38.719	13.219
Chaparrals Total		294.36	321.44	181.19	223.96	170.77	164.30
Coastal and Montane Scrub Habitats	Big Sagebrush Scrub					0.758	4.198
	Coastal Sage Scrub					0.016	0.091
	Coastal Sage – Chaparral Scrub					4.496	1.826
	Diegan Coastal Sage Scrub					11.179	17.496
	Diegan Coastal Sage Scrub – Inland Form					4.805	3.243
	Flat-topped Buckwheat Scrub					0.672	27.063
Coastal and Montane Scrub Habitats Total		53.56	114.56	27.47	66.94	21.927	53.916
Desert Scrub and Dune Habitats	Sonoran Creosote Bush Scrub					18.228	97.090
	Sonoran Desert Mixed Scrub					2.584	1.647
	Sonoran Desert Scrub					0.948	2.692
	Sonoran Desert Wash Scrub					0.475	0.094
	Sonoran Mixed Woody & Succulent Scrub					2.819	15.280
	Sonoran Mixed Woody Scrub					4.230	7.846
Desert Scrub and Dune Habitats Total		91.88	282.13	36.37	142.27	29.284	124.648
Grasslands and Meadows	Native Grassland					—	0.006
	Non-native Grassland					4.255	25.227
	Valley Needlegrass Grassland					0.145	—
Grasslands and Meadows Total		13.74	161.49	4.15	48.40	4.400	25.233

Table 1. Vegetation Impacts Estimates and As-built Calculations

Vegetation Type	Vegetation Community	EIS/EIR* Permanent (acres)	EIS/EIR* Temporary (acres)	PMR* Permanent (acres)	PMR* Temporary (acres)	As-Built* Permanent (acres)	As-Built* Temporary (acres)
Herbaceous Wetlands, Freshwater, and Streams	Non-vegetated Channel					1.062	1.250
Herbaceous Wetlands, Freshwater, and Streams Total		3.17	10.73	1.10	2.37	1.062	1.250
Non-native Vegetation, Developed Areas, and Disturbed Habitat	Unvegetated Habitat – Badlands Unvegetated Habitat – Desert Pavement					10.297 3.895	7.559 5.205
Non-native Vegetation, Developed Areas & Disturbed Habitat Total		79.15	335.75	43.65	197.16	14.192	12.764
Riparian Forests and Woodlands	Southern Coast Live Oak Riparian Forest					0.444	0.183
Riparian Forests and Woodlands Total		0.88	2.96	0.25	0.10	0.444	0.183
Woodlands and Forests	Coast Live Oak Woodland Engelmann Oak Woodland Mixed Oak Woodland Peninsular Juniper Woodland Scrub					2.028 2.400 1.216 0.228	0.556 0.363 0.309
Woodlands and Forests Total		18.27	31.26	4.24	3.93	5.872	1.229
Grand Total		555.01	1,260.32	298.42	685.13	247.95	383.520

*The EIR/EIS and PMR habitat calculations were taken from the SDG&E PMR database. As-built calculations were proved by SDG&E and were a result of GIS mapping of as-built project features.

Table 2. Species Impacts Estimates and As-Built Calculations

Species	Species Habitat	EIS/EIR* Permanent (acres)	EIS/EIR* Temporary (acres)	PMR* Permanent (acres)	PMR* Temporary (acres)	As-Built* Permanent (acres)	As-Built* Temporary (acres)
Arroyo Toad	USFWS Final Critical Habitat					2.04	19.53
	USFWS Occupied Habitat					5.61	7.68
Arroyo Toad Total		7.13**	100.67**	2.46**	44.23**	7.65	27.21
Barefoot Banded Gecko	Habitat	20.63	17.16	10.84	4.53	2.47	0.82
Barefoot Banded Gecko Total		20.63	17.16	10.84	4.53	2.47	0.82
California Gnatcatcher	Occupied Habitat	1.46	1.83	0.16	8.11	2.63	0.35
	USFWS Critical Habitat	10.06	17.84	3.88	21.58	3.13	0.15
California Gnatcatcher Total		11.52	19.67	4.04	29.69	5.76	0.50
Flat-Tail Horned Lizard	BLM Management Area	22.26	103.25	9.54	36.87	19.42	46.33
	Distribution Area	71.16	170.67	26.35	94.88	51.26	154.70
Flat-Tail Horned Lizard Total		93.42	273.92	35.89	131.75	70.68	201.03
Least Bell's Vireo/ Southwestern Willow Flycatcher	Suitable Riparian Habitat	6.69	15.03	3.98	0.74	0.04	0.00
Least Bell's Vireo/Southwestern Willow Flycatcher Total		6.69	15.03	3.98	0.74	0.04	0.00

Table 2. Species Impacts Estimates and As-Built Calculations

Species	Species Habitat	EIS/EIR*	EIS/EIR*	PMR*	PMR*	As-Built*	As-Built*
		Permanent (acres)	Temporary (acres)	Permanent (acres)	Temporary (acres)	Permanent (acres)	Temporary (acres)
Peninsular Bighorn Sheep	USFWS Final Critical Habitat	16.04	17.16	5.41	1.41	1.85	0.83
	USFWS Habitat	14.37	17.48	10.36	20.24	12.07	27.89
Peninsular Sheep Total		30.41	34.64	15.77	21.65	13.92	28.72
Quino Checkerspot Butterfly	USFWS Critical Habitat	11.46	16.93	4.45	1.59	3.85	0.11
	USFWS Occupied Habitat	36.16	84.76	15.16	17.49	16.42	14.64
Quino Checkerspot Butterfly Total		47.62	101.69	19.61	19.08	20.27	14.75
Grand Total		217.42	562.78	92.59	251.67	120.79	273.03

* The EIR/EIS and PMR habitat calculations were taken from the SDG&E PMR database. As-built calculations were proved by SDG&E and were a result of GIS mapping of as-built project features.

** Arroyo toad habitat calculations are a combination of USFWS critical and occupied habitat.

Variance Procedures

The CPUC and BLM Project Managers along with the CPUC EMs ensured that any variance process or deviation from the procedures identified under the monitoring program was consistent with CEQA and NEPA requirements. No project variance was approved by the CPUC or BLM if it created new significant impacts. Variances were strictly limited to minor project changes that did not trigger other permit requirements, did not increase the severity of an impact to a level of significance or create a new significant impact, and clearly and strictly complied with the intent of the mitigation measure.

Any proposed project change that could have the potential for creating significant environmental effects was evaluated to determine whether supplemental CEQA and/or NEPA review was required. Any proposed deviation from the approved project, adopted mitigation measures, or APMs would be reported immediately to the CPUC EM and CPUC Project Manager for review. The CPUC EM field verified and reviewed variance requests to ensure that all of the information required to process the variance was included. If necessary, the variance request was sent to technical experts to verify that no increased impacts would occur. The request and a recommendation for approval or denial were forwarded to the CPUC and/or BLM Project Managers for review and approval/denial. For variances on BLM lands, the BLM prepared a DNA. In some cases, variances also required approval by jurisdictional agencies where sensitive resource habitat could be affected.

All variance requests included descriptions of location, project or mitigation change, biological resource surveys, cultural resource surveys, landowner approval where applicable, and water/wetland/stormwater-related resource information where applicable. See Sections 8.1 through 8.4 for a detailed summary of project variances.

Temporary Extra Workspace Procedures

A TEWS was defined as a workspace that could be used by SDG&E during construction for a period of up to 60 days, and that was not identified and evaluated during the CEQA/NEPA process. Any spaces used for a period longer than 60 days required a variance. To obtain a TEWS, SDG&E was required demonstrate that the TEWS was located in a disturbed area with no sensitive resources or land uses onsite or

adjacent, that SDG&E had permission from the landowner to use the workspace, and that use of the TEWS would not result in any significant environmental impacts.

When SDG&E determined it needed a TEWS, SDG&E submitted a request to a CPUC EM for field verification. The CPUC EM had the authority to approve or deny use of a TEWS, assuming it met the proper criteria. SDG&E was not allowed to use a TEWS until receiving written authorization from the CPUC EM. See Section 8.5 for a detailed summary of project TEWS.

4. Pre-Construction Compliance Review and Notices to Proceed

For purposes of managing construction, SDG&E divided the project into five segments that it identified as Links. As pre-construction work was completed, SDG&E submitted multiple separate requests to the CPUC and BLM for Notices to Proceed (NTPs) with construction in various Links. This segmented construction review process allowed SDG&E to proceed with individual project components at multiple locations as compliance with all applicable mitigation measures and conditions was achieved and documented. (See Section 4.2, Notices to Proceed.)

Many mitigation measures and permit conditions imposed by various agencies required SDG&E to prepare relevant plans and obtain jurisdictional approval of these documents, in addition to conducting various surveys and studies prior to commencing construction. During the pre-construction process, SDG&E and its environmental representatives participated in meetings, conference calls, and site visits with technical representatives of the Aspen team, CPUC, BLM, and other agencies. The purpose of the pre-construction coordination process was to discuss the status of documents and plans, document the findings of data reviews and jurisdictional agency approvals, review SDG&E submittals, and document the status of mitigation measure compliance as these applied to each NTP requested. In addition to NTP Requests for the transmission line, separate NTP Requests were made for specific construction yards, the Suncrest Substation, upgrades at existing substations, and communication facilities. The purpose of the pre-construction process was to ensure that all actions and submittals required under the MMRCPP were completed. This allowed the CPUC, BLM, and other agencies to issue NTP authorizations for each project component, rather than require completion of all requirements for the entire project before issuing an NTP. See Section 4.2 for a summary of all NTPs issued.

Each NTP letter and associated NTP Compliance Status Table documented the thorough evaluation of all activities covered under that NTP. The evaluation process ensured that all mitigation measures and permit conditions applicable to the location and activities covered in the NTP were implemented, as required in the CPUC's Decision, BLM's ROD, USFS's ROD, and MCAS Miramar's FAR Part 77.

4.1 Pre-Construction Compliance Verification

As discussed, SDG&E is required by the terms of the mitigation measures and the permitting requirements of other regulatory agencies to prepare and obtain approval of various plans, in addition to performing various surveys and studies prior to construction. Copies of this documentation were retained by the CPUC monitoring team and used during field monitoring

Documents were reviewed by the CPUC, BLM, and applicable approving agencies. Compliance with all pre-construction mitigation measures and Applicant Proposed Measures presented were verified prior to construction, and construction could not start on any project component before SDG&E received a written NTP from the CPUC Project Manager, BLM, USFS, or Miramar, as applicable.

The CPUC and BLM were assisted in their review by the Aspen monitoring team for site verification, document tracking, and coordination with technical reviewers. Resource agencies also were involved in the review of applicable plans and reports. CPUC, BLM, USFS, and MCAS Miramar, as applicable, issued NTPs for construction of each project component separately, as soon as pre-construction compliance was completed for that aspect of work.

4.1.1 Notice to Proceed Procedures

For State, private, and BLM lands, the CPUC and BLM Project Managers and all EIR/EIS team reviewers ensured that the NTP process was consistent with the adopted CEQA and NEPA documents. The NTP approval(s) documented that pre-construction mitigation measure requirements, including applicable surveys, studies, and/or plans, as well as project permit requirements, were met. Depending on project component area resources or lack thereof, mitigation compliance could be assured for certain components while other components were pending cultural resource consultations or biological survey completion, etc. Where appropriate, a phased NTP process was used to allow for the start of some construction activities. Therefore, a NTP may be issued for a particular project component upon its compliance with applicable mitigation measures and permits, and this process could occur in advance of mitigation compliance for the entire project as a whole.

In some instances compliance with every requirement could not be achieved prior to NTP issuance. For example, instances included pending permit issuance, geotechnical studies where site access prior to construction was constrained, and mitigation measure requirements could only be implemented during construction. In such cases the NTPs were conditioned to define actions to be taken and documented prior to construction in certain areas or prior to energizing the line.

Aspen prepared draft NTP approval letters that documented the scope of work, compliance with EIR/EIS and BO mitigation requirements, and outstanding conditions. CPUC and BLM finalized the draft NTP approval letters and sent approvals with updated compliance tables to SDG&E.

Acquisitions of all applicable jurisdictional permits are outlined in Section 3.2.1. See below for a listing of required plan, survey, study, and coordination documentation submittals by issue area for the project. Applicable mitigation measures or permits follow the document title.

General

Safe Worker and Environmental Awareness Program (SWEAP), Bio-APM-02, C-1b, HS-APM-14

Agriculture

Agriculture Sampling and Testing Plan, P-7a, P-2a, HS APM-5

Agriculture Sampling Memo, P-2a

Agriculture Summary Memo, Ag-1a, Ag-1c

Agriculture Areas, Ag-3b

Agricultural Operator Coordination memo, Ag-1a

Air Quality Reports

Construction Emissions Monitoring Plan (CEMP), AQ-1b, AQ-1h, AQ-APM-4, 5

NOx and Particulate Matter Emission Offsets, ICAPCD Dust Mitigation MOU, AQ-1h

Consecution-phase greenhouse gas emissions with carbon credits off-set documentation, AQ-4a

EPA SF6 Emission Reduction Partnership and MOU, AQ-4c

Dust Control Plan, AQ-1a, AQ-AMP-1, 2, 3

Air Quality Mitigation Program for Construction Air Emissions, AQ-1h

Biological Resource Reports

Habitat Mitigation Monitoring Plans, B-1a

Habitat Management Plan, B-1a, B-5a

Habitat Restoration Plan, B-1a

Weed Control Plan, B-3a

Bighorn Sheep Monitoring Plan, B-6
Peninsular Big Horned Sheep Surveys, B-7c
Arroyo Toad Relocation Plan, USFWS BO requirement
Arroyo Toad Survey Report, B-7j
Raven Control Plan, USFWS BO requirement
The Avian Monitoring and Mitigation Plan
Riparian Bird Survey Report, B-7e
Quino Checkerspot Butterfly Surveys, B-7i
Flat-tail Horned Lizard Proffer, B-7b
Burrowing Owl Survey, B7d
California Gnatcatcher Survey Reports, B-7l
Bat Nursery Colony Surveys, B-9a
Golden Eagle Survey Report, B-h7
Avian Monitoring and Mitigation Plan, B-7h, B-10a
Avian Protection Memo, Bio-APM-21
Flight Diverter Memo, B-1a
Rare Plant Survey Reports, B-5a
Sensitive Vegetation Restoration Plan, B-5a
Special Status Species Restoration Plan, B-5a
Stephens Kangaroo Rat Survey, Bio-APM-18
Gate Memoranda, B-1a
Implementation Memo, B-10a

Cultural and Paleontological Recourse Reports

Final Inventory Report of the Cultural Resources, C-1a
Historic Properties Treatment Plan (HPTP), C-1a, C-1c
Historic Properties Management Plan (HPMP), C-1b
Paleontological Mitigation Report, PAL-1b
Paleontological Records search, PAL-1a
Final Paleontological Monitoring Treatment Plan, PAL-1a, PAL-1b

Hydrology Reports

Storm Water Pollution Prevention Plans (SWPPPs), 17 in total, H-7a
Substation Grading and Drainage Plan, H-5a
Sensitive Feature avoidance, WQ-APM-2, 4
Scour Protection Reports, H-8a
Water Resources Evaluation Report, S-3b
Water Transport Memo, S-3b

Fire Reports

Fire Prevention and Response Plan (FPRP), F-1a
SRPL Multi-Agency Fire Prevention MOU, F-3b
Fire Mitigation Funds Utilization Plan, F-1e, F-3b

Geotechnical

Geotechnical Investigation Reports, G-3a
Rock Fall Hazard Evaluation, G-6a
Evaluation of Liquefaction Potential Reports, G-4b

Fault Hazard Reports, G-5a, GEO-APM-4
Seismic Load Report, G-4a
Desert Pavement Protection Plan, G-2a

Land Use

Construction Notification Plan, L-1a, S-2a, F-3b

Public Health and Safety

Phase I Environmental Site Assessments, P-7a
Phase I Soil Management Plan, P-7a
SMP HASP Sunrise HAZMAT Monitoring, P-7a
Hazardous Substance Control and Emergency Response Plan, H-1k
230 kV Overhead Object Grounding Summary, PS-2a
230 kV Underground Grounding Summary, PS-2a
PAR Blasting Preparation Protection Plan, Explosives Storage Plan, H-4b, N-2a, HS-APM-4
Blasting Wells and Springs Survey Report, H-4b, N-2a, HS-APM-4
Suncrest Blasting Plan, H-4b, N-2a, HS-APM-4
Conductor Surface Voltage Gradient Memo, PS-1a
Environmental Monitoring Plan, B-1c, C-1e, C-3a, C-1e, PAL-1c, P-1a
Overhead Utility Coordination Memo, PSU-APM-1
Protection of Underground Utilities Memo, S-2b, PSU-APM-1
Links 1, 2, and 5, Induced Voltages Memo, PS-2a
Coordination with Utility Providers Documentation, PSU-APM-1
Suncrest Substation Ground Grid Design, PS-2a
Sunrise Hazard Communication Plan, P-1a, HS-APM-1, 3
Underground Utility Memo, HS-APM-06
Unexploded Ordinance Memo HS-APM-06
Unexploded ordinance investigation report and training Program, HS-APM-06

Traffic Reports

Projectwide Traffic Study, T-9a
Construction Transportation Management Plan, T-9a
Traffic Management Plan, T-9a
School District Coordination, T-APM-5
Imperial Valley Transit Coordination, T-APM-5
Customs and Border Control Coordination, T-APM-5
San Diego County Traffic Control Permit, LU-APM-9

Visual Plans

230 kV OH Plan-Profile Drawings, V-2a
Construction Yard Screening Plan, V-1a, V-1b
Construction Yard Lighting Plan, V-1b
Substation Lighting Plans, V-1b
Substation Screening Plans, V-1b
Substation Surface Treatment Plans, V-7a
Sunrise Lighting Mitigation Plans V-21a
Chocolate Canyon Transition Structure Memo, V-66a
Scenery Conservation Plan, V-45a

Non-Specular Conductor Memo, V-3a
Visual Resources Mitigation Plan, Mountain Springs Grade (MSG) V-1a, 1b, 2a, 2b, 2c, 3a, C-6f, VR-APM 1, 3, 4, 5, 6

Wilderness and Recreation

California Riding Hiking Trail Coordination, WR-1b
Pacific Crest Trail Coordination, WR-2b
Pacific Crest Trail Route Compensation, WR-2c
Recreation Area Officer Coordination, WR-1a, WR-3a, R-APM-2a, 2c, 2d, 2e
SD County Coordination Documentation, WR-1a
USFS Coordination Documentation, WR-1a

Many mitigation measures as well as plans submitted prior to construction required periodic reporting during construction, including weekly, monthly, quarterly, and annual reports, depending on the resource. NTPs were conditioned accordingly. Below is a list of submittals received during construction.

Construction Emissions Quarterly Reporting AQ-1b
SF6 Emissions Reporting AQ-4c
Construction Equipment logs, AQ-1b
Vehicles maintenance Logs, AQ-1b, H-02d
NOx Emissions Annual Reporting, AQ-1h
Nesting Bird Surveys B-7h, B-10a
Site Biological Clearance Surveys, B-8a, B-7
CAGN Survey Reports, B-7l
SWFL LBV Survey Reports, B-7e
Arroyo Toad Monthly Monitoring Progress Reports, USFWS BO requirement
Bat Memo reports, B-9a
NSR-Raptors, B-8a
Site Specific Restoration Plans, B-5a
Weed wash station logs, B-3a
Monitor resumes, C-1e
Archaeological Monthly Monitoring Summary Reports, C-1b
Inadvertent Cultural Discovery Reports, C-1b
Summary of Paleontological Finds, PAL-1b
Blasting Plans, N-2a, H-4b
Wells Survey Reports, H-4b
Site Surveys and Blasting Reports, H-4b
Encroachment Permits, LU-APM-9
Hazardous Materials Business Plans, HS-APM-03

4.2 Notices to Proceed

4.2.1 Private Lands NTPs

The CPUC issued 13 NTPs throughout construction as specific mitigation requirements were fulfilled. The first nine NTPs were for existing substation and facility upgrades, and for mobilization to construction yard areas. Construction on the Sunrise Powerlink Project itself started November 23, 2010, with the issuance of NTP #10, which covered Link 4 (the 230 kV underground line). NTP #11 approved work on the Suncrest Substation, December 15, 2010. NTP #13 covered the largest area of construction, which

included State and private land areas of Links 1 and 2, encompassing the 500 kV overhead portion of construction, and Link 5, which covered the 230 kV overhead construction. NTP #13 also approved 69 kV reconductoring work and 12 kV relocations, as well as use of a number of construction yards. NTP #13 was approved January 14, 2011, and modified February 11 to include an additional yard. Federal lands were covered by separate NTPs from BLM, USFS and MCAS Miramar. Table 3 provides CPUC NTP details.

Table 3. CPUC (Private Lands) NTPs

NTP Number	Date Requested	Date Issued	Segment	Description
#1	01/04/10	04/28/10 Updated 08/03/10	25	San Luis Rey Substation Upgrades
#2	02/08/10	04/29/10 Updated 08/03/10	23	South Bay Substation Upgrades
#3	02/26/10	05/20/10	Yard	Alpine Yard 18
#4	01/26/10	05/28/10	Yard	Alpine Yard 18A
#5	02/05/10	09/28/10	Yard	Rough Acres Yard, Phase 1
#6	05/26/10	09/28/10	24	Encina Substation Upgrades
#7	05/28/10	09/28/10	Telecomm	White Star Communication Facility
#8	06/09/10	10/06/10	Substation	Pomerado Substation Upgrades
#9	06/09/10	10/06/10	Substation	Scripps Switchyard/Substation Upgrades
#10	10/13/10	11/23/10	15	Link 4, Alpine 230 kV Underground Construction
#11	10/19/10	12/15/10	13	Link 3, Suncrest Substation/Wilson Construction Yard
#12	11/30/10	12/23/10	Yard	Rough Acres Yard, Phase 2
#13	11/09/10	01/14/11 Modified 02/24/11	2-18, 20-22	Links 1, 2, and 5, overhead construction on non-federal lands, 69 kV reconductoring, 12 kV relocations, staging yards

4.2.2 BLM Lands NTPs

The BLM issued two NTPs as specific mitigation requirements were fulfilled. The first NTP was for upgrades to the existing Imperial Valley Substation, issued on February 3, 2011. New project construction on federal lands started April 4, 2011, with the issuance of NTP #2, which covered BLM jurisdictional areas in Links 1 and 2, encompassing the 500 kV overhead portion of construction, and in Link 5, which covered the 230 kV overhead construction. NTP #2 also approved use of designated materials staging yards on BLM lands. Private lands and non-BLM federal lands were covered by separate NTPs from CPUC, USFS, and MCAS Miramar. Table 4 provides BLM NTP details.

Table 4. BLM NTPs

NTP Number	Date Requested	Date Issued	Segment	Description
BLM #1	01/19/11	02/03/11	1	Imperial Valley Substation upgrades.
BLM #2	03/28/11	04/04/11	2-12, 16-17	Links 1, 2, and 5 overhead construction on BLM Lands.

4.2.3 USFS Lands NTP

The USFS issued one NTP for construction on USFS lands August 9, 2011, which covered forest jurisdiction areas of Links 1 and 2, encompassing the 500 kV overhead portion of construction, and Link 5,

which covered the 230 kV overhead construction. Private lands and non-USFS federal lands were covered by separate NTPs from CPUC, BLM and MCAS Miramar.

4.2.4 MCAS Miramar NTP

The MCAS Miramar issued one NTP for project construction on MCAS Miramar lands June 28, 2011, which covered tower installation on a small segment of Link 5, 69 kV line re-conductoring and existing substation upgrades. Private lands and non-MCAS federal lands were covered by separate NTPs from CPUC, BLM and USFS.

5. Description of Construction and Compliance

The Sunrise Powerlink Project's 117.2-mile ROW begins at the Imperial Valley Substation (MP 0) and terminates at the Sycamore Canyon Substation (MP 117.2). The project crosses a patchwork of jurisdictions, including State and private lands (CPUC), BLM lands, USFS, MCAS Miramar and tribal lands. The line also



Photo 1: Rugged terrain at CP 47-2 with TSAP above.

crosses numerous sensitive species habitat areas including peninsular bighorn sheep, bare-foot banded gecko, flat-tail horned lizard, golden eagle, Quino checkerspot butterfly, arroyo toad, California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and sensitive bat colonies, as well as sensitive vegetation communities. Jurisdictional waters and wash areas were crossed. Areas of desert pavement were crossed, as well as sensitive paleontological and cultural resource areas. Many construction areas were geographically isolated and in challenging terrain; therefore, helicopter construction was extensively employed.

The construction and compliance discussion below is divided into components, including:

- Section 5.1: Overhead Transmission Line Construction (Links 1, 2, and 5)
- Section 5.2: Underground 230 kV Construction (Link 4)
- Section 5.3: Substation Construction and Upgrades
- Section 5.4: 69 kV Re-conductoring
- Section 5.5: 12 kV Relocations
- Section 5.6: Construction Yards and Other Workspaces

A summary of variances and TEWS and a review of environmental compliance during construction are provided following each construction discussion. Section 5.7 provides a separate overview of helicopter use during construction. Appendix A identifies all new Sunrise Powerlink Project towers, associated jurisdictions, construction type (conventional or micropile), site access and associated sensitive species. Appendix B contains a photographic record of field activities and events.

5.1 Overhead Transmission Line Construction (Links 1, 2, and 5)

Both the overhead 230 kV and overhead 500 kV transmission lines were constructed using similar methods. Two alternative methods of tower installation and preparation were used throughout the project alignment: conventional and micropile/helicopter

Conventional Construction

For conventional construction, vegetation removal and grading/improvement of access and spur roads were required to access and prepare each new structure site. Typically, 14-foot-wide straight sections of road and 16- to 20-foot-wide sections at corners were created to facilitate safe movement of equipment and vehicles. Where available, existing roads were improved as needed. New road construction was min-

imized owing to the ability to construct in remote areas by helicopter. Some roads are permanent; others were temporary. Permanent roads will be utilized during O&M by crews for inspection and maintenance purposes. Temporary roads were restored after the completion of the project. Gates were installed, as required, to restrict unauthorized vehicular access to the ROW.

For conventional construction sites, either lattice structures or Tubular Steel Poles (TSPs) or monopole structures were installed. After access roads were improved or completed, individual conventional structure sites were cleared of vegetation and graded to allow for structure installation. Conventional structure installation required temporary graded work areas of 200' by 200' to allow for heavy equipment use. Lattice structures required truck-mounted excavators equipped with augers to drill 4 holes for foundations at each tower location; one for each tower leg. The holes ranged between 4 and 5 feet in diameter with depths of 10 to 30 feet. Reinforced steel rebar cages and were lowered into the excavated holes, and concrete was then poured and allowed to cure. TSPs were all constructed by conventional methods with a single foundation hole between 8 and 10 feet in diameter and depths of 20 to 40 feet. Again rebar cages were installed and set in concrete.



Photo 2: Conventional tower assembly at EP 210, Link 1.

At the completion of foundation work, assembly and erection crews would erect the appropriate structure type and secure it to the installed foundations. TSP structure pieces were hauled to tower locations and installed by crews using medium to large cranes, which lifted and lowered the tower base section onto the foundation where it was bolted into place. Section pieces were then lifted, stacked, and bolted together. Lattice structures were partially assembled in 3 to 5 sections at the construction staging yards, which were strategically located to avoid helicopter delivery of sections over Interstate highways. Where pieces were carried across other roads, traffic control was in place to control traffic during the delivery process. Medium- and heavy-lift helicopters flew the pre-assembled structure section to the tower sites. The base was lowered onto the foundation piers and bolted down. Subsequent sections would be flown to the site, lowered onto previously delivered sections, and bolted.



Photo 3: Skycrane flying with tower to EP 209, Link 1.

Micropile/Helicopter Construction

Micropile/helicopter structure installation required permanent work areas of 100' by 100' which were cleared to facilitate micropile installations and fire abatement. If large rock was encountered, blasting or "boulder busting" methods were employed. In boulder busting, expanding gases from shotgun shell size cartridges generate a rapid pressure impulse on a column of water in a pre-drilled hole, resulting in tensile fractures in the rock. Rock fragments were then removed. Once the area was prepared, medium-lift helicopters transported micropile drilling platforms and associated drilling equipment. Micropile installation began by drilling 6 to 8 micropile foundation holes per tower leg using a specialized drilling rig. The individual foundation holes were then grouted and the micropile tops were cut to elevation. Load/proof testing was then conducted. Concrete or steel capping structures were placed and tower stub angles were set to accept the base of the tower assembly.



Photo 4: Micropile cap work at EP 254-3, Link 1.

As with conventional construction, the pre-assembled structure base section was then flown by medium or heavy lift helicopter to the tower site and bolted to the foundation piers. Subsequent sections were flown to the site, lowered in place, and bolted together.

Wire Stringing

Each 500 kV and 230 kV transmission line consists of three bundles of wires (conductors) to form three electrical phases. The conductor is separated from the towers by insulators. Insulators and travelers, or stringing sheaves, were installed onto the erected structures to provide a conduit for the conductor to be pulled through. Following these preparatory steps, the conductor was strung on the structures. To ensure public safety during stringing operations, guard structures were erected in areas where the alignment crossed public roads or electrical distribution lines. In the event a conductor sagged too far or was dropped, the horizontal elements of the guard structures would prevent the wire from reaching the ground. From cleared and graded pull-sites, drilling to form temporary concrete snubs (wire-to-wire connections) occurred. MD500 helicopters pulled sockline, a lightweight rope, through multiple tower structures. Medium-weight steel rope, known as a hard line, was then pulled through using the sockline. The final phase was to pull conductor through using the hard line.



Photo 5: Grading at CP 55/CP 56-1 pull site, Link 5.

Following pulling operations, the line was sagged to ensure proper line elevation above the ground. The conductor bundles were then spaced to prevent damage during wind events followed by clipping the conductor to the structure. Similar processes occurred during optical ground wire installation.

Once the conductor was in place, QA/QC was conducted and site cleanup commenced. Temporary disturbance areas at structure sites were restored to original contours and an approved seed mixture of native vegetation was distributed by hand seeding and/or hydroseeding. Areas that could not be graded back to original contours due to terrain limitations, boulder busting, or heavy rock relocation were restored as near to their original state as feasible. Best Management Practices (BMPs) were installed in areas where there was potential for erosion. BMPs were removed once areas were determined to have been stabilized by vegetation. SDG&E filed site Notice of Termination (NOT) documentation with the SWRCB once areas were deemed stable and all construction activity was complete. At all structure locations where helicopter access is required, permanent 100' by 100' areas were hydromulched for stabilization and dust control but left devoid of vegetation, and will be maintained during O&M.

5.1.1 500 kV Overhead Line – Links 1 and 2

Links 1 and 2 of the project included the 500 kV overhead transmission line connecting the existing Imperial Valley Substation to the new Suncrest Substation (identified as Link 3). Link 1, located in Imperial and San Diego Counties, traverses the communities of Ocotillo, Jacumba, and McCain Valley. Nearly 54 miles in length, Link 1 crosses a patchwork of USFS, BLM, and private lands from milepost (MP) 0 to MP 53.5. Link 2 is located in San Diego County and traverses the communities of La Posta, Pine Valley, and Descanso. Just over 35 miles in length, Link 2 also crosses a patchwork of USFS, BLM, and private lands from MP 53.5 to MP 88.8. The Links 1 and 2 500 kV single-circuit transmission line is strung across a combined 338 new lattice steel towers and TSPs. See Appendix A for a complete list of towers and information particular to each site. Overhead fiber optic ground wires (OPGW) are strung between the peaks of each transmission structure. Lattice structures have two peaks and a single wire is strung on each peak. This wire functions to intercept lightning that would otherwise strike the conductor. The OPGW also facilitates data transfer between SDG&E facilities for system monitoring.

Links 1 and 2 were constructed using conventional tower methods as well as micropile/helicopter methods, depending on terrain and constraints on access. See Section 5.1 for descriptions of each type of construction activity.

Construction in Link 1 was supported from nine construction yards: McCain Valley, Rough Acres, Jacumba Valley Ranch, AER, Fromm, S2, Plaster City, Dunaway, and IV Substation. A total of 200 structures were erected across Link 1. Existing access was used where possible. In addition, 23 miles of new access roads were constructed. Sixty-seven temporary and permanent Tower Staging Access Pads (TSAPs) were created to stage and transport materials and crew members. Two helicopter landing platforms also were used. Thirty-eight wire stringing (pull) sites were constructed as well.

Construction in Link 2 was supported from six yards: Wilson, SWAT, Barrett, Kreutzkamp, Bartlett-Hauser, and Thing Valley. A total of 138 structures were erected in this link. Existing access was used where possible. Additionally, 22 miles of new access roads were constructed. Sixty-seven temporary and permanent TSAPs were created to stage and transport materials and crew members. One helicopter landing platform also was used. Twenty-six wire stringing (pull) sites were constructed as well.

Due to the number of tower sites and the timing of jurisdictional approvals, construction was conducted at multiple locations simultaneously across Links 1 and 2. CPUC NTP #13, which included 500 kV construction on non-federal lands, was issued on January 13, 2011, and modified on February 24, 2011. BLM NTP #2, which included 500 kV construction on BLM lands, was issued April 4, 2011. USFS NTP #1, which included 500 kV construction on USFS lands, was issued August 8, 2011. Preparation for construction was conducted including crew SWEAP training and mailing and posting of construction notifications to the public.

The following discussion is organized by jurisdiction and Link. Only the initial start dates of particular work activities have been provided. Initial work in Links 1 and 2 began in January 2011. Final line testing occurred on June 15 and 16, 2012. The 500 kV line became fully energized on June 17, 2012. The 500 kV overhead construction work consisted of the following:

Non-Federal Lands (CPUC)

Link 1

- Geotechnical soil boring began at the end of January 2011.
- Vegetation clearing and road improvements also commenced at the end of January 2011. TSAP clearing activities began in February 2011. Driveway installation began in March 2011. Access road repairs and gate installation began in June 2011. Final access road grading began in December 2011.
- The Desert Rose Ranch Road mobile home was deconstructed and relocated in February 2011 to make way for ROW installations.
- Conventional and Airtrack drilling of tower foundations began in February 2011. Airtrack drilling breaks up rock to enable conventional and micropile drilling operations. Foundation rebar was installed and concrete was poured.
- Micropile drilling also began in February 2011. Proof testing, foundation rebar installation, and grouting, as well as trimming, began in March 2011. Micropile capping began in April 2011.
- Conventional on-site tower assembly began in February 2011. Helicopter tower assembly began with a bridge set by an Aircrane at towers EP 217 and EP 218 on March 6, 2011. Tower section assembly began at the construction yards in March 2011. Miscellaneous finish assembly work, including installing bird perch deterrents and anti-climb guards, began in October 2011.
- Temporary helicopter platform work began at EP 253 in March 2011, with platform removal in September 2011.
- Ground rod installation and testing began in April 2011.
- QA/QC inspections began in June 2011. (QA/QC was conducted for every construction phase including foundation, structure and wire.)
- Caisson installations to stabilize the foundation holes and welding occurred at EP 239-1 and EP 240 in July 2011. Pressure grouting for conventional foundations took place at EP 239-1 in September 2011.
- Pull-site area preparation began in March 2011. Variances approving specific temporary guard structure locations were approved beginning in July 2011 and guard structure installations began soon after.



Photo 6: Micropile drilling at Tower EP 254-3, Link 1.



Photo 7: Aircrane is placing the bridge on EP 217, Link 1.

- Snub (wire-to-wire) connection installation and other wire work began in October 2011. Conductor and OPGW were flown, sagged and clipped in. Traveler, insulator work, and spacer and marker ball installation took place. Fiber optic testing and implosive sleeving (splicing conductor strings) began in December 2011. OPGW testing started in May 2012.
- Boulder removal began in November 2011.
- Ground compaction testing occurred in November 2011.
- Weed control and removal began in November 2011. Tree removal also occurred in November 2011.
- To ensure crew safety, Variance #37 was approved allowing temporary concrete anchor blocks to be set outside of the tower impact areas beginning December 2011. Once work requiring anchors was complete, the blocks were removed and taken to the next anchoring location.
- Variance #13 approved construction of two fiber optic regeneration buildings. Work at the EP 215 regeneration building site began with trenching, concrete pouring, and gas line installation in December 2011. In January 2012, a prefabricated building and fencing were installed. Racks were hung inside of the regeneration building in April 2012.
- Desert pavement restoration began in January 2012.
- Fence grounding began in May 2012.
- In preparation for energization, insulator cleaning began in June 2012. Final line testing occurred on June 15 and 16, 2012. The 500 kV line became fully energized on June 17, 2012.
- Various punchlist, cleanup, and restoration items continued post-energization; for example, sign installation began in September 2012.

Link 2

- Construction commenced with access road, TSAP, and structure site clearing and grading in February 2011. Crane pad grading/development took place in September 2011 to facilitate structure assembly. Final permanent site and access road grading began in June 2012.
- A radio communications tower was installed at the EP 87-1 TSAP in February 2011. A fence was installed around the communications tower in May 2011.
- Micropile drilling began in March 2011. Rebar installation, grouting, and trimming began in April 2011. Micropile cap work began in August 2011.
- Conventional tower foundation drilling, rebar installation, and concrete pouring began in July 2011.
- On-site tower assembly began in August 2011.
- Vegetation removal was reinitiated in August 2011. Tree trimming took place in October 2011.
- Boulder removal began in September 2011.
- Ground rod installation and testing began in September 2011.
- Arroyo toad exclusion fence installation began in arroyo toad habitat in October 2011.
- QA/QC began in October 2011. QA/QC was conducted for every construction phase including foundation, structure, and wire.
- To facilitate wire-pulling operations, snubs began to be installed in April 2012. Temporary guard structures were installed beginning in July 2011. Wire work began in November 2011. Conductor was pulled,

sagged, and clipped in. Insulator work was conducted in February 2012. In March 2012, OPGW was pulled, sagged, and clipped in. Aviation safety marker balls were installed. Splicing and wire punchlist items were conducted in June 2012.

- Fence installation began in December 2011. Fence repairs occurred in January 2012.
- In January 2012, crews set a prefabricated building at the regeneration site at EP 54-1. Work inside of the regeneration station began in May 2012.
- A sound barrier wall was constructed at EP 119-2 in February 2012 to minimize impacts to a nearby great horned owl nest.
- Cattle guards were installed from EP 76-2 to EP 78A.
- Drilling and blasting occurred at EP 65-1 in February 2012. Rock breaking occurred in April 2012.
- Temporary concrete anchors blocks were placed outside of tower disturbance areas in February 2012.
- Weed abatement began in late March 2012.
- Wash station repairs were made between EP 90-1 and EP 91 in April 2012.
- Fence grounding began in April 2012.
- Restoration of temporary construction areas began in May 2012.
- Construction line testing occurred on June 15 and 16, 2012. The 500 kV portion became fully energized on June 17, 2012
- Various punchlist, cleanup, and post-energization restoration took place, for example, signage and anti-climb guards were installed in September 2012. Driveway preparations were completed at the Cinnamon Drive intersection in September 2012.

BLM Lands

Link 1

- Construction began with desert pavement removal and salvage in April 2011.
- Access road improvements and rough grading began in April 2011. Tower site, pull-site, and TSAP grading began in May 2011. Access road repairs were made in June 2011. Final grading began in December 2011.
- Conventional tower foundation drilling and micro-pile activities, installation of foundation rebar, and concrete pouring began in April 2011. Additional foundation work, including capping, curing, and concrete cleanup, began in May 2011.
- Fault trenching began in April 2011.
- Structure assembly began at the yards in May 2011. Structure section and steel deliveries to tower sites began in July 2011. Miscellaneous tower work including installing anti-climbing guards, bird deterrents, and/or signage began in December 2011.



Photo 8: Raking desert pavement at EP 341, Link 1.

- Tower grounding began in May 2011. Ground resistance testing began in June 2011. QA/QC began in July 2011.
- After confirmation of jurisdictional approvals to work 24 hours in Imperial County, light banks were brought onsite and nighttime tower assembly was conducted out of the S2 Yard at EP 295, EP 296, EP 299, and EP 313 in July 2011.
- Blasting began in July 2011.
- Snubs began to be drilled in July 2011 in preparation for wire work.

■ Guard structures began to be installed in August 2011. Wire netting was installed over Interstate 8 for traffic protection during wire pulling operations. Wire work started in August 2011. Sockline, hardline, conductor, and OPGW were pulled.



Photo 9: Conventional foundation pour at EP 336, Link 1.

■ Sagging, clipping in, dead-end work, traveler work, jumper, spacer and marker ball installation began. Installation of infrared aerial lighting began in September 2011. Wire splicing began in November 2011. Fiber testing and fiber repairs began in December 2011. Sleeve repair work took place in January 2012.

■ Starting in August 2011, the EP 269 pull-site was used as a materials staging area for helicopter operations within the Interstate 8 island.

■ Temporary mats installed to protect dry washes were laid along the EP 323-1 and EP 324 access roads in August 2011. The mats were removed in September 2011.



Photo 10: Temporary Douglas Fir mat access road over dry wash at EP 324, Link 1.

■ In September 2011, a radio communications tower was installed at the EP 146 TSAP.

■ Tree trimming occurred in October 2011.

■ Fence grounding along Interstate 8 took place in October 2011.

■ Bridge building over a jurisdictional wash took place at the EP 187-2 pull-site south in November 2011.

■ Stream crossings were installed at EP 170, EP 171, and EP 176 in December 2011.

■ Temporary ground wires were removed and final grounding began in December 2011.

■ Restoration of temporary construction areas began in February 2012.

■ Insulator cleaning began in June 2012 in preparation for line energization. Construction line testing occurred June 15 and 16, 2012. The 500 kV portion became fully energized on June 17, 2012

Link 2

- Construction commenced with access road work in April 2011. Grading began in August 2011. Site benching began in October 2011. Final grading began in February 2012.
- Conventional foundation drilling began in April 2011.
- Vegetation removal began in August 2011.
- Arroyo toad exclusionary fence installation in arroyo toad habitat began in August 2011.
- Micropile preparations began in August 2011 and drilling began in September 2011. Various micropile work including capping, pile surveys, pull testing and grouting began in October 2011.
- Culverts were installed at the EP 47-1-PS-N and EP 50-E access roads. Rumble plate installation began in October 2011.
- Pre-drilling and blasting began in October 2011.
- QA/QC began in October 2011.
- Tower assembly began in November 2011. Miscellaneous tower work including installing anti-climb guards, bird deterrents, safety lights including infrared lights, and signs started in December 2011.
- Setup of pull-sites began in August 2011. Wire work began in November 2011 with the installation of conductor and OPGW inside Golden Eagle buffer areas from EP 42 to EP 47-2.
- Ground rod installation began in January 2012. Fence grounding started in February 2012. Ground resistance testing began in April 2012.
- Insulator installation, traveler work, dead-end work, marker ball installation, sagging, and spacing was conducted and splicing began in May 2012.
- Cattle guards were installed from EP 76-2 to EP 78A.
- General cleanup began in February 2012.
- Temporary concrete anchor blocks were placed outside of tower disturbance areas beginning in February 2012.
- Construction line testing occurred on June 15 and 16, 2012. The 500 kV portion became fully energized on June 17, 2012.
- Restoration work at temporary construction areas began in July 2012.

USFS Lands

Links 1 and 2 (because only two Link 1 towers are located on USFS land, the Link 1 and 2 discussions are combined.)

- Construction commenced in August 2011 with vegetation removal, site setup, and grading at tower sites and pull-sites. Access road construction also began in August 2011 along La Posta Road. TSAP grading began in September 2011.
- Temporary fencing was installed in August 2011. Permanent fence and gate installation began in September 2011.
- Boulder removal started in September 2011.
- A radio communications tower was installed at the EP 34-1 TSAP in September 2011.

- Tree trimming and culvert installation occurred along La Posta Road in September 2011.
- Micropile work began in October 2011 including drilling, rebar installation, grouting, capping, pile surveys, site benching, and trimming, etc.
- Conventional foundation work including drilling, rebar installation, and concrete pouring began in October 2011.
- Tower assembly at the yards and at tower locations began in October 2011.
- Setting of temporary concrete anchor blocks began in November 2011.
- QA/QC began in November 2011.
- Wire work began in November 2011 with conductor and OPGW installation through the Golden Eagle buffer at EP 130 to EP 141. Insulator and traveler work was also conducted. Dead-end work, sagging, and clipping in began in December 2011. Guard structure work began in April 2012. Dampener work, jumper work, splicing, and marker ball and spacer installation was conducted in May 2012.
- Ground rod installation and resistance testing began in February 2012.
- Weed abatement began in April 2012.
- Insulator washing took place in June 2012 in preparation for line energization. Construction line testing occurred on June 15 and 16, 2012. The 500 kV portion became fully energized on June 17, 2012.
- Punchlist items were conducted in June 2012.
- Restoration of temporary impact areas began in July 2012.

Variations and TEWS

A total of 81 variations and DNAs were requested for 500 kV overhead line construction. Twenty-four requests including those that applied to the entire Project were made to the CPUC for non-federal land, two of which were rescinded; five DNA requests were made to the BLM; and 48 requests were made to the USFS. In addition, four variance requests were made to San Diego County. See Section 8 for more detail.

Many of the variance requests made to the CPUC relating to 500 kV line construction were for additional facilities and workspaces, guard structures, the use of alternate routes to tower sites, and gate installations. For example Variations #13 and #13-Mod approved the construction of two fiber optic regeneration sites. Variance #44 approved permanent placement of two radio communication facilities and a secondary TSAP on private land.

The BLM approved a DNA for micrositing (minor location changes) changes as part of NTP #2. In addition during 500 kV construction BLM DNAs #1, #2, and #3 were approved for micrositing changes to access roads, TSAPs, tower sites, pull-sites, and guard structure sites. Permanent placement of two radio communication facilities and secondary TSAPs were approved under DNA #4.

Forty-eight requests were made by SDG&E to the USFS, which covered all construction on USFS land including the 500 kV line section. Forty-four of the requests were for variations to the Fire Plan requesting permission to conduct certain construction activities during high fire risk days (known as project activity level-variance range [PAL Ev]) days. The remaining four variance requests were for minor vegetation clearing, placement of temporary anchor blocks, and Sunday work.

Lastly, SDG&E made four requests to the County of San Diego to allow Sunday work. All were approved.

Twenty-four TEWS were approved for extra workspace needs across the 500 kV section. Seventeen TEWS were on Link 1 and seven were on Link 2. See Section 8.5 for more details.

Environmental Compliance

A number of compliance issues were documented during 500 kV overhead line construction. Seventy-four incidents were reported — 48 on Link 1 and 26 on Link 2 (see Section 6.5). Most incidents reported were for off-ROW events, where vehicles drove or parked outside of disturbance staking and minimal vegetation was crushed. Several incidents involved incursion into peninsular bighorn sheep, golden eagle, or arroyo toad habitat and/or buffers. Additional incidents involved helicopter safety including improper rigging, dropping of loads, a bird strike, and starting flights before 7 a.m. Minor incidents included vehicle speeding, lack of proper dust control, dirt or mud trackout, road rutting, and lack of trash removal. Incidents of note include two small fires on Link 2. In one, approximately two acres of vegetation burned, and in another, a project truck went off an embankment near Lyons Valley Road and sparked a fire, which was extinguished. Other incidents included a forklift falling on its side due to an unsteady load and a tower leg that fell during installation, resulting in an injury. Finally, an incident occurred where a crew member threw a rock and knocked down a cairn (cultural resource) located within an ESA.

Repeated compliance events and issues more serious in nature resulted in Project Memoranda (PMs), Non-Compliance Reports (NCRs), and Stop Work Orders (see Sections 6.2 and 6.3). A total of three PMs, and 11 NCRs were issued by the CPUC or USFS. In addition the CPUC and the USFS each issued stop work orders which impacted 500 kV overhead construction. Three PMs issued by the CPUC were for Link 1 construction; PM #2 was issued for unauthorized ground disturbance at EP 242, PM #5 was issued for the operation of water trucks outside of approved disturbance areas, and PM #6 was issued for the commencement of construction activities prior to the arrival of the required Biological Monitor. The CPUC issued six NCRs pertaining to 500 kV construction — five for Link 1 and one for all Links. NCR #1 was issued for breaching a cultural resource ESA, not having the appropriate monitor present, and communication failures. NCR #2, NCR #3, and NCR #4 were issued for repeated violations of the Peninsular Bighorn Sheep (PBS) Construction Monitoring Plan. Examples of violations include entering PBS habitat prior to receiving clearance from the peninsular bighorn sheep monitor and various helicopter buffer violations. NCR #5 was issued for construction outside of approved workspaces, intrusion into an ESA to protect desert pavement, and violation of the Desert Pavement Protection Plan which resulted in impacts to desert pavement. NCR #6 was issued for all Links for repeatedly carrying helicopter loads without the appropriate netting. The USFS issued five NCRs for Link 2. FS NCR #1 was issued for violations of the Traffic Control Plan by not having adequate traffic control along La Posta Road. FS NCR #2 was issued for repeated violations of the Fire Plan and Traffic Control Plans. Examples include not having the proper fire tools onsite and conducting welding operations on a PAL Ev day. FS NCR #3 was issued for continued violations of FS NCR #1 and FS NCR #2. FS NCR #4 was issued for failure to make timely notification following a rope/wire drop outside of construction boundaries. Finally, FS NCR #5 was issued for helicopter incursions on golden eagle buffers. Two Stop Work Orders were issued which included and/or were triggered by 500 kV construction. One projectwide Stop Work Order was issued by the CPUC for all helicopter operations due to the number of serious safety incidents that occurred, and one by the USFS for continued violations of the Fire Plan. For an in-depth discussion of helicopter and safety issues, see Sections 7.1 and 7.2.

Prior to construction, crews were given Safe Worker and Environmental Awareness Program (SWEAP) training. New crew members were trained as they joined the project. Additionally, daily tailboards were conducted prior to starting work activities, alerting crews to any site-specific issues.

CPUC EMs conducted field reviews from January to September 2011 prior to the commencement of construction, verifying bird surveys and site staking. Field reviews and documentation approval was required to release areas to begin construction. Areas included structure sites, TSAPs, access roads, pull-sites, and guard structure sites.

Biological monitors were present for surveys, survey sweeps immediately preceding construction, vegetation clearing, and ground disturbing activities. Depending on the location and sensitivity of resources, biological monitors would either be present for all activities or when appropriate would conduct spot checks throughout construction. Archaeological, paleontological, and Native American monitors were present depending on area resources and/or ground disturbing activities. Monitors ensured implementation of all applicable mitigation measures, permits and plans, and the integrity of ESA boundaries. SDG&E monitors also briefed crews on precautionary measures required during construction. Appropriate monitoring was verified by the CPUC EMs for all work activities along the 500 kV overhead construction.

From April through August 2011, several paleontological discoveries were made along Link 1. Samples were collected and the appropriate agencies were notified in accordance with the approved Paleontological Monitoring and Discovery Treatment Plan. Several unanticipated cultural discoveries were also made along Link 1. ESAs were established and the procedures and guidelines for Treatment for Unanticipated Discoveries as set forth in the Final Historic Properties Management Plan were implemented. No impacts occurred. As previously noted, NCR #1 was issued for breaching a cultural ESA along Link 1. Crews walked across a culturally sensitive area without proper monitoring and the incident was not reported to the CPUC or BLM in a timely manner. Corrective actions included a refinement of project communication protocols with regard to culturally sensitive areas.

A significant number of avian surveys, as well as sweeps, were conducted to protect nesting birds. The 500 kV overhead portion of the project traverses various habitats in San Diego and Imperial Counties. Barefoot-banded gecko, peninsular big-horn sheep, and arroyo toad surveys and sweeps were conducted by qualified SDG&E Biological



Photo 11: View from helicopter of arroyo toad exclusionary fencing from EP 47 to EP 52, Link 2.

Monitors prior to the commencement of any construction activities within habitat areas, in accordance with permits and/or plans. Barefoot-banded gecko and arroyo toad exclusionary fencing also was installed prior to the commencement of construction activities in their respective habitats.

During construction, SDG&E reported that the exclusionary fence was inspected and maintained on a regular basis; however, CPUC EMs monitored the fencing and notified SDG&E when obvious repairs needed to be made. In May 2012, additional exclusionary fencing was installed within temporary disturbance areas at Tower EP 54 to deter ground nesting birds.

Vegetation salvage efforts also were conducted. Cactus salvage occurred during initial grading throughout various parts of Link 1 for use in later restoration efforts.

In July and August 2011, daytime temperatures in the Imperial Valley became too hot to build steel structures. SDG&E was allowed to construct 24 hours a day in Imperial County, and structure building shifted to nighttime hours while other activities were conducted during the day. The use of lighting for nighttime construction within areas of Link 1 and in the supporting construction yards was closely monitored to



Photo 12: Cactus salvage, Link 1.

A number of areas on the 500 kV segment of the project required boulder busting and/or blasting. SDG&E submitted a Blasting Plan and Well and Springs Report prior to construction and submitted Site Specific Plans for review and approval by the CPUC prior to commencing blasting operations.

A large effort went into meeting Storm Water Pollution Prevention Plan (SWPPP) requirements throughout 500 kV overhead line construction. BMPs were installed, repaired, and regularly maintained. Rumble plates were installed to help minimize trackout of dirt onto roads. Street sweepers were employed when trackout occurred. Hydroseed and hydromulch were applied to slopes for stabilization and to help minimize sediment movement. Topsoil was salvaged and stockpiled where applicable. Water trucks and helicopter water drops were used for dust control. Eco-pans were used to capture concrete washout in order to prevent soil contamination. Regulatory reviews also were performed. In February 2011, a review of Link 1 was conducted by SWRCB and USFS representatives. No violations were identified during the review. However, some incidents and permit violations were reported during construction. On May 10, 2011, a water truck refueled within 200 feet of a jurisdictional waterway. Corrective action was taken and crews were briefed and retrained. No environmental damage occurred. On June 2, 2011, a release of approximately 50 gallons of melted ice water

protect wildlife, in particular flat-tail horned lizards. The CPUC noted lighting concerns to SDG&E and adjustments were made.

A significant number of relocations and deaths of wildlife occurred as a result of construction activities. Several sensitive and non-sensitive species were relocated, including flat-tail horned lizard, coast horned lizard, silvery legless lizard, Coronado skink, California legless lizard, red diamond rattlesnake, coastal rosy boa, two-striped garter snake, coast patch-nosed snake, western spadefoot toad, and San Diego ringnecked snake. Species of special concern that were killed during 500 kV construction included 33 silvery legless lizards, 22 flat-tail horned lizards, 18 California legless lizards, 8 Coronado skinks, 4 coast patch-nosed snakes, 4 two-striped garter snakes, and 3 coast horned lizards. Additional species fatalities included San Diego woodrats, red diamond rattlesnakes, and San Diego ringnecked snakes. One barn owl, one American kestrel, and one American badger were found dead on the project ROW; however, their deaths were not believed to be related to the project. When a species of special concern was relocated, injured, or killed, the appropriate agencies were notified. Listed species also were observed and noted during construction, including a male Quino checkerspot butterfly in March 2011 and peninsular bighorn sheep in the Mountain Springs Grade area during December 2011.

A number of areas on the 500 kV segment of the project required boulder busting and/or blasting. SDG&E submitted a Blasting Plan and Well and Springs Report prior to construction and submitted Site Specific Plans for review and approval by the CPUC prior to commencing blasting operations.

A large effort went into meeting Storm Water Pollution Prevention Plan (SWPPP) requirements throughout 500 kV overhead line construction. BMPs were installed, repaired, and regularly maintained. Rumble plates were installed to help minimize trackout of dirt onto roads. Street sweepers were employed when trackout occurred. Hydroseed and hydromulch were applied to slopes for stabilization and to help minimize sediment movement. Topsoil was salvaged and stockpiled where applicable. Water trucks and helicopter water drops were used for dust control. Eco-pans were used to capture concrete washout in order to prevent soil contamination. Regulatory reviews also were performed. In February 2011, a review of Link 1 was conducted by SWRCB and USFS representatives. No violations were identified during the review. However, some incidents and permit violations were reported during construction. On May 10, 2011, a water truck refueled within 200 feet of a jurisdictional waterway. Corrective action was taken and crews were briefed and retrained. No environmental damage occurred. On June 2, 2011, a release of approximately 50 gallons of melted ice water



Photo 13: Night work at S2 Yard, Link 1.

reached a dry wash, East Coyote Wash, 13-DW-13. Electronic reporting was made to the SWRCB and USACE. Monitoring occurred both before and after storm events. On October 5, 2012, after a significant storm event, a SWPPP review was conducted by the CPUC EMs with SDG&E at various points of interest along the ROW, including La Posta Road. Long-term BMP maintenance issues were addressed by SDG&E. Some BMPs will remain in place and be maintained during O&M.



Photo 14: Relocating a flat-tailed horned lizard from EP 359, Link 1.

Hazardous materials releases also were monitored during construction. Numerous minor (< 1 gallon) leaks of hydraulic fluid, motor oil, diesel fuel, and gasoline were reported throughout 500 kV construction. All materials were immediately contained and no hazardous materials entered waterways, hydrological resource areas, or ESAs. Monthly release reporting was made to the County of San Diego Department of Public Works, Watershed Protection, and the County of San Diego Stormwater Hotline.

In May 2011, two pieces of unexploded ordinance (UXO) were found on Link 1. A trained UXO expert inspected and properly removed and disposed of the devices.

Implementation of the Project Fire Plan was monitored. In April 2011, two separate instances of vandalism occurred on Link 2, where wattles were removed from the worksite and lit on fire. Link Leads discovered the first instance of fire and safely extinguished it. No vegetation was harmed since the fires occurred on bare ground. Additionally, two small fires were reported on Link 2, where approximately 2 acres burned; no injuries were reported.

Interaction with the public, traffic control, as well as other public safety protocols were also monitored. On October 7, 2011, SDG&E reported to the CPUC that protestors were taking photos and blocking access roads to Towers EP 295 and EP 296. By the time a CPUC EM arrived, the protestors had left the area.

5.1.2 230 kV Overhead Line – Link 5

The new 230 kV circuit connects the new Suncrest Substation (Link 3) and the existing Sycamore Canyon Substation, where the project terminates. Link 5 is the 230 kV overhead transmission line component of the project and is in two parts, separated by an underground segment in Alpine (Link 4). The first part of Link 5 is the overhead line from Suncrest Substation to where the line transitions underground east of Alpine. The second part is from where the line transitions aboveground west of Alpine and continues overhead to Sycamore Canyon Substation. (Link 3, Suncrest Substation, and Link 4, the underground 230 kV segment in Alpine, are discussed in Sections 5.3 and 5.2, respectively.) Link 5 traverses the communities of Alpine, Lakeside, Sycamore Estates, and Scripps Pomerado in San Diego County. Almost 22 miles in length, Link 5 crosses a patchwork of USFS, BLM, MCAS, and private lands from MP 89.2 to MP 92.0 and from MP 98.2 to MP 117.2. The Link 5 230 kV double-circuit transmission lines are strung across 100 new lattice steel towers and TSPs. See Appendix A for a complete listing of towers and information particular to each site. Overhead fiber optic ground wires are located on the peaks of each transmission structure and function to intercept lightning that would otherwise strike the conductor. All 230 kV

structures have a single wire fiber OPGW installed at the structure peaks. The OPGW also facilitates data transfer between SDG&E facilities for system monitoring.

Link 5 was constructed using both conventional tower construction techniques and micropile/helicopter construction, with use of helicopters depending on terrain and access constraints. See Section 5.1 above for descriptions of each type of construction activity. Four construction yards, Sycamore Estates, Helix, Hartung/El Monte, and Alpine, were used to support Link 5 construction. Existing access was used as much as possible. In addition, 6 miles of new access roads were constructed. Forty-three temporary and permanent TSAPs were created to stage and facilitate transport of materials and crew members. Five landing platforms also were used. Seventeen temporary wire stringing sites were constructed as well.

CPUC NTP #13, which included the 230 kV construction on non-federal lands, was issued on January 13, 2011, and modified on February 24, 2011. BLM NTP #2, which included the 230 kV construction on BLM land, was issued on April 4, 2011. The Miramar NTP, which included overhead construction of Link 5 on MCAS land, was issued on June 28, 2011. The USFS NTP, which included 230 kV construction on USFS land, was issued on August 8, 2011. Preparation for construction included crew SWEAP training and mailings and posting of construction notifications to the public.

Due to the number of tower sites and the timing of jurisdictional approvals, construction occurred simultaneously at multiple locations across Link 5. The following discussion has been organized by jurisdiction. Only the initial start dates of particular work activities have been provided. At the completion of Link 5 construction, final line testing occurred on June 13 and 14, 2012. Link 5 was energized on June 15, 2012. 230 kV overhead construction consisted of the following work:



Photo 15: Conventional drilling at CP 41-2, Link 5.

Non-Federal Lands (CPUC)

- Geological investigation and soil boring commenced after CPUC NTP #13 was issued in January 2011.
- Construction began with vegetation clearing, access road grading, TSAP preparation, and BMP installation the week of January 23, 2011.
- Conventional foundation installation began in February 2011.
- Radio communication equipment was installed at CP 108 TSAP in February 2011.
- Engineering crews conducted site inspections in February 2011 beginning at Towers CP 16 and CP 17.
- Conventional structure assembly, steel erection, and helicopter structure assembly began in March 2011. Tower QA/QC began in September 2011.
- Micropile site preparation, testing, and drilling began in June 2011. Micropile grouting, pull tests, and capping began in October 2011.
- Temporary gate repairs were made to the entrance of the CP 49-1 pull-site in August 2011. Gate installation took place at CP 17-1 in September 2011. Gate installation occurred at CP 56-1-PS-E-A in January 2012. Gate installation occurred at CP 42-1 and CP 50 in May 2012. Gate work occurred at CP 57 in May 2012. Gate work occurred at CP 49-1-PS-N in July 2012.

- Fence repairs were made starting in January 2012. Fence installation occurred at CP 56-1-PS-E-A and paving occurred at CP 64-2-E in June 2012.
- Tree trimming began in September 2011 (trimming had been restricted during bird nesting season).
- Ground rod installation began in September 2011. Ground resistance testing began in November 2011.
- Driveway construction began at CP 44-1 and P48-1/CP 49-1 pull-site during September 2011.
- Boulder busting began at CP 28-1 in October 2011.
- Wire work began in November 2011. Insulators, travelers, and snubs were installed. Sockline, hardline, and conductor were pulled. Dead-end work, sagging, and clipping in took place. OPGW was installed. Spacers, marker balls, and jumpers were installed beginning in December 2011. Fiber was installed in late January 2012. Guard structure installation began in February 2012 prior to stringing over roadways, etc. Fiber dead-end work and dampener installation began in February 2012. Wire crimping began in April 2012.
- Miscellaneous tower work (installing anti-climbing guards, bird deterrents, and/or signage) began in January 2012.
- Anchors installed for crew safety were set starting in February 2012.
- Site restoration began in February 2012.
- Rock stabilization occurred at CP 47A-1 in May 2012.
- Line testing occurred on June 13 and 14, 2012. Link 5 was energized on June 15.
- Restoration and punchlist work began in July 2012.



Photo 16: Radio communication tower at CP 108 TSAP on hillside above Suncrest Substation, Link 5.



Photo 17: Boulder busting and site prep at CP 28-1, Link 5.

BLM Lands

- Vegetation removal, site preparation, TSAP preparation, and grading began in August 2011.
- Micropile drilling began in August 2011. Grouting began in September 2011. Micropile pull tests, capping, and trimming began in October 2011.
- Access road grading began in September 2011.
- Radio communication equipment was installed at the CP 60 TSAP in September 2011.
- Driveway construction began at the CP 64/CP 65 pull-site in September 2011. Tower QA/QC and on-site assembly began in October 2011.
- Tree trimming occurred in October 2011.

- Ground resistance testing began in November 2011.
- Wire work began in late November 2011. Sockline, hardline, and conductor were pulled. Sagging began and OPGW was installed. Dead-end work and clipping in started in December 2011. Dampener and diverter installation began in February 2012. Splicing began in April 2012.
- Cleanup work began in January 2012.
- Line testing occurred on June 13 and 14, 2012. Link 5 was energized on June 15.
- Restoration and punchlist work began in late July 2012.

MCAS Miramar

(Although the CPUC EMs did not monitor construction on MCAS Miramar lands, SDG&E reported construction progress in weekly submittals)

- Steel erection began in August 2011. Foundation QA/QC began in September 2011.
- Vegetation removal and grading started in November 2011.
- Conventional drilling, concrete pouring, and form removal began in November 2011.
- Access road construction started in November 2011.
- Wire work began in early January 2012. Sockline was pulled. Insulator work took place. Hardline and conductor were pulled at the end of January 2012. Dead-end work, clipping in, insulator installation, and jumper installation began at the end of January 2012. Wire sagging, spacer installation, marker ball installation, OPGW installation, and dampener and diverter installation began in February 2012. Splicing began in May 2012.
- Guard structure installation began in January 2012, and guard structure removal began in February 2012.
- Ground rod installation began in January 2012.
- Gate installations occurred in January 2012.
- Cleanup started at the end of January 2012.
- Grading for a retaining wall took place in February 2012.
- Grounding began at the end of February 2012.
- Site restoration began in March 2012.
- Equipment demobilization began in May 2012.
- Line testing occurred on June 13 and 14, 2012. Link 5 was energized on June 15.
- Fence installation took place in July 2012.

USFS

- Vegetation removal, boulder removal, and site preparation occurred in September 2011.
- Access road construction and TSAP grading began September 2011.
- Soil boring began September 2011.

- Micropile drilling began in September 2011. Capping, pile surveys, site benching, grouting, pull tests, and demobilization began in October 2011.
- Gate installation began at CP 99-2 in September 2011. Gate installation began at CP 69-2 in October 2011. Additional gate work occurred at CP 69-1 in June 2012.
- Conventional and Airtrack drilling to break up rock began in October 2011. Concrete pouring and form cleanup began in November 2011.
- A temporary bridge was set over a water pipeline along the CP 70-3 access road in October 2011. The bridge was removed two weeks later, in November 2011.
- Foundation QA/QC began in October 2011.
- Conventional tower assembly began in November 2011.
- Ground rod installation and testing began in November 2011.
- Wire work began in November 2011. Sockline, hard line, conductor, and OPGW were pulled. Sagging, dead-end work, insulator installation, and traveler work was conducted. Marker balls, spacers, and jumpers were installed starting in December 2011. Splicing began in February 2012.
- Equipment demobilization and cleanup began in December 2011.
- Fence installation and grounding occurred at CP 99-2 and CP 100-1 in April and May 2012.
- Line testing occurred on June 13 and 14, 2012. Link 5 was energized on June 15, 2012.

Variances and TEWS

A total of 81 variances and DNAs were requested for Link 5 construction. A total of 24 requests, including those that applied to the entire project, were made to the CPUC for non-federal land, two of which were withdrawn; five DNA requests were made to the BLM; and 48 requests were made to the USFS. In addition, 3 variance requests were made to San Diego County. See Section 8 for more detail.

Many of the variance requests made to the CPUC relating to Link 5 construction were for additional facilities and workspaces; guard structures; use of alternate routes to tower sites; and additional temporary parking, turnaround, and storage areas. Variances were also approved to adjust allowable work windows at specific locations. For example, Variance #44 approved permanent placement of two radio communication facilities and a secondary TSAP on private lands. Variance #6 allowed for work to occur at Chocolate Canyon year-round. Variance #34 was a joint CPUC and BLM approval for the extension of work up to December 15, 2011, at locations within golden eagle buffers.

The BLM approved a DNA for micrositing changes as part of NTP #2. In addition, during Link 5 construction BLM DNAs #1, #2, and #3 were approved for micrositing changes to access roads, TSAPs, tower sites, pull-sites and guard structure sites. Permanent placement of two radio communication facilities and secondary TSAPs was approved under DNA #4, which included a Link 5 location.

Forty-eight variance requests were made to the USFS by SDG&E which included Link 5 work. Forty-four of the requests were variances to the Fire Plan requesting permission to conduct certain construction activities during PAL Ev days located at various sites throughout the alignment which included the 230 kV sections. The remaining four variance requests were for minor vegetation clearing, placement of temporary anchor blocks, and Sunday work.

Lastly, SDG&E made three requests to the County of San Diego to work at various locations on Sundays. All three requests were approved.

Ten TEWS were approved for extra workspace needs throughout Link 5. See Section 8.5 for more details.

Environmental Compliance

A number of compliance issues were documented for Link 5 construction. Fourteen incidents were reported on Link 5 (see Section 6.5). Most of them were due to vehicles and helicopters being parked outside of the disturbance staking and vegetation being cleared before biological monitors arrived onsite to perform sweeps. Two incidents were documented where helicopters entered golden eagle buffers. Two safety incidents occurred; one where a micropile platform rolled 50 feet downhill due to unstable placement and one where a hard landing was made by a helicopter. In both incidents, no one was injured. One incident occurred where a gate was left open and livestock were released. Biological monitors helped corral the livestock and properly close the gate. Additional incidents include sediment trackout being noted offsite.



Photo 18: Vehicles parked outside of access road boundary during concrete pour at CP 18-1, Link 5.

For repeated compliance events and issues more serious in nature, PMs, then NCRs and finally Stop Work Orders were used by the CPUC and USFS (see Sections 6.2 and 6.3 for more details). One CPUC PM (PM #3) was issued when crews were delivered by helicopter and operated within a golden eagle buffer. Four NCRs were issued —

three by USFS and one by CPUC. USFS issued FS NCR #2 for Fire Plan and traffic control violations, FS NCR #3 for continued violations of these issues, and FS NCR #5 for helicopter incursions on golden eagle buffers. CPUC issued NCR #6 for repeatedly carrying helicopter loads without the appropriate netting. USFS issued one Stop Work Order (FS NCR #4) for repeated violations of the Fire Plan. CPUC issued a projectwide Stop Work Order for helicopter operations due to the number of serious safety incidents.

CPUC EMs conducted field reviews from January to September 2011 prior to the commencement of construction, verifying bird surveys and site staking. Field reviews and documentation of approval was required to release areas to begin construction.

Prior to the start of construction, crews were given SWEAP training. New crew members were trained as they joined the project. Additionally, daily tailboards were conducted prior to starting work activities, alerting crews to any site-specific issues.

Biological monitors were present for surveys, survey sweeps immediately preceding construction, vegetation clearing, and ground disturbing activities. Depending on the location and sensitivity of resources, biological monitors would either be present for all activities or when appropriate would conduct spot checks throughout construction. Archaeological, paleontological, and Native American monitors were present depending on area resources and/or ground disturbing activities. Monitors ensured implementation of all applicable mitigation measures, permits and plans, and the integrity of ESA boundaries. Crews were also briefed by on-site monitors on precautions required during construction activities.

Archeological, cultural, and Native American monitors were onsite during ground disturbing activities to monitor for any significant finds. On October 10, 2011, an unanticipated cultural discovery was made on a temporary access road in the El Monte Valley area. An ESA was established. In addition, a site visit was held in the first week of November with the appropriate tribes.

The 230 kV overhead line traverses various wildlife habitats in San Diego County. Sweeps and surveys were conducted by qualified biological monitors prior to the start of any construction activities within identified habitat areas, in accordance with sensitive species permits and/or plans. Barefoot-banded gecko and arroyo toad exclusionary fencing was installed prior to the start of construction activities in those habitats. The 230 kV segment of the project also contains habitat for least Bell's vireo, southwest willow flycatcher, golden eagle, California gnatcatcher, and Quino checkerspot butterfly.

A moderate number of wildlife relocations and deaths occurred as a result of construction activities. Relocated species included red diamond rattlesnakes, Belding's orange-throated whiptails, western spadefoot toads, a San Diego desert woodrat, and a San Diego pocket mouse. Species of special concern that were relocated included Coronado skinks, coast horned lizards, and California legless lizards. Species fatalities along Link 5 included one red diamond rattlesnake, one Belding's orange-throated whiptail, one coastal rosy boa, and one San Diego ringnecked snake. Fatalities of species of special concern included one coast patch-nosed snake, one Coronado skink, and one two-striped garter snake. If a species of special concern was relocated, injured, or killed, the appropriate agencies were notified. In January 2011, an endangered plant, Dehesa beargrass (*Nolina interrata*), was identified along the access road from El Capitan to the Bauer property and an ESA was established.

A number of areas required boulder busting and/or blasting. SDG&E submitted a Blasting Plan and Well and Springs Report prior to construction and submitted site-specific blasting plans for review and approval by the CPUC prior to commencing blasting operations.

A great deal of work went into meeting SWPPP requirements throughout the 230 kV overhead construction. BMPs were installed, repaired, and regularly maintained. Rumble plates were installed to help minimize trackout of dirt onto streets. Street sweepers were used when trackout occurred. Hydroseed and hydromulch were applied to slopes to help minimize sediment movement. Topsoil was salvaged and stockpiled where applicable. On October 5, 2012, following a significant storm event, a SWPPP review was conducted by the CPUC EMs with SDG&E at various points of interest along the ROW. Long-term BMP maintenance issues were addressed by SDG&E. Some BMPs will be maintained during O&M.

Hazardous materials releases were monitored during construction. Numerous minor (< 1 gallon) leaks of hydraulic fluid, motor oil, diesel fuel, and gasoline were reported during Link 5 construction. All materials were immediately contained and no hazardous materials entered storm drains, waterways, hydrological resource areas, or ESAs. Monthly release reporting was made to the County of San Diego Department of Public Works, Watershed Protection, and the County of San Diego Stormwater Hotline.

Implementation of the Project Fire Plan was monitored. Interaction with the public, as well as public safety protocols, and traffic control were also monitored.

5.2 Underground 230 kV Construction (Link 4)

Link 4 Construction Description and Timeline

Link 4, the 230 kV underground transmission line component of the project, is located in San Diego County within the community of Alpine (see Figure 2). It consists of 6.2 miles of two double-circuit 230 kV transmission lines between MPs 92 and 98.2, separating the eastern and western portions of the overhead 230 kV line (Link 5).

The underground section begins with two new double-circuit transmission cable poles located on private property, referred to as the Loritz property. The transition poles provide the structure necessary to mechanically terminate the overhead conductors of the eastern end of the 230 kV portion of Link 5 and



Photo 19: Attachments of Conduit to Viejas Bridge, Link 4.

support the underground cable terminators required for each underground cable. For access, an unpaved driveway was extended from Alpine Boulevard to just south of the transition poles.

From the transition poles, the underground alignment traverses private property to Alpine Boulevard and continues west in Alpine Boulevard for approximately 5.5 miles through the commercial portion of Alpine. On the eastern end of Alpine Boulevard the line crosses the Viejas Bridge, where conduit was attached to the bridge. Near the center of the business district along Alpine

Boulevard the line crosses under Alpine Creek by way of a jack-and-bore conduit. The underground route then continues west in Alpine Boulevard before turning north under Interstate 8 via a jack-and-bore conduit onto private property on the north side of the highway, where it transitions overhead onto two new double-circuit transition poles. In order to access both the Interstate 8 bore site and the transition poles location, a bridge on the Bauer property, and an existing unpaved road were upgraded.

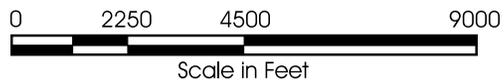
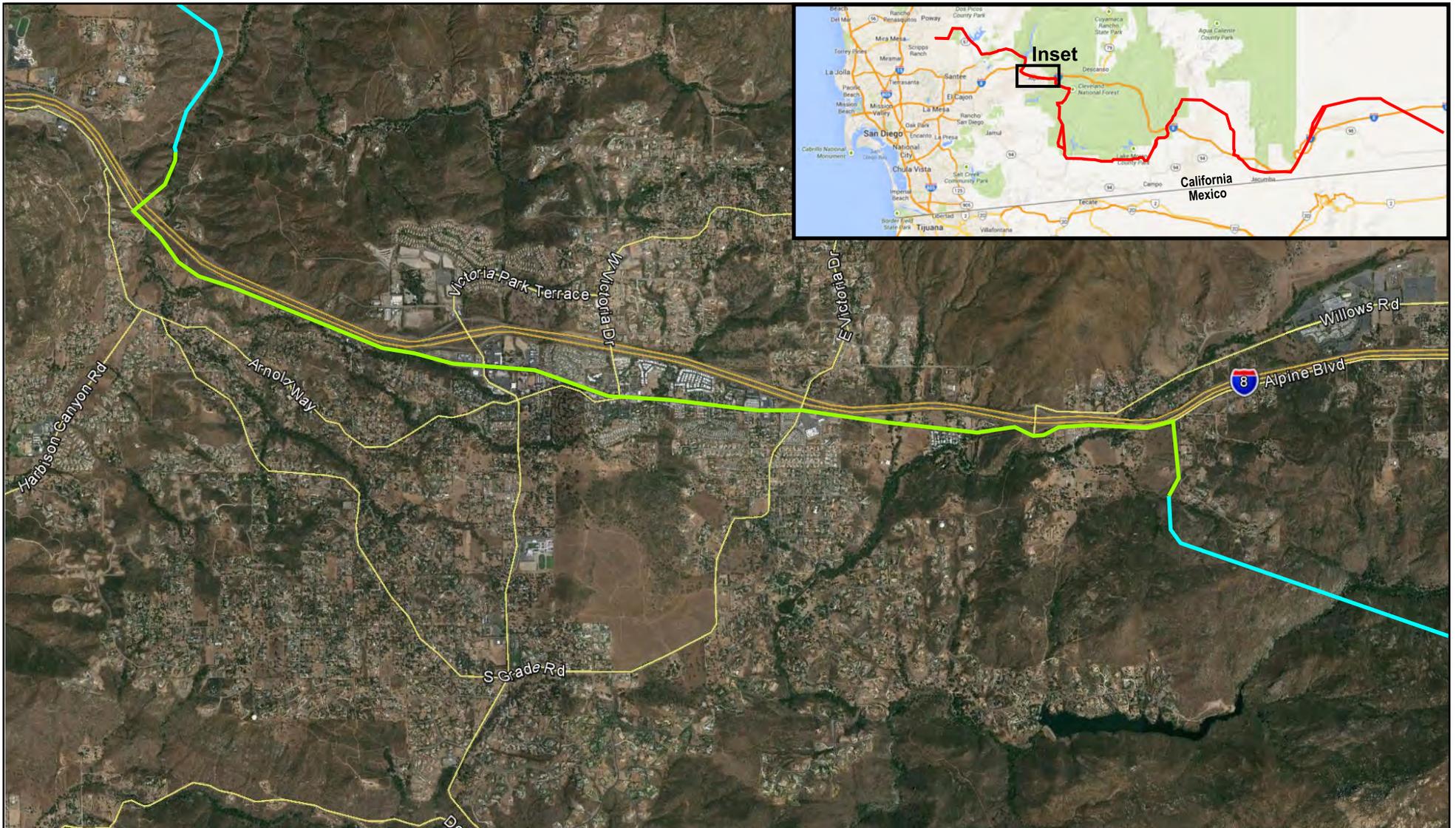
Two parallel 6.2-mile trench lines were excavated along the underground alignment and conduit and underground transmission cable were installed. Twenty pairs of vaults (boxes) approximately 10 by 20 feet each were installed along the alignment to tie in the conduit sections.

NTP #10 for Link 4 underground construction was issued by CPUC on November 23, 2010. Preparation for construction was conducted, including crew SWEAP training and mailings and posting of construction notifications to the public. Underground trench, line, and vault installation consisted of the following:

- Construction began with potholing (digging test holes to locate underground utilities), which began November 28, 2010, along Alpine Boulevard. Potholing continued as needed throughout construction of Link 4.
- Many vaults were set before transmission line trenching occurred. Saw cutting of the street as well as excavation started December 2010. Vaults were lowered underground by crane. Vault setting was completed in August 2011.
- In January 2011 tree trimming was conducted along Alpine Boulevard.
- Saw cutting and trenching from the vault locations began in January 2011.
- Conduit bundles were racked in the trench line, proofed, and set in concrete. This was followed by cable pulling through the installed conduit and testing between vaults. The vault manholes were cleaned and splicing of the installed conduit and tie-ins to the transition structures occurred in October 2011.
- Street repairs, repaving, and striping occurred along completed underground sections of Alpine Boulevard.



Photo 20: Setting of Vault 18 along Alpine Boulevard, Link 4.



-  Link 5 230kV Overhead
-  Link 4 230kV Underground (Milepost 92 to 98.2)

- Alongside the conduit installation a fiber optic line was also installed. In December 2011 fiber pulling and testing occurred. At this point active construction was wrapped up on Link 4.
- Crews returned in June 2012 to conduct cleanup and restoration punchlist items along Alpine Boulevard.
- Grounding was installed and Link 4 was energized on June 15, 2012.

Work occurred on the Viejas Bridge hang, Bauer property bridge, Interstate 8 bore, and Alpine Creek bore, as well as transition pole construction concurrent with the vault and trench line installations. Each is detailed below:

- In January 2011 tree trimming was conducted at Viejas Creek. Activities were initiated on the Viejas Bridge hang in February 2011. During May and June 2011 potholing and minor vegetation clearing occurred around the bridge and attachment work began. Work was followed by the setting of concrete forms in September 2011. Trenching and tie-ins between Viejas Creek Bridge and the adjacent vaults were followed by backfilling in November 2011.
- In January 2011, geotechnical boring occurred on the Bauer property. Vegetation clearing and tree trimming took place February 2011. As SDG&E crews crossed the Bauer property bridge, damage to the bridge was incurred; however, the damage did not impact construction, since demolition of the bridge was previously planned, with creation of a new bridge and access road to the boring site on the northern portion of Interstate 8. Work was temporarily halted at the Bauer bridge location because of active nest buffer restrictions during April, May, and June 2011. In June, installation of acoustic walls and plastic wrapping occurred at the Bauer bridge to mitigate effects on nesting birds. In August 2011, the new bridge was installed. Crews returned in December to conduct grading along the access road and again in June 2012, to remove bird deterrents, and install a water line at the Bauer driveway.
- January 2011, clearing and grubbing took place along jack-and-bore sites on both sides of Interstate 8. Excavation work was conducted at the entry and exit pits in February 2011 and boring was initiated. During June 2011, conduit was installed at the Interstate 8 bore and the bore site was demobilized. Crews returned to conduct final grading in December 2011.



Photo 21: Crews installing conduit at the jack-and-bore underneath Interstate 8, Link 4.

- In January and February 2011 vegetation clearing and tree trimming was conducted at the Loritz property transition structure area. From April through June 2011, grading and foundation work occurred. Transition poles were installed in August 2011. In December 2011, transmission cable termination occurred at transition poles followed by fiber pulling. Splice boxes were also installed on the transition poles. Crews returned in June 2012 for pad grading and improvements at a stream crossing on the Loritz property. A cattle gate and barbed wire fence were also installed. On Monday, June 18, 2012, CPUC EMs were notified of a small fire on the transition pole at the Loritz property. Emergency services were notified and responded to the fire. Repairs to the structure were made and no resources were impacted. In August 2011, grading was initiated at the Slay property transition structure area north of Interstate 8. Structures were installed in October 2011. Transmission cable terminations at Slay transition pole occurred in December 2011. Crews returned March 2012 to install permanent erosion controls including a water bar and McCarthy drain along the access road to the site.

- In April 2011, potholing occurred at Alpine Creek, as well as dewatering of the Alpine Creek bore site. Saw cutting occurred and shoring was installed. From May through June 2011, progress was impacted by engineering delays. In October excavation occurred at the Alpine Creek bore pits and by December boring operations were completed.

Variations and TEWS

Link 4 is entirely on municipal, State, and private lands. Two CPUC variations were requested for Link 4 construction. Please see Section 8. Variance #10 was approved for additional space at the Viejas Creek Bridge, and Variance #16 was approved for additional parking along Alpine Boulevard and Willows Road. In order to expedite completion of the Link, SDG&E received a variance from San Diego County to allow for work to occur between 7 a.m. and 7 p.m., Monday through Saturday. Four TEWS were also approved for extra workspace needs. See Section 8.5 for details.

Environmental Compliance

No Project Memoranda or Non-Compliance Reports were issued during Link 4 construction.

Prior to the start of Link 4 construction SWEAP training was conducted at the Alpine Community Center. Subsequent trainings were conducted periodically during construction as new crew members joined the project. Additionally, daily tailboards were conducted prior to starting work activities, alerting crews to any site-specific issues.

Biological monitors were present for surveys, survey sweeps immediately preceding construction, vegetation clearing, and ground disturbing activities. Depending on the location and sensitivity of resources, biological monitors would either be present for all activities or when appropriate would conduct spot checks throughout construction. Archaeological, paleontological, and Native American monitors were present depending on area resources and/or ground disturbing activities. Monitors ensured implementation of all applicable mitigation measures, permits and plans, and the integrity of ESA boundaries. For example, at the Interstate 8 bore site during potholing and bore activities, measures were taken to protect an historic wall near Alpine Creek. Crews were briefed on the precautionary measures required during construction. An archaeologist was present to monitor any shifting of the wall during construction; none were noted. In January, several artifacts were noted by the Native American monitor near a work area. SDG&E established an ESA and avoided the area, thus avoiding any further disturbance.

Although Alpine Boulevard is in a built-up area, Link 4 provides wildlife habitat, especially on private property at the eastern and western ends of the underground line. Several wildlife relocations and/or fatalities were reported. Non-sensitive animals that were relocated included southern Pacific rattlesnakes, a red diamond rattlesnake, a rosy boa, a San Diego legless lizard, an alligator lizard, a California vole, and numerous Pacific tree frogs. Sensitive animal relocations included a California legless lizard and several two-striped garter snakes. Non-sensitive animal fatalities included a chaparral whipsnake, an orange-throated whiptail lizard, two cottontail rabbits, a San Diego gopher, and a southern Pacific rattlesnake. One sensitive species was fatally injured, a California legless lizard. The appropriate agencies were notified in January 2011. Biological monitors identified an endangered plant (*Nolina interrata*) near the access road from El Capitan to the Bauer property and an ESA was established. During May and June 2011, a black-chinned hummingbird was observed flushing from a nest during pole installation activity on the Bauer property. An exclusion buffer was established. The Biological Monitor recommended, and the construction crew complied with, halting activity intermittently throughout the day to allow the bird to return to the nest. A visual barrier was erected to encourage the hummingbird to remain on the nest for longer periods of time. Acoustic monitoring occurred near the nest and acoustic blankets were installed.

Adherence to SWPPP requirements and installation and maintenance of BMPs were major efforts during Link 4 construction. Over 7 inches of precipitation were recorded in coastal and inland San Diego County during the latter half of December 2010. Construction was limited during this time, with crews focusing on BMP installation and maintenance. A few issues arose during construction along Alpine Boulevard, including an unanticipated release of water from a vacuum truck used to pump out vaults. This occurred on December 28 at Vault 15L. BMPs were in place at the time of the release and additional BMPs were installed following the release. Sediment in the vacuum truck ran to a tributary of Viejas Creek. The creek was briefly impacted from the increased sediment load. Within approximately an hour of the original discharge, the in-stream water was clear. CPUC, CDFW, USACE, RWQCB, and the County of San Diego Department of Public Works were notified of the release.

BMPs along Link 4 were routinely checked for any needed maintenance before expected rain events. On March 1, 2011, review of the Bauer bridge was performed by a SWRCB representative and the CPUC LEM. In March, BMPs at the Bauer bridge were found to need improvements following the rain event on March 7, and BMP maintenance was performed. On December 20, 2011, a “Waters of the U.S.” and “Waters of the State” Final Notification Form was filed with the USACE, SWRCB, and CDFW when a one-time discharge of approximately 5 gallons of concrete slurry occurred within the low-flow channel of Chocolate Creek in the active bridge replacement area. The slurry was removed by hand from the stream bank and did not result in any permanent fill or damage to the structure or function of the streambed, bank, or adjacent wetlands vegetation.

Street sweeping occurred along Alpine Boulevard throughout construction. In March 2012, storm drain repairs occurred at two manholes within Alpine Boulevard. In July another storm drain was repaired at Tavern Road. Long-term erosion controls were also installed and maintained. In July 2012 crews returned to hydroseed sites and conducted watering to ensure proper seed growth.

Hazardous materials releases were monitored during construction. On October 12, 2011, approximately 50 gallons of diesel fuel were released off Puetz Valley Road. The site was cleaned and stained soil removed. Numerous minor (< 1 gallon) leaks of hydraulic fluid, motor oil, diesel fuel, and gasoline were reported during Link 4 construction. All materials were immediately contained and no hazardous materials entered storm drains, waterways, hydrological resource areas, or ESAs. A concrete slurry release was reported on January 26, 2011. The material was contained and immediately cleaned up.



Photo 22: Contaminated soil and groundwater on Alpine Boulevard, Link 4.

Monthly release reporting was made to the County of San Diego Department of Public Works, Watershed Protection, and the County of San Diego Stormwater Hotline.

Phase I environmental site assessments indicated that some underground areas along the Link 4 alignment had potential for contamination to be encountered. In January 2011, potholing was conducted along Alpine Boulevard in “Potentially Impacted Zones 1 and 3” for underground contamination; however, no indication of contamination was found. In August 2011, soil contamination was discovered as anticipated at “Soil Management Plan Zone 1.” Construction was halted in this area and the sampling and disposal plan was initiated. SDG&E’s Environmental Laboratory conducted soil sampling. SDG&E’s Environmental Services HazMat group used the analysis to determine appropriate shipping and disposal procedures.

Implementation of the Project Fire Plan was monitored. In May 2011, a small fire occurred at Vault 5 as crew members were grinding trench plates to prepare for welding. Sparks landed in dry grass at the edge of the road. Quick action by the contractor’s fire watch limited the fire to a 5-by-7-foot area. Two additional small fires were reported in May as well. Fire tools were used by the on-site fire watch to immediately respond to and extinguish the fires. USFS and Alpine Fire Department were notified of all incidents.

Interaction with the public, as well as public safety protocols, were monitored. Traffic control was a significant issue during Link 4 construction. One or the other of the double lanes along Alpine Boulevard was blocked throughout the duration of Link 4 construction, lasting approximately a year and a half. SDG&E established a Sunrise community relations office in Alpine separate from SDG&E’s operations center so as to be more accessible to the public. SDG&E reported several complaints made to the Public Complaint Hotline regarding traffic delays, bike lane closures, and traffic cone impacts, as well as access and noise impacts to local businesses. A local business owner, apparently frustrated over traffic wait times, bumped a project flag person with his truck. SDG&E made efforts to respond to all issues brought forward and to improve traffic impacts. Early in the project, SDG&E established regular open meetings in Alpine as well as other locations; however, after a number of sessions, SDG&E discontinued the meetings because the utility believed they had become unproductive and dominated by a small group of residents not interested in dialogue. In lieu of these meetings, an SDG&E representative began regularly attending local planning group meetings in Alpine to report on the project and answer questions.

Several public protests of the Sunrise Powerlink Project occurred during construction. Two protests were held in the community of Alpine, including one on March 1, 2011, when a dozen people protested the Sunrise Powerlink Project in downtown Alpine.

5.3 Substation Construction and Upgrades

One new substation was constructed as part of the Sunrise Powerlink Project, the Suncrest Substation (Link 3). The two substations that terminate the project — the Imperial Valley Substation to the east and the Sycamore Canyon Substation to the west — were upgraded. In addition, five other SDG&E substations were upgraded — the San Luis Rey Substation, South Bay Substation, Encina Substation, Pomerado Substation, and Scripps Substation.

5.3.1 Suncrest Substation (Link 3)

Link 3 construction included the Suncrest Substation and its access road, Bell Bluff Truck Trail (BBTT). The substation site is located south of BBTT, approximately 2.8 miles west of Japatul Valley Road, southwest of the intersection of Interstate 8 and Japatul Valley Road and east of the community of Alpine, in San Diego County. The substation and access road are located on private land.

The Suncrest Substation was constructed to accommodate the termination of a single 500 kilovolt (kV) overhead transmission line circuit (Links 1 and 2) and two 230 kV overhead transmission line circuits (Link 5). In addition to the terminals, transformer banks, capacitor banks, switches, and relays required for termination of the transmission lines, a diesel-powered emergency generator, an oil containment system, a fire prevention system, a water tank, a single-story relay/control shelter, a single-story maintenance shelter, and a 60-foot-by-120-foot, 30-foot-tall storage warehouse was installed as part of construction.

Access road improvements to approximately 2.6 miles of BBTT included widening the existing roadbed from 15 feet to 30 feet and paving the road in asphalt to provide a permanent all-weather access road to the substation. Some sections of BBTT were relocated to minimize impacts to oak trees and address access to adjacent properties. The existing crossing of Peterson Creek was improved and a box culvert was installed at the crossing. A locked gate was installed to prevent unauthorized use of the access road.

The Wilson Construction Yard located along BBTT supported Suncrest Substation construction. Two existing ponds on the Wilson property were used as a water source and reservoir for Suncrest Substation construction. SWRCB and CDFW were consulted and required permits were obtained.

Grading and ground disturbance acreage at the Suncrest Substation site was reduced from the original plan, to minimize impacts and accommodate requests by two adjacent landowners. The reduced permanent footprint for construction of the substation and BBTT improvements totaled 75.07 acres.

NTP #11 for Suncrest Substation construction was issued by CPUC on December 15, 2010. Preparation for construction commenced, including crew training and mailings and posting of construction notifications to adjoining properties. Link 3 construction was in parts: BBTT improvements, Suncrest Substation construction, and activities at the water storage tank and nearby temporary office trailers.

BBTT improvements consisted of the following:

- Construction activities began on December 17, 2010. Initial activities included vegetation removal for water tank installation and access road construction, which were completed in mid-January 2011.
- Installation of the temporary water distribution line to the pad site began in January 2011. The line was disassembled and removed in March 2012.
- Rough grading and cut/fill work along BBTT began in January 2011 and was completed in February 2011.
- Concrete was poured in ditches and down drains along BBTT starting in April 2011. Concrete headwalls were also poured along BBTT.
- Box culverts, drainages, and connections to the northern sediment basin were installed along BBTT in May 2011. Riprap was placed at storm drain and culvert outlets. Pipe was installed for the permanent drainage system along BBTT in August 2011. Bio-swales along BBTT were prepared for placement of seed and erosion control blankets.
- In July 2011 underground utility vaults were excavated along BBTT. Trenching between the vaults began in August 2011.
- Additional rough grading occurred in August 2011 along the paved portion of BBTT in preparation for transformer delivery.
- Construction on the soil retention wall along BBTT started in September 2011.

- Class 2 base was placed along BBTT and the road was paved in October 2011. Curb installation began in December 2011.
- In November 2011, work east of the entrance to the substation consisted of minor vegetation clearing, widening the road, grading, and repaving.
- Concrete was poured for a retaining wall on the eastern portion of BBTT and guard rails along BBTT were installed in April 2012. Cleanup along BBTT began in December 2011. Gravel bags, silt fencing and debris piles were removed.
- Natina, a coloring agent, was applied to concrete in the ditches in June 2012.

Suncrest Substation construction consisted of the following:

- Review of the substation pad staking and pre-construction surveys were conducted by the CPUC EM at the end of January 2011; prior to this no ground disturbing work was conducted at the pad site.
- Vegetation removal at the pad site commenced after the review. Vegetation removal was complete and rough grading began by mid-February 2011.
- Rock blasting was conducted at numerous areas above the substation pad site. All blasting was conducted as outlined in the Suncrest Substation Blasting Plan. Drilling and blasting began on the eastern and western slopes above the pad in February 2011. Rock and soil were excavated and used as fill to create the base for the southern portion of the pad. The center of the pad was drilled and blasted beginning in April 2011.
- Rough grading began and fill material was hauled to the low areas of the pad. Material was excavated from the pad site and cut areas and taken to fill areas and compacted. In May 2011, select fill material began to be placed in the northwest portion of the pad to bring it to final grade. Grading, compaction, and backfilling began in the southern portion of the pad in June 2011. Grade was set in the northwestern portion of the pad in June 2011. From July 2011 through April 2012, rock was crushed onsite to make select fill material. In April 2012, the rock crushing equipment was disassembled and hauled off. Final grading was conducted and Class 2 base was placed in the northwest quadrant and 230 kV portion of the substation. Finish grading was conducted north and south of the transformer locations in November and north and east of the transformers in December 2011.



Photo 23: Panoramic view of Suncrest Substation Pad, Link 3.

- Concrete was poured for brow ditches along the pad starting in April 2011. The permanent drainage system was installed in July 2011.
- Preparations for foundations were made, and in June 2011 pier drilling and concrete pouring started. Forms were constructed and concrete was poured for foundation pads in July 2011.

- Construction of the soil nail wall on the eastern slope began in September 2011. Stain/acid wash was applied to the soil nail wall in compliance with the visual treatment plan in October 2011.
- Steel erection began in the northwest quadrant of the pad in September 2011, and was followed by steel erection in the southwest quadrant in November 2011.
- Transformer deliveries began in August 2011. Blast/firewalls between Transformers 5 and 6 were formed and poured. Transformer assembly and work continued through December 2011. Spill Prevention Countermeasure and Control (SPCC) basins were constructed and operational prior to oil filling activities of the transformers, which occurred from December 2011 through January 2012.
- Conduit and ground grid trenching began in the northwest quadrant in October 2011 and the southwest quadrant in December 2011.
- Construction on the control shelter began in November 2011. Wiring inside of the control shelter began in January 2012. Work on the maintenance shelter began in December 2011. Block was laid and steel beams were installed in January 2012. The parking area around the maintenance shelter also was paved.
- Installation of the irrigation system on the south end of the substation began in November 2011.
- A 60-foot-by-120-foot, 30-foot-tall pre-engineered steel storage warehouse was constructed on the substation pad area. A camouflage paint treatment was applied in June 2012 to meet requirements in the Suncrest Substation Screening Plan.
- Wire pulling activities from the Sunrise 230 kV and 500 kV lines took place at the substation in November 2011. Additional wire pulling activities took place in May 2012.
- Breakers were assembled in December 2011. Insulators and conductors were installed in the 500 kV yard in January 2012. Insulators and conductors were installed in the 230 kV section starting in February 2012. Silicone coating was sprayed on the insulators as well.
- Trenching and installation of the fence around the perimeter of the substation began in February 2012 and was completed in April 2012, with fence grounding taking place in May 2012. Slats for visual screening were installed in the fence in June 2012. Wiring and yard light installation began in May 2012.
- In March 2012, electrical testing was performed throughout the substation. Circuit breakers and disconnect switches were tested in May 2012. Construction debris and contractor materials cleanup began on the substation pad in April 2012.
- Energization took place on June 15, 2012.
- Sunrise-related work including fiber optic work at Suncrest Substation was completed in July 2012.
- A dedication ceremony took place at Suncrest Substation on July 26, 2012.



Photo 24: Starting wiring activities in the control house at Suncrest Substation, Link 3.

Concurrent with substation pad and component construction, several construction activities occurred downslope of the pad area, including:

- Canyon drains were installed beginning in February 2011. Two basins were installed to collect groundwater and runoff. The northern detention basin was installed in February 2011 and the southern detention basin was installed in March 2011. Permanent storm drainage systems began to be installed in April 2011. Concrete was poured in the northern drainage for velocity dissipators and cleanout boxes.
- Work on the northern soil retaining wall occurred from April to May 2011. Work on the southern and southeastern soil retaining walls occurred in May 2011.
- In October 2011, concrete was poured to complete the southern sediment basin. Two basins were constructed — one to the north of the Substation and another to the south. Access roads leading to the northern and southern detention basins were final-graded and paved in November 2011.
- In March 2011, rough grading occurred in the southern detention basin. Additionally, the outlet headwall was formed and backfilled and a storm drain installed. Fill material was removed from the channel at the southern dissipator and rock was removed at the northern basin dissipator.
- In accordance with the Suncrest Substation Screening Plan, 2,200 potted plants were delivered in January 2012 for landscaping on cut slopes. Planting continued through February 2012. Irrigation lines were installed in March 2012.



Photo 25: Aerial view of Suncrest Substation and Tower EP 1, Link 3.

Work occurred on the water tank and temporary office trailers and water storage tank. Construction activities included:

- Temporary office trailers were delivered in March 2011. Crushed rock was placed in the parking areas. The temporary impact area near the trailers was restored in April 2012, and office trailers were removed in May 2012.
- In October 2011, rebar was installed and set in concrete for the water tank near the entrance to the substation pad. Concrete panels for the water tank were poured, erected, and welded. The foundation was sandblasted. Tension bands were placed around the water tank and shotcrete was applied in November 2011.
- Underground piping was installed in February 2012.
- The foundation was poured for the pump/chlorination area. Fencing was installed around the water tank in March 2012.

Variations and TEWS

The Suncrest Substation and related work occurred on private land. In addition to the projectwide variations (see Section 8), four variations were requested from CPUC that were specific to Suncrest Substation construction; three of these were approved and one was denied. Variance #5 was approved for modified use and access to the Wilson Construction Yard and culvert installation along BBTT, Variance

#7 was approved for expanding work limits along BBTT, and Variance #24 was approved for vegetation clearing around the perimeter of the construction trailers for fire safety reasons. Variance #28 requested a waiver of certain conditions found in Mitigation Measure F-1a concerning Red Flag Warning events, and was denied by the CPUC.

Environmental Compliance

No Project Memoranda were issued for the Suncrest Substation and associated construction. On March 8, 2011, a Non-Compliance was issued by the Army Corps of Engineers for non-compliance with three Special Conditions of DA (Department of the Army) Permit SPL-2007-00704 SAS. BMPs had failed within the Suncrest Substation construction area. Excessive erosion occurred, sediment entered waters of the U.S., and SDG&E did not appropriately notify the Army Corps of Engineers.

Prior to the start of construction, crew SWEAP training was conducted. The on-site contractor also conducted its own training onsite. Additionally, daily tailboards were conducted prior to starting work activities, alerting crews to any site-specific issues.

Biological monitors were present for surveys, survey sweeps immediately preceding construction, vegetation clearing, and ground disturbing activities. Depending on the location and sensitivity of resources, biological monitors would either be present for all activities or when appropriate would conduct spot checks throughout construction. Archaeological, paleontological, and Native American monitors were present depending on area resources and/or ground disturbing activities. Monitors ensured implementation of all applicable mitigation measures, permits and plans, and the integrity of ESA boundaries.

On January 5, 2011, an unanticipated archaeological site was discovered. It was evaluated by SDG&E's lead archaeologist and results were submitted to the appropriate agencies. A Native American monitor was present for the discovery and the evaluation process. Additionally, two isolates were discovered and recorded. In February 2011, work to relocate a cultural resource was coordinated with Cultural Monitors and representatives from the Viejas Tribe. On February 24, 2011, a small, silver-dollar-sized piece of bone was discovered while grading near a cultural site. The appropriate specialists were contacted to help determine the origin of the bone fragment; it was not found to be human.

Biologists monitored for wildlife prior to construction by conducting clearance surveys, including a significant number of avian surveys. In December



Photo 26: ESA marked for avoidance at the Suncrest Substation.



Photo 27: One of the various types of bird deterrents at Suncrest Substation, Link 3.

2010, prior to the construction of the Suncrest Substation, spiny redberry, a rare plant, was identified and relocated. The area in and around the Suncrest Substation provides suitable habitat for a variety of wildlife, and several relocations, injuries, and fatalities to local non-sensitive species as well as to species of special concern were reported. Non-sensitive species impacted included gopher snakes, rats, mice, red diamond rattlesnakes, alligator lizards, and a pocket mouse. Several species of special concern were injured or killed; the appropriate agencies were notified. Fatalities included five California silvery legless lizards, three San Diego coast horned lizards, three coast patch-nosed snakes, two Coronado skinks, and two two-striped garter snakes. In March 2011, a number of bird nests were identified along BBTT and the substation pad. Buffers were established and ESA signage was installed. In February 2012, bird nesting deterrents were installed in various locations on the substation pad to discourage nesting. Sweeps to look for nests were performed as necessary.

BMP maintenance was performed throughout construction. Wattles, hydromulch, hydroseed, jute, and soil tackifier were installed on cut slopes.

Temporary culverts were installed along access roads to divert water and protect the roads. Sediment basins were used to hold storm water to prevent off-site discharge of sediment-laden water.

Sediment basins were cleaned and pumped as necessary. The water was used during compaction work on the substation pad site. Street sweeping occurred as necessary and dust control was performed along BBTT and on the pad as necessary. In March 2011, two reviews were performed — one in conjunction with the SWRCB and one in conjunction with the RWQCB. SDG&E representatives and the CPUC LEM were present at both reviews. The review with the SWRCB led to the issuance of a Non-Compliance by the UASCE as discussed above.

Implementation of the Fire Management Plan was monitored. On August 5, 2011, a small brush fire started when a hot rock chip flew 25 feet into dry vegetation while riprap was being placed along BBTT. The crew quickly responded with fire tools and a water truck that was working nearby. The fire blackened an area of approximately 50' by 50' before being extinguished. Sunrise Base was immediately notified and the project's Fire Marshal arrived onsite to evaluate the area. Another fire was reported in August, when a truck delivering an auger sparked a fire on Highway 79, approximately 1/8 mile north of BBTT. The chain holding the auger on the truck had snapped and created sparks, igniting a roadside fire. The fire was extinguished within approximately 10 to 15 minutes, after burning an estimated 2 acres.

Interaction with the public also was monitored. SDG&E reported a few complaints about construction noise from the residents in Japatul Valley, located south of the pad site. A complaint from a resident regarding visibility of the project led to extensive review of the Suncrest Scenery Conservation Plan. In partial response, slats were installed in the chain-link fence to obscure some elements of the substation, and a warehouse onsite received a special camouflage painting treatment. Refinements were also made to the Suncrest Screening Plan. SDG&E stated that the originally approved vegetation plantings were infeasible. Consultations with botanists and arborists occurred and a number of meetings between SDG&E and the CPUC were held to resolve the issue. Resolution included use of rock stain where planting was infeasible, staining of retention walls, and ensuring proper irrigation of plants on the pad's fill slope facing the valley. Post construction, a small number of protestors made a presence during the dedication ceremony in July 2012 post energization.

5.3.2 Imperial Valley (IV) Substation Upgrade

The Imperial Valley Substation, also known as Segment 1, is the eastern terminus of the project and is located on BLM land. The 500 kV Southwest Powerlink transmission line passes through the Imperial

Valley Substation as it brings power from Arizona to Imperial Valley and San Diego, and connects to the Imperial Irrigation District transmission infrastructure. Upgrades to the existing substation were required to accommodate termination of the Sunrise 500 kV circuit in the substation.

Modifications and upgrades to the substation equipment included installation of three circuit breakers, A-frame and bus support structures to tie the new 500 kV circuit into the substation, and new control panels and wiring within the existing 500 kV control house. All construction activities and equipment installation was within the existing substation fence line, in previously disturbed areas. The acreage of the substation was not increased.

A new storage warehouse was constructed to provide secure, weather proof storage at the Imperial Valley Substation. This storage building is approximately 60 feet by 120 feet in area and 30 feet tall; it is a pre-engineered steel building located in the southeastern area of the substation.

BLM NTP #1 for the Imperial Valley Substation upgrade construction was issued on February 3, 2011. Preparation for construction included crew training. A discussion of substation upgrades is provided below:

- Mobilization and initial ground disturbing activities for upgrades took place on February 7, 2011. Trenching for conduit installation and foundations was performed for the new 500 kV circuit breaker stands. Foundations were drilled and poured starting in March 2011. Circuit breaker, switch stands, bus supports, and disconnects were installed starting in late March 2011. Steel structures were erected starting in April 2011. Wiring in the control house took place in July 2011.
- Storage warehouse construction began in August 2011 and was completed in September 2011. Dead-end structure assembly took place.
- Steel frames were erected and bus supports were installed in November 2011.
- The Link 1 500 kV line was pulled in August 2011. A planned outage occurred in December 2011 to complete wiring in the control house. Wire was pulled from the A-frames to the entrance of the substation.
- Fiber optic cable testing took place in May 2012.
- During substation upgrades, the extra workspace within the Imperial Valley Substation was used to stage some of Link 1 construction and conventional tower assembly took place.

Variations and TEWS

No variations or TEWS were requested specific to Imperial Valley Substation work.

Environmental Compliance

No Project Memoranda or Non-Compliance Reports were issued for the Imperial Valley Substation upgrade.

Prior to the start of the upgrades at Imperial Valley Substation, SWEAP training was conducted. New crew members were trained as they joined the project. Additionally, daily tailboards were conducted prior to starting work activities, alerting crews to any site-specific issues.

Biological monitors were present for surveys, survey sweeps immediately preceding construction, vegetation clearing, and ground disturbing activities. Depending on the location and sensitivity of resources, biological monitors would either be present for all activities or when appropriate would conduct spot

checks throughout construction. Archaeological, paleontological, and Native American monitors were present depending on area resources and/or ground disturbing activities. Monitors ensured implementation of all mitigation measures, applicable permits, and plans.

One wildlife relocation of a flat-tail horned lizard occurred. No wildlife fatalities were reported. In July 2012, wildlife escape ramps were built and installed in the oil pits surrounding the transformers. Active nest monitoring began on May 7, 2011, by the on-site Biological Monitor.



Photo 28: Paleontological freshwater mollusk discovery at the Imperial Valley Substation.

Archaeological and Native American monitors observed trenching and ground disturbing activities and checked for any significant artifacts. Paleontologists were onsite to monitor trenching and ground disturbing activities, and sift through spoils piles for any significant fossils. Several paleontological discoveries of freshwater mollusk shells were made during trenching activities. Shells were collected from spoils piles by the Paleontological Monitor and recoded. The shells are from prehistoric Lake Cahuilla, which once filled the Coachella, Imperial, and Mexicali Valleys. No work was stopped or diverted.

Hazardous materials releases were monitored during construction. In February, a small fuel spill of less than one-half gallon was reported. The spill was contained and cleaned up. No hazardous materials entered storm drains, waterways, hydrological resource areas, or ESAs. Speeding had been reported on the access road to the substation; to address this, speed limit signs were installed along the road.

5.3.3 San Luis Rey Substation

Upgrades at the existing San Luis Rey Substation in Oceanside, San Diego County, were necessary to alleviate existing voltage concerns as well as to support the addition of the Sunrise Powerlink to the SDG&E system. The San Luis Rey Substation is not directly connected to the new Sunrise transmission line. The substation is within the fenced perimeter of an existing graded 6.29-acre gravel pad owned by SDG&E.

The upgrades at the San Luis Rey Substation included the installation of new structures and the replacement of overstressed structures, equipment, protection relay panels, and communication interfaces. More specifically, new foundations, a new shunt capacitor, new circuit breakers, new disconnects, and a new transformer were installed. All construction activities, materials, and equipment were located within the existing substation fence line on previously disturbed areas.

NTP #1 for San Luis Rey Substation upgrade construction was issued by CPUC on April 28, 2010, and updated on August 3, 2010. Preparation for construction included the mailing and posting of public notices and conducting crew SWEAP training.

Substation upgrades included the following work:

- Construction activities, including excavation, commenced at the San Luis Rey Substation in September 2010.
- Work on the capacitor bank took place in October 2010.

- Foundations were poured starting in early November 2010 and foundation work finished at the end of November 2010. On December 17, 2010, the 230 kV shunt capacitor bank and circuit breaker installation was successfully completed and energized.
- Crews conducted testing within the control room and installed the transformer in January 2011.
- Additional excavation work was conducted from January through February 2011.
- Work to accommodate a new 69 kV line was completed on the south side of the new circuit breaker in February 2011.
- Construction of a retaining wall around a 230 kV transformer took place in March 2011.
- Crews started 69 kV bus upgrade work in Bay 4 north and south in October 2011.
- Wiring on the Bank 70 transformer occurred from November 2011 through January 2012.
- Wiring in the control house occurred from February to March 2012.
- Upgrade work and energization of the new transformer took place in June 2012. Upgraded work continued post energization.
- In August 2012, circuit breakers were removed and replaced in the 230 kV yard.
- In September 2012, crews performed above-grade Phase I-III construction activities.
- Work recommenced during March 2013 with the replacement of the north 69 kV bus and accessories.
- In April 2013, 69 kV upgrades to the distribution banks were finished. Equipment was removed and site cleanup was conducted.

Variances and TEWS

No CPUC variances specific to the San Luis Rey Substation were requested; however, variances were required from the City of Oceanside to allow for work to occur outside of normal work hours of 7:00 a.m. to 7:00 p.m. on June 5 and 6, 2011, as well as for Sunday work on February 6 and 20, 2011.

Environmental Compliance

No Project Memoranda or Non-Compliance Reports were issued for San Luis Rey Substation.

Prior to construction, crews were given SWEAP training. New crew members were trained as they joined the project. Additionally, daily tailboards were conducted prior to starting work activities, alerting crews to any site-specific issues.

Biological monitors were present for surveys, survey sweeps immediately preceding construction, vegetation clearing, and ground disturbing activities. Depending on the location and sensitivity of resources, biological monitors would either be present for all activities or when appropriate would conduct spot checks throughout construction. Monitors ensured implementation of all applicable mitigation measures, permits and plans, and the integrity of ESA boundaries. Archaeological and paleontological monitors were present during excavation activities. No fossils were observed.

Minimal impacts to wildlife occurred at San Luis Rey Substation. All excavations were covered with steel plates, and trenches were ramped or fully covered to prevent wildlife entrapment. In February 2011, a great horned owl nest was discovered. Coordination with the wildlife agencies took place and after consultation the 500-foot buffer was reduced to 100 feet. In March 2013, another great horned owl nest was discovered. Appropriate signage and nest buffers were established. Sweeps for bird nests were routinely performed from April 2012 through August 2012, even occurring during a break from active construction.

In accordance with the SWPPP, BMPs were placed around soil stockpiles that were generated from excavation activities. BMPs were maintained as necessary.

In October 2010, a traffic control permit was obtained from San Diego County for the delivery of a drill rig to the site.

5.3.4 South Bay Substation Upgrades

Upgrade work at the existing South Bay Substation included installing a 69 kV 50.4 MVAR shunt capacitor in order to provide system voltage support to the Sunrise Powerlink and alleviate reliability and voltage stability concerns associated with the proposed decommissioning of the South Bay Power Plant. The South Bay Substation is located immediately adjacent to San Diego Bay, in an industrial area in Chula Vista, San Diego County. The substation is not directly connected to the Sunrise transmission line.

Other equipment installations at South Bay Substation included one 69 kV standard profile switch rack, one 69 kV circuit breaker, one 69 kV capacitor bank with associated reactors and surge arrestors, one disconnect switch, and protection relay panels. All work occurred in the existing substation and no additional buildings were constructed. Areas within the substation perimeter and upgrade areas that were not previously paved or covered with concrete foundations were surfaced with a 4-inch layer of crushed rock.

NTP #2 was issued by CPUC on April 29, 2010, and updated on August 3, 2012. Preparation for construction included the mailing and posting of public notices and crew SWEAP training.

Substation work including the following:

- Southbay Substation construction began on September 17, 2010
- Work on the 69 kV capacitor bank began and was completed in October 2010.
- During a planned outage on November 19, 2010, crews connected the newly installed 69 kV capacitor bank.

Variations and TEWS

No variance or TEWS requests were made specific to the South Bay Substation.

Environmental Compliance

No PMs or NCRs were issued for the South Bay Substation.

Prior to the start of construction at South Bay Substation, SWEAP training was conducted. New crew members were trained as they joined the project. Additionally, daily tailboards were conducted prior to starting work activities, alerting crews to any site-specific issues.

Monitors ensured the implementation of all applicable mitigation measures, permits, and plans. Biologists monitored for wildlife prior to construction activities by conducting bird surveys and wildlife clearance surveys, as well as site sweeps immediately preceding active work and checks throughout construction. Paleontological Monitors were present during trenching activities, however no fossils were reported.

No major wildlife impacts were noted. A pair of peregrine falcons was repeatedly seen within 1000 feet of work activities, but did not appear to be affected by construction. All trenches were sloped, had wildlife ramps installed, or were fully covered at the end of workdays to prevent wildlife entrapment.

BMPs were used to control runoff. Spoil piles were sprayed with water to control dust in accordance to the Dust Control Plan.

5.3.5 Encina Substation (Switchyard) Upgrades

Upgrades to the existing Encina Switchyard making it into a substation were necessary to alleviate existing operational issues and to support the addition of the Sunrise Powerlink to the SDG&E system. Encina Substation is in the City of Carlsbad, San Diego County. The approximately 5-acre disturbed and developed site lies adjacent to the Encina Power Station. Encina Substation is not directly connected to the Sunrise Powerlink.

The Encina facility consisted of two switchyards, a 138 kV yard covering approximately 3.7 acres in the northern portion of the facility and a 230 kV yard covering one acre in the southern portion of the facility, with an approximately 0.3-acre area separating the two. A 19,455-square-foot vacant area east of the switchyard was used for temporary construction-related parking and as a material storage area. The scope of work for the Encina facility included an upgrade of the 138 kV switchyard and expansion of the 230 kV switchyard that converted the facility into a substation. Existing facilities and equipment within the 138 kV switchyard were removed and relocated elsewhere within the property. The 230 kV switchyard was expanded to accommodate the installation of gas circuit breakers, as well as the installation and termination of a new transformer. Additional work included replacing breakers and insulators, installing foundations (concrete pads and piers), and trenching for the placement of control and power conduit.

NTP #6 for Encina Switchyard Upgrades was issued by CPUC on September 28, 2010. In preparation for construction, public notices were mailed and posted. Upgrades consisted of the following work:

- Construction of the Encina Switchyard commenced on October 11, 2010, with the installation of BMPs and repairs to existing foundations.
- Disconnect work began in December 2010 and finished in March 2011.
- Transformer work began in January 2011.
- Construction of the new control shelter, breaker pads, and transformer pads began in February 2011.
- Foundations were drilled and conventional structures were assembled in April and May 2011.
- The old 230 kV yard fence was removed in May 2011 and new fencing around the entire facility was installed.
- Work on the 138 kV portion of the switchyard began in August 2012.
- Circuit breaker work was completed in August 2012.
- Work on the new 230 kV transformer pad began in September 2011. The containment basin around the new transformer was built in November 2011.
- A fire retaining wall was built near the new control house in September 2011.
- Construction on the two 12 kV transformer pads began in September 2011.
- Upgrades were performed in the switchyard in December 2011.
- Relay and wiring crews worked inside of the control house in March through July 2012.
- Crews conducted below-grade construction activities in the 230 kV portion of the yard.
- Equipment wiring and testing occurred at the end of each phase of construction.

- Work recommenced in March 2013. Steel structures, circuit breakers, and foundations were removed. Crews prepared, framed, and poured new concrete pads and trenched for conduit.
- In April 2013, piers were excavated, forms were built, rebar was placed, and concrete poured. Trenches were excavated, conduit placed, and trenches backfilled.
- In May 2013, a new termination point for the 230 kV yard was drilled. New foundations were formed and poured. Steel assembly began and was completed in June 2013.

Variations and TEWS

One Variance, Variance #17, was requested and approved by CPUC for improvements to the Encina Substation driveway. There are a few residences west of the Encina Switchyard that are within 1000 feet and a variance to operate at night was obtained from the City of Carlsbad prior to construction in October 2010.

Environmental Compliance

No PMs or NCRs were issued for Encina Switchyard construction.

Prior to beginning construction, crews were given SWEAP training. New crew members were trained as they joined the project. Additionally, daily tailboards were conducted prior to starting work activities, alerting crews to any site-specific issues.

Biological monitors were present for surveys, survey sweeps immediately preceding construction, vegetation clearing, and ground disturbing activities. Depending on the location and sensitivity of resources, biological monitors would either be present for all activities or when appropriate would conduct spot checks throughout construction. Archaeological and Native American monitors were present depending on area resources and/or ground disturbing activities. Monitors ensured implementation of all applicable mitigation measures, permits and plans, and the integrity of ESA boundaries. Paleontologists monitored for fossils in spoil piles that resulted from excavation activities. No fossils were found.

Minimal impacts to wildlife were observed during construction at the Encina Switchyard. All trenches were ramped or fully covered at the end of workdays to prevent wildlife entrapment. Two peregrine falcons were noted near the substation; however, they did not appear to be affected by construction activities. In November 2010, one common raven was found dead inside the substation property. The cause of death did not appear to be project-related. One American kestrel nest was observed inside the substation in April 2011. An exclusion buffer was established and a Biological Monitor was onsite for all work activities. Additionally, one inactive stick nest was identified in April 2012. Bird nesting deterrents were installed in March 2013.

Consistent with SWPPP requirements, BMPs were installed and maintained throughout construction. Rumble plates and rock were installed between the parking area and paved driveway to prevent soil trackout.

Construction at the Encina Substation required temporary road lane closures only for the delivery of the new 230/138 kV transformer. Hauling and encroachment permits were obtained from Caltrans and coordinated with the City of Carlsbad. Nighttime construction occurred. The City of Carlsbad Noise Ordinance provides an exception to construction outside of normal daylight hours for construction that occurs within non-residential zones, provided there are no occupied residential dwellings within 1000 feet of the exterior boundary of the construction site. A few dwellings west of the Encina Switchyard are within 1000 feet, however a variance to operate at night was obtained from the City of Carlsbad prior to construction.

5.3.6 Pomerado Substation Upgrades

Upgrades to the existing Pomerado Substation were required to accommodate the overall operation of SDG&E's existing electric transmission and distribution system, including Sunrise Powerlink Project. The Pomerado Substation is located in Poway, San Diego County. It is not located along the Sunrise Powerlink ROW, but is connected to the 69 kV upgrade portion. The substation functions as a 69 kV to 12 kV distribution substation serving the southern Poway and east Scripps Ranch areas. The enclosed area of the substation is 1.36 acres.

The scope of work for the Pomerado Substation facility included installation of four 69 kV/40 kA circuit breakers and ten 69 kV/2000 A disconnects to accommodate the increased ratings on transmission lines TL6915 and TL6923. Other equipment installed included a new aluminum pipe bus and associated jumpers and hardware. Protection relay panels also were replaced. Any areas within the substation that were not paved or covered with concrete foundations were surfaced with an approximate 4-inch layer of crushed rock.

NTP #8 for Pomerado Substation upgrades was issued by the CPUC on September 28, 2010. Preparation for construction was conducted, which included mailing and posting of public notices.

Substation upgrades consisted of the following:

- Equipment staging and setup for 69 kV work began in March 2012. Crews built disconnects and delivered materials to the substation in March 2012 as well.
- Crews performed upgrade work, including changing out bus disconnects and gas circuit breakers, in May 2012. Work finished in June 2012. Equipment wiring and testing occurred near the end of each phase of construction.
- Crews returned in November 2012 to perform miscellaneous wire work and cleanup.

Variations and TEWS

No variations or TEWS were requested specific to Pomerado Substation work.

Environmental Compliance

No PMs or NCRs were issued for Pomerado Substation construction.

Before construction began, crews were given SWEAP training. New crew members were trained as they joined the project. Additionally, daily tailboards were conducted prior to starting work activities, alerting crews to any site-specific issues.

Monitors ensured the implementation of all mitigation measures, plans and permits. Biological monitors were present for surveys, survey sweeps immediately preceding construction, vegetation clearing, and ground disturbing activities. Depending on the location and sensitivity of resources, biological monitors would either be present for all activities or when appropriate would conduct spot checks throughout construction. Archaeological, paleontological, and Native American monitors were present depending on area resources and/or ground disturbing activities. Minimal impacts to wildlife were noted at Pomerado Substation. Avian surveys were conducted in March 2012 and no nests were observed. Bird sweeps continued through June 2012. In March 2012, a bees nest located outside of the entrance was removed by an exterminator.

5.3.7 Scripps Substation Upgrades

The Scripps Substation is not located along the Sunrise Powerlink ROW but is connected to the 69 kV reconductoring portion. Upgrades to the Scripps Substation were necessary to facilitate the reconductoring of the existing 69 kV transmission line from Sycamore Substation to Elliot Substation. The Scripps Substation is located in the City of San Diego, San Diego County, in an industrial/commercial area immediately west of Scripps Ranch Boulevard. The enclosed area of the substation site is approximately 1.1 acres in size.

Upgrades to the Scripps Substation included installation of three 69 kV/40 kA circuit breakers and six 69 kV/2000 A disconnect switches to accommodate the increased rating on transmission line TL6916. The new circuit breakers and disconnects were installed throughout the 69 kV Substation. Other associated equipment installed included a new aluminum pipe bus and associated jumpers and hardware. Protection relay panels also were replaced.

All upgrade work took place within the existing fence line of the substation, on previously disturbed land. Since there were no foundations or conduits being installed, ground disturbance was not necessary. Any areas within the substation that were not paved or covered with concrete foundations were surfaced with an approximately 4-inch layer of crushed rock.

NTP #9 for Scripps Substation upgrades was issued by CPUC on September 28, 2010. Preparation for construction included public noticing.

Substation upgrades included the following:

- Wiring and testing of a new breaker occurred in May 2011.
- Work on the 69 kV bus and disconnects also occurred in May 2011, and a new gas circuit breaker was installed in May 2011 as well.
- 69 kV wire was pulled into the substation and jumpers were installed in May and June 2011.
- Upgrade work on remaining bus and disconnects occurred in August 2011. All Sunrise Powerlink–related work was completed on August 24, 2011.

Variances and TEWS

No variances or TEWS were requested specific to Scripps Substation work.

Environmental Compliance

No PMs or NCRs were issued for Scripps Substation.

Prior to starting construction, crews were given SWEAP training. New crew members were trained as they joined the project. Additionally, daily tailboards were conducted prior to starting work activities, alerting crews to any site-specific issues.

Monitors ensured the implementation of all mitigation measures, plans, and permits. Biologists monitored wildlife prior to construction by conducting clearance surveys, as well as conducting site sweeps immediately prior to active construction. Active nest monitoring began in May 2011.

BMPs were installed as necessary and all minor leaks and spills were cleaned up immediately.

5.3.8 Sycamore Canyon Substation Upgrades

The existing Sycamore Canyon Substation is the western terminus of the Sunrise Powerlink ROW. Upgrades to the existing Sycamore Canyon Substation were necessary to accept the Sunrise 230 kV lines and facilitate the reconductoring of existing 69 kV tie-lines (TLs) between the Sycamore Canyon Substation and Elliot Substation, Sycamore Canyon Substation and Scripps Substation, and Sycamore Canyon Substation and Pomerado Substation.

NTP #13, which included the Sycamore Canyon Substation, was issued by CPUC on January 13, 2011, and modified February 24, 2011. In preparation for work, public noticing was conducted.

Upgrades consisted of the following:

- Conventional foundations were drilled in May 2011. Pads were formed for circuit breakers, switch stands, and a 138 kV transformer.
- A new 230 kV transformer was installed and tested with a temporary SPCC oil containment pit in June 2011. Below-grade work was conducted in July 2011. A new SPCC containment pit for the new 230 kV transformer was built in September 2011. The new transformer pad was completed in October 2011.
- Foundations for new transmission poles were drilled and poured in July 2011. Poles were erected and installed in August 2011.
- Finish grading took place in August 2011.
- Wire was pulled into the substation and wire work was performed in September 2011.
- Substation upgrades, including construction of new switch stands, disconnect stands, and new wiring, took place in October and November 2011.
- 69 kV work took place from December 2011 through April 2012.
- Another wire pull took place in May 2012. Work did not occur again until July 2012, when bird surveys were conducted.
- Miscellaneous wire work occurred in November 2012.

Variances and TEWS

No variances or TEWS were requested specific to Sycamore Canyon Substation work.

Environmental Compliance

No PMs or NCRs were issued for Sycamore Canyon Substation.

Prior to the start of construction, crew members were given SWEAP training. New crew members were trained as they joined the project. Additionally, daily tailboards were conducted prior to starting work activities, alerting crews to any site-specific issues.

Monitors ensured the implementation of all mitigation measures, plans and permits. Biologists monitored for wildlife prior to construction by conducting clearance surveys and conducted site sweeps immediately before construction activities began.

Active nest monitoring began in May 2011. Two barn owls were found dead in July 2011. Of the two, one was observed earlier in the day and appeared ill; there was no evidence that the illness or deaths were project-related. At the end of January 2012, Avian Biologists were onsite making assessments for

nest buffer reductions. Bird nesting deterrents were installed in February 2012. In March 2012, an incomplete raven's nest was removed with the assistance of an Avian Biologist. CPUC approved the removal.

Consistent with SWPPP requirements, BMPs were installed at areas of ground disturbance and around spoil piles. BMPs were maintained and improved as necessary.

5.4 69 kV Reconductoring

To accommodate the Sycamore Canyon Substation's increased power capacity and circuit flow, upgrades and reconductoring of three existing 69 kV tie-lines were completed (see Figure 3). Tie-line upgrades included 6.4 miles of 69 kV tie-line between the Sycamore Canyon Substation and Scripps Substation (TL6916), 8.2 miles of line between Sycamore Canyon Substation and Elliot Substation (TL639), and 1.9 miles of line between Sycamore Canyon Substation and Pomerado Substation (TL6915/6924). The three tie-line upgrades occurred on private and federally managed lands.

CPUC NTP #13, which included the 69 kV reconductoring activities, was issued by the CPUC on January 14, 2011, and modified February 24, 2011. The Miramar NTP, which included 69 kV reconductoring activities on MCAS land, was issued on June 28, 2011.

The following description of reconductoring work is organized by individual tie-line.

Sycamore Canyon Substation to Scripps Substation (TL6916)

- Minor grading of existing access roads was required. Beginning in May 2011, transmission conductors were replaced on 48 existing poles in the 6.4-mile ROW. Eight wire pull-sites were used.
- Two underground upgrades, a new 900-foot-long double-circuit 69 kV duct package located in the street in Rue Biarritz, and 7,725 feet of replacement cable from Ironwood Road to the Scripps Substation, were completed. Trenching and vault installation occurred for TL6916 starting in March 2011. Underground crews worked on splicing, terminating, and pulling new conductor. The Rue Biarritz underground section was completed in June 2011. Sidewalk repairs were made following completion.

Sycamore Canyon Substation to Elliot Substation (TL639)

- Minor grading of existing access roads was required. Sixteen wood poles were replaced with 17 wood poles of similar or slightly increased height. Pole replacement for TL639 took place from March through July 2011.
- Transmission conductors were replaced on 84 poles in the 8.2-mile ROW. Eight pull-sites were used along the ROW. Wire work was performed from March through July 2011 for TL639. Wire was sagged and clipped. A guard structure was installed at State Route 52. Bucket trucks were utilized to hold up the conductor across roadways along the ROW. Wire was pulled across Highway 52 on Sunday, March 20, 2011.
- Vegetation clearing and access road improvements occurred at various locations associated with TL639 in December 2011.
- An existing underground cable at Sycamore Canyon Substation was replaced by way of a wire pull.

Sycamore Canyon Substation to Pomerado Substation (TL6915/6924)

- Vegetation clearing and access road improvements occurred at various locations associated with TL6915/TL6924 in December 2011.

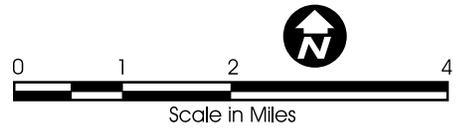
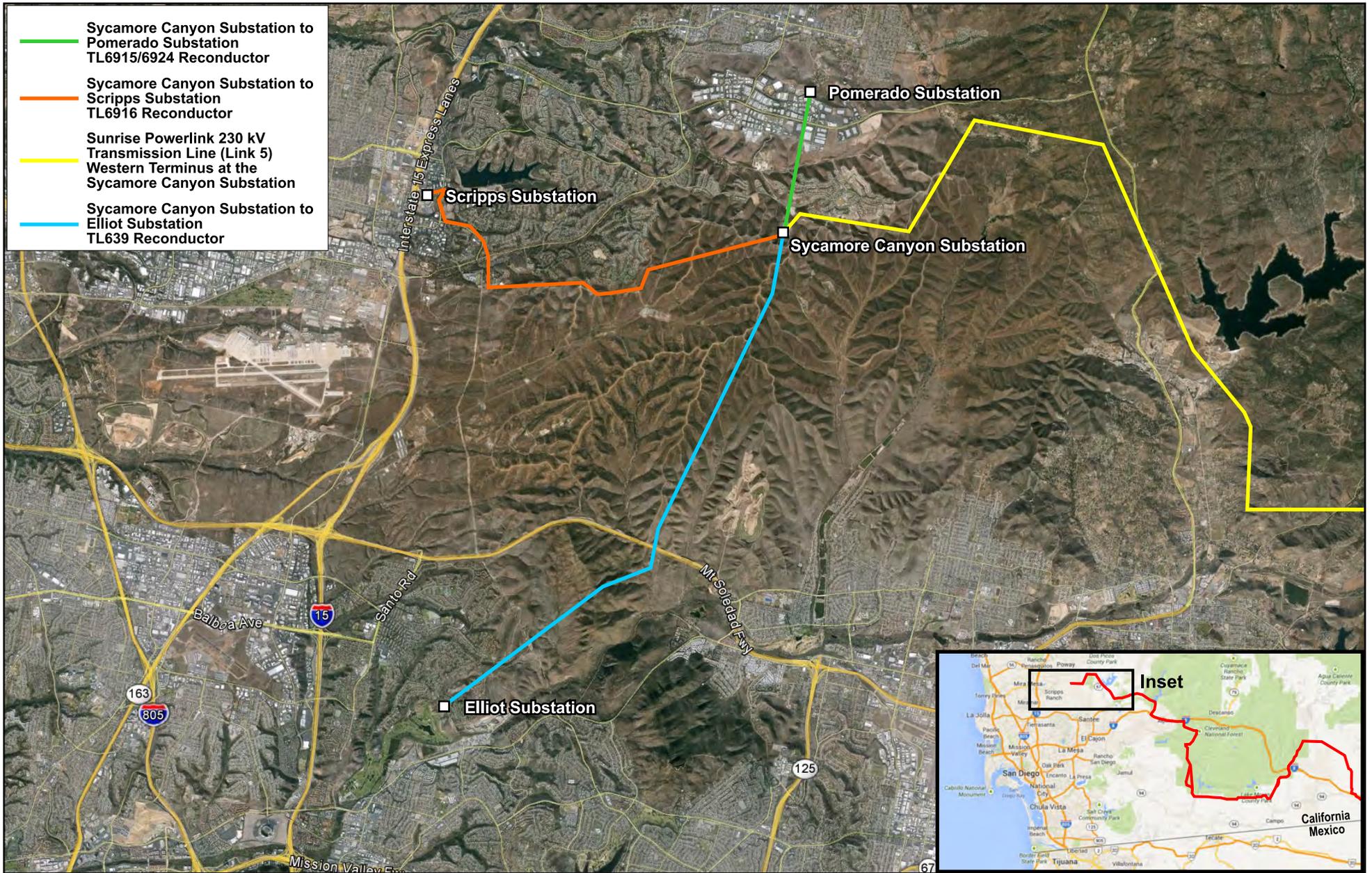


Figure 3
69kV Reconductoring

- SDG&E replaced four existing transmission poles. The pole top hardware and insulators were replaced on the 15 remaining structures for the two 69 kV circuits (TL 6915 and TL6924). Drilling and pole replacement began for TL6915 in January through February 2012. Work on the 69 kV was sharply reduced over the summer months due to high usage of the lines. Limited work occurred in June 2012, with insulator replacements and wire preparations. Wire was pulled for TL6915 in June 2012 and required two new wire pull-sites. In October and November 2012, sagging and clipping and miscellaneous tower work occurred.
- Fiber optic lines were attached to some TL6915 poles in August 2012.

Variances and TEWS

No variances or TEWS were requested specific to 69 kV reconductoring work.

Environmental Compliance

No PMs or NCRs were issued for 69 kV reconductoring.

Prior to beginning construction, crews were given SWEAP training. New crew members were trained as they joined the project. Additionally, daily tailboards were conducted prior to starting work activities, alerting crews to any site-specific issues.

Biological monitors were present for surveys, survey sweeps immediately preceding construction, vegetation clearing, and ground disturbing activities. Depending on the location and sensitivity of resources, biological monitors would either be present for all activities or when appropriate would conduct spot checks throughout construction. Archaeological, paleontological, and Native American monitors were present depending on area resources and/or ground disturbing activities. Monitors ensured implementation of all applicable mitigation measures, permits and plans, and the integrity of ESA boundaries.

Due to the urbanized nature of the areas, minimal impacts to wildlife were noted. In March 2011, a buffer for California gnatcatcher nest was established on a 69 kV access road in the vicinity of MCAS Miramar.

One incident occurred where a nest buffer area was violated by crews climbing a pole rather than using the approved bucket truck to access the top of the pole. Avian Biologists confirmed that the nest was unaffected. CPUC and CDFW were notified of the event.

BMPs were installed and maintained as necessary in accordance with SWPPP requirements. On a few occasions, rain events saturated access roads, and work was delayed until the roads were passable. Some small incidents occurred where small volumes (< 1 gallon) of water or sludge were found leaking from equipment. All spills were contained, cleaned up, and reported to the City of San Diego, Storm Water Reporting.

Hazardous materials were monitored throughout construction. Some minor (< 1 gallon) releases of hydraulic fluid, steering fluid, diesel fuel, and motor oil were reported. All spills were immediately contained, cleaned up, and reported to the City of San Diego, Storm Water Reporting. No hazardous materials entered into any waterways, hydrological resource areas, or ESAs.

Implementation of the Project Fire Plan was monitored. Interaction with the public, as well as public safety protocols including traffic control, were monitored.

5.5 12 kV Relocations

In accordance with Applicant Proposed Measure PSU-1, SDG&E coordinated with utility providers and relocated several existing facilities to avoid conflicts on the 69 kV, 230 kV, and 500 kV alignments. Five small stretches of 12 kV lines were relocated on private lands. The relocation maps are confidential and are not provided as part of this public report. The principal 12 kV relocation areas are referred to as Jacumba Valley Ranch (JVR), McCain Valley Road, Loritz, Alpine Boulevard, and El Capitan. In addition, two poles were replaced along Buckman Springs Road, one 12 kV distribution pole was relocated along BBTT near the Suncrest Substation entrance, and a small 12 kV relocation also occurred on MCAS Miramar lands.

NTP #13, which included the overhead transmission line and associated 12 kV relocations, was issued by CPUC on January 13, 2011, and modified on February 24, 2011. The MCAS Miramar NTP issued June 28, 2011, included the relocation work on MCAS lands.

The 12 kV relocation work began on February 24, 2011, and was completed on September 23, 2011. It consisted of the following:

12 kV Relocation at JVR

- 25 new pole sites were excavated and set in April and May 2011.
- 13 old poles were removed in May 2011.
- Wire was pulled in May 2011.
- Old pole stubs were removed in August 2011.

12 kV Relocation near McCain Valley Road

- Holes were excavated for 4 new poles, which were set along McCain Valley Road in February 2011. Five existing poles were removed.
- Wire work took place in March 2011.

12 kV Relocation at Loritz

- Four new pole sites were excavated and set, and four old poles were removed in March 2011.

12 kV Relocation at Alpine Boulevard

- Three new poles were excavated and set and three old poles were removed in April 2011.

12 kV Relocation at El Capitan

- Four new poles were installed and four old poles were removed in September 2011.

12 kV Pole Replacement at Buckman Springs

- Old wooden poles were replaced with steel poles in September 2011.

12 kV Pole Replacement on BBTT Suncrest Substation Entrance

- A distribution pole was relocated June 2011.

12 kV Relocation at MCAS Miramar

- Vegetation was cleared and pole sites were excavated, anchors dug, and a switch replaced in September 2011.
- In April 2012, stolen wire was replaced.

Variations and TEWS

No variations were requested. One TEWS was requested and approved for extra work workspace near El Monte Road near the El Capitan 12 kV relocation. See Section 8.5 for additional information.

Environmental Compliance

No PMs or NCRs were issued for any of the 12 kV relocations. Two incidents occurred in April 2011 at the JVR relocation. The first incident involved maps that had been transcribed incorrectly, effectively creating two sets of incongruous maps. The CPUC notified the SDG&E Link Lead that maps need to be consistent between monitors and crew members to avoid any confusion and potential harm to sensitive resources. The second incident involved work in an area that had not been previously released for construction by the CPUC EM. A pole was drilled and set without monitoring. There appeared to be no damage to any sensitive resources.

Prior to the beginning of construction, crews were given SWEAP training. New crew members were trained as they joined the project. Additionally, daily tailboards were conducted prior to starting work activities, alerting crews to any site-specific issues.

Monitors ensured implementation of all applicable mitigation measures, permits, and plans. Biologists were present to monitor for wildlife prior to construction by conducting clearance surveys and biological sweeps immediately prior to the start of construction activities.

Adherence to SWPPP requirements included installation, maintenance, and repair of BMPs. Street sweepers were used to remove trackout, as necessary.

Implementation of the Project Fire Plan was monitored. Interaction with the public, as well as public safety protocols including traffic controls, also were monitored.

5.6 Construction Yards and Other Workspaces

Twenty staging and material laydown yards were used to support Sunrise Powerlink Project construction. Fifteen yards were located on private land, four were on BLM land, and one was on USFS land. Four separate NTPs were issued for yard usage — NTPs #3, #4, #5, and #12. NTPs #3, #4, and #5 were issued in advance of transmission construction, to allow storage of construction materials and tower components as well as set up offices. The remaining yards were approved as part of main line construction NTPs or by variance. See Sections 4.2 and 8. Due to the similar characteristics of yards and their usage, discussion of variations, TEWS, and environmental compliance for all yards has been consolidated and is found at the end of this section. All project yards were approved for temporary use only and, with the exception of the Alpine Regional Field Offices Complex and portions of the Rough Acres Yard, were restored after construction was complete. In addition, some landowners requested that certain project-related improvements, such as fences and base-rock, be left in place after construction. Details are noted in individual yard discussions below.

Alpine Yard

The Alpine Yard, also identified as Alpine Yard 18, was used for material storage and staging as well as helicopter operations. Located in the community of Alpine, San Diego County, the Alpine Yard was bounded by Tavern Road to the south and residential properties to the north.

NTP #3 for Alpine Yard was issued by CPUC on May 20, 2010. Crew members received SWEAP training. Notifications were mailed to nearby residents and posted in local newspapers.

Temporary improvements to the yard included installation of mobile offices, a portable security lighting and surveillance system, two portable guard booths, a portable radio site system (retractable lattice tower mounted on the container – max 40 ft high), temporary power, portable sanitary facilities, a 500-gallon water tank, and a wash station. ESA fencing was installed to delineate approved construction areas within the construction yard.

Preparation of the Alpine Yard commenced on September 16, 2010 with the installation of ESA flagging and BMPs. Electrical service was installed for lighting and security cameras.

Construction materials and equipment were delivered to the yard beginning September 2010. Trucks delivering steel for towers, conductors, and underground cable reels were offloaded by truck-mounted crane or forklift. The yard also was used to support tower assembly, BMP setup and maintenance, and QC staging.

In February 2012, it was reported that the yard was also being used to support habitat assessment work and Habitat Mitigation Monitoring Plan (HMMP) implementation on the project. As construction neared completion in May 2012 the Alpine Yard became the main hub for equipment staging. Alpine Yard cleanup commenced in September 2012 and the yard was returned to its original pre-disturbed condition.

Alpine Regional Field Offices

The Alpine Regional Field Offices also identified as Alpine Yard 18 A, occupying approximately 10.52 acres, was the central administrative field construction office complex for the Sunrise Powerlink Project. The Alpine Regional Field Offices supported the entire Sunrise Powerlink Project and were located in the community of Alpine, adjacent to the Alpine Yard. NTP #4 was issued by CPUC on May 28, 2010, for the Alpine Regional Field Offices. Crew members received SWEAP training and notifications were mailed to nearby residents and posted in local newspapers. Construction of the Alpine Regional Field Offices commenced September 16, 2010.

The offices were comprised of a series of interconnected prefabricated mobile office units, sanitary facilities, and a parking area. In addition, a temporary portable radio communications microwave tower system with retractable 25-foot-high tower was installed. Improvements to the yard included a site entrance set back from the street, an automated gate and security access control system, perimeter fencing with visual screening, installation of all-weather permeable aggregate material, lighting, and installation of site utilities. In addition, as a condition of the final inspection and building occupancy approval by the Alpine Fire District, all vegetation within 100 feet of the modular buildings needed to be trimmed down to no more than 12 inches above ground level. Trenching occurred to install water and sewer utilities after acquiring applicable ministerial permits. Site parking and security lighting complied with the County Light Pollution Code. Twenty-four lighting fixtures were installed throughout the site per the approved site-specific Construction Lighting Plan.

ESA flagging and BMP installation was completed prior to other construction activities at the facility. Trenching was completed and mobile units were delivered in early October 2010. Class II base was applied, driveway improvements commenced, and brush clearing was conducted. In December 2010, an enclosed guard structure was installed. In March 2011, a helicopter pad was constructed to facilitate personnel transport.

The Alpine Regional Field Offices supported the Sunrise Powerlink Project throughout all construction activities. The offices originally were to be used only for the Sunrise Powerlink Project and were to be removed at the completion of the project. However, SDG&E identified the need for additional permanent facilities for future projects and O&M activities and requested that they remain in place. The CPUC referred SDG&E to San Diego County to pursue the appropriate permits and approvals. The County of San Diego approved a Minor Use Permit (MUP) for the conversion of the five temporary trailers to permanent use on April 4, 2013. No written appeals were filed and the decision became final on April 15, 2013.

Rough Acres Yard

The Rough Acres Yard was located approximately 3 miles north of Interstate 8, in the community of Boulevard, San Diego County. Two NTPs were issued for use of the Rough Acres Yard. NTP #5 was issued by CPUC on September 28, 2010, for Phase I areas. NTP #12 was issued by CPUC on December 23, 2010, for Phase II areas of the yard. Phase I use of the yard was limited to material storage and field offices in previously disturbed or developed areas. Phase II of the Rough Acres Yard included use of the remainder of the site for additional construction equipment and material laydown, storage, assembly, staging, and fly yard operations. This area contained sensitive plant species and was approved for temporary mowing and vegetation crushing. In addition, rock base was laid down.

The total area of the Rough Acres Construction Yard was approximately 92.46 acres. The yard was used as the main staging area for all 500 kV materials and equipment for Links 1 and 2. The helicopter landing and staging area consisted of multiple landing pads. Aggregate base and crushed rock was placed on existing access roads and around the helicopter landing pads for stabilization and dust control. This area supported helicopter landing and staging requirements for all project helicopters, including light- and medium-lift helicopters as well as the heavier Aircrane. This area also supported helicopter fueling and inspection, and, when dictated by weather conditions, overnight staging.

In mid-October 2010, BMP installations were conducted and micropile casings were delivered and stored onsite. A wash station was set up. A tower bridge and a full tower were assembled for a project groundbreaking ceremony held at the Rough Acres Yard which took place on December 9, 2010.

In January 2011, vegetation mowing occurred. Trenching was done onsite for security and lighting conduits. Construction lighting was installed per the approved Rough Acres Lighting Mitigation Plan. Trucks hauling tower steel and conductors were offloaded by truck-mounted crane or forklift and stored at the site. Partial assembly took place, and staging and fly-out of select tower structures to erection sites along the ROW commenced.

On June 19, 2011 the CPUC approved Variance #19 for installation of a test transmission tower at the Rough Acres Yard. Installation commenced soon after, with cleanup in July 2011. In February 2012, the yard also was used to support habitat assessment work and HMMP implementation. In August and September 2012 steel bundling for removal was conducted along with cleanup and de-compaction of certain areas. Hydromulching of some areas occurred in October 2012.

As the Sunrise Powerlink Project reached completion, the Rough Acres Yard landowner requested that site restoration activities not occur and that yard improvements, including base rock, remain in place because

the property had been optioned to a solar developer and the County of San Diego was processing a Major Use Permit for an 80 MW solar farm. An EIR is being prepared by Soitec Solar Development, LLC, to construct solar facilities on the Rough Acres property and other properties in the area. Prior to construction of the Rough Acres Yard, the site had contained sensitive vegetation, including Jacumba milk-vetch, and SDG&E had committed to restoration of the site after it closed. The CPUC recognized that compelling restoration of a property planned to be developed into a solar farm in the foreseeable future would be a waste of ratepayer money and would not achieve the objective of the vegetation restoration requirements. By not restoring the Rough Acres Yard site, the temporary impacts to plants would become permanent, and this status would require SDG&E to undertake offsetting mitigation elsewhere for the plant communities and Jacumba milk-vetch lost. SDG&E demonstrated that it has acquired sufficient acreage at its Long Potrero mitigation property to offset the lost semi-desert chaparral and flat-topped buckwheat scrub at the Rough Acres Yard. The 923 impacted Jacumba milk-vetch plants had occupied approximately 18 acres. SDG&E has identified 54 acres of disturbed habitat suitable for milk-vetch restoration in the McCain Valley (near where Rough Acres Yard is located). SDG&E's restoration activities will include supplemental seeding of Jacumba milk-vetch, salvage of individuals, and adaptive weed control at disturbed areas and in the project ROW. The restoration program will continue over approximately 5 years. The CPUC approved the program as a reasonable alternative to restoration of land at the Rough Acres Yard.

Wilson Yard and Field Offices

The existing 10.78-acre Wilson Yard was the primary support and staging site for Suncrest Substation construction. It was located along BBTT, approximately 0.75 miles east of the substation site. The Wilson Yard was approved under the Suncrest Substation NTP #11 on December 15, 2010. A 2.2-acre portion of the Wilson Yard was used to support construction of the Suncrest Substation, with the remaining 8.58 acres used for materials staging and storage associated with construction of the overhead transmission line. Helicopter transport was used at the Wilson Yard.

The Wilson Yard included two pre-existing man-made earthen stock ponds that were used as a construction water source and reservoir. The use of the ponds was analyzed and permitted separately from the Sunrise Powerlink Project. Beta Engineering worked with SWRCB and CDFW for approval. Potable water was transported by tanker trucks from local municipal sources to supplement the water in the ponds. A system of temporary aboveground pipes and pumps was constructed to transport the water from the ponds to the Suncrest Substation.



Photo 29: Filled water basin at the Wilson Yard, Link 3.

In January 2011, vegetation clearing at the Wilson Yard was conducted. In addition ESA flagging, perimeter fencing, and BMP installation occurred.

In March 2011, temporary storage pond work was conducted and water delivery to the ponds commenced in July 2011. In April 2011, materials staging for the Suncrest Substation and transmission work occurred and tower assembly commenced. After energization of the project in June 2012, cleanup at the Wilson Yard occurred and it was restored to original condition in August 2012. In September berms were built at the driveway entrance, fencing was removed, and fence holes were filled.

Thomas Yard

The Thomas Yard located near El Centro, Imperial County, was used for materials staging and storage, and was approved by the CPUC on November 10, 2010, under Variance #1.

Mobilization to the site began on November 18, 2010 including installation of ESA fencing and signage. Materials deliveries began on November 26, 2010. Staging and assembly commenced. In September 2011, the yard was dismantled and restored to its pre-use condition.

S2 Yard

The 30-acre S2 yard was approved on February 24, 2011, under Modification #1 to CPUC NTP #13. It was located approximately 3 miles northwest of Ocotillo, and 2 miles north of Interstate 8. The S2 yard was used primarily for helicopter transport and delivery, materials staging and storage, and tower assembly for overhead transmission line construction within the Ocotillo area.

In April 2011 pre-construction vegetation assessments and drainage staking was conducted. Equipment and materials were brought to the site. Flat-tail horned lizard (FTHL) exclusionary fencing was installed. In September 2011, habitat restoration assessment work was conducted and tower assembly, wire stringing, and helicopter transport continued. In January 2012, equipment was demobilized and the site fence was removed. Restoration work was undertaken. After yard restoration, it was brought to SDG&E's attention that significant dust was blowing from the S2 Yard site. Crews reapplied a thicker tackifier at the site to address the problem.



Photo 30: Aircrane tower pick at S2 Yard.

AER Yard

The 5-acre AER Yard was approved on January 13, 2011, under NTP #13. It was located approximately 5 miles east of the town of Jacumba, along Old Highway 80 in San Diego County. The AER yard was used primarily for helicopter transport and delivery, as well as materials staging and storage for overhead transmission line construction within the Interstate 8 island (Mountain Springs Grade). The AER Yard was located within PBS habitat. Because of this, access to the AER Yard was allowed only between October 1 and December 31. Later, this window was extended by the wildlife agencies to the period from July 1 to December 31.

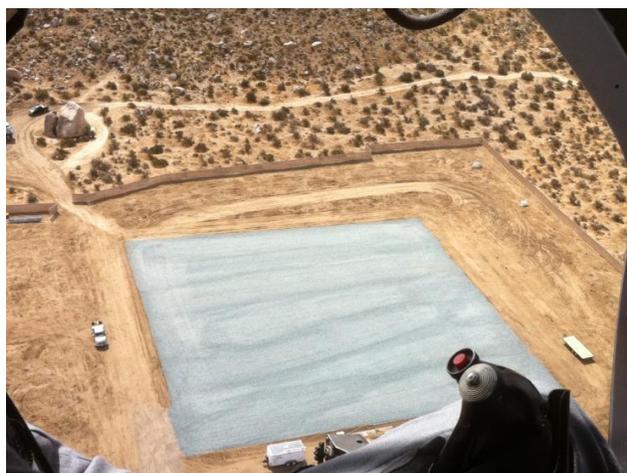


Photo 31: Helicopter landing area at AER Yard.

In July 2011, driveway installation occurred, the yard was prepared, equipment and materials were brought onsite, and operations commenced. Yard cleanup and restoration were completed by January 2012.

Fromm Yard

The 17.40-acre Fromm Yard was approved on August 4, 2011, under CPUC Variance #22. It was located immediately adjacent to the AER yard. The Fromm Yard was primarily used for helicopter transport and delivery, as well as materials staging and storage for overhead transmission line construction within the Interstate 8 island. The Fromm Yard was located within PBS habitat and access to the yard was restricted to between July 1 and December 31.

In August 2011, vegetation clearing including cholla salvage occurred. Fencing was installed and steel staging and tower assembly commenced. Fromm Yard was used for water staging as well. In December 2011, helicopter use at the site concluded, and fencing around the upper and lower sections of the yard was removed. A small section of the yard was kept to be used for restoration work after PBS lambing season. Hydromulching of the lower section occurred; the remainder of the yard was hydromulched September 2012.

Jacumba Valley Ranch Yard

The 34.51-acre JVR yard was approved on January 13, 2011, under CPUC NTP #13. It was located approximately 2 miles northeast of the town of Jacumba and 0.25 miles south of Interstate 8. The JVR yard was primarily used for helicopter transport and delivery, as well as materials staging, storage, and tower assembly for overhead transmission line construction within the Jacumba Valley area. The yard also was used to support BMP setup and maintenance, and QC staging.

In February 2011, access road grading, vegetation clearing and disking occurred at the JVR Yard. A wash station was set up. Driveway installation occurred and helicopter operations and steel assembly began. Due to its location, in November 2011 the yard was the hub for coordinating activities within PBS areas. Staging for micropile work, tower erection, and wire stringing occurred at the yard. In February 2012 the yard was used to support habitat assessment work and HMMP implementation. In September 2012, hydromulching occurred and the yard was restored by October 2012.

Bartlett-Hauser Yard

The 28.57-acre Bartlett-Hauser Yard was approved on January 13, 2011, under CPUC NTP #13. It was located approximately 4 miles northwest of the town of Campo and 4 miles south of Interstate 8. The Bartlett-Hauser Yard was primarily used for helicopter transport and delivery, as well as materials staging, storage, and structure assembly for overhead transmission line construction within the Buckman Springs area. SDG&E also installed mobile offices within the yard to serve as a base for the workers working in the area.

In February 2011, access road grading, potholing, fence installation, and vegetation clearing and disking occurred. Field offices also were set up at the Bartlett-Hauser Yard. In March 2011, steel deliveries and assembly were conducted. A weed wash station was installed. In April 2011, access road work occurred and the yard driveway was improved. In July 2011, weed maintenance was conducted. The access road was re-graded and helicopter operations commenced. By December 2011, water staging, weed maintenance, and BMP staging were still being conducted. In February 2012, stag-



Photo 32: Tower assembly at Bertlett-Hauser Yard.

ing for hauling, weed abatement, vegetation maintenance, and toad and bird surveys occurred. Cleanup began in July 2012; however, the yard was still being used for QC and BMP maintenance. In September 2012, soil de-compaction and hydromulching occurred.

The landowner requested that SDG&E leave the site fencing with slats in place after the yard was no longer needed. The CPUC approved this request as documented in Variance #43.

Kreutzkamp Yard

The 30.62-acre Kreutzkamp Yard was approved on January 13, 2011, under CPUC NTP #13. It was located approximately 3 miles northwest of the town of Potrero and 12 miles south of Interstate 8. The Kreutzkamp Yard was primarily used for helicopter transport and delivery, as well as materials staging, storage, and steel assembly for overhead transmission line construction within the Round Potrero area.

In February 2011, potholing, access road grading, fence installation, and vegetation clearing and disking occurred at the Kreutzkamp Yard. In March 2011, materials were delivered to the site and steel assembly commenced. In April 2011, bird nesting deterrents and amphibian and reptile exclusionary fencing were installed at the yard. In August 2011, staging for arroyo toad fencing to be used in habitat areas throughout the project occurred, and water trucks continued to be filled at the site. Yard use continued until September 2012, when de-compaction, cleanup, and hydromulching occurred.

The Kreutzkamp Yard landowner requested that SDG&E leave the site fencing and rock in place after the yard was no longer needed. The CPUC approved this request as documented in Variance #43.

SWAT Training Facility Yard

The 15.88-acre SWAT Training Facility Yard was approved on January 13, 2011, under CPUC NTP #13. It was located approximately 9 miles southeast of the community of Alpine and 8 miles south of Interstate 8. The SWAT Training Facility Yard was used primarily for helicopter transport and delivery, as well as materials staging, storage, and tower assembly for overhead transmission line construction within the Lyons Valley area.

In February 2011, herbicide application to weeds occurred and a wash station was set up. Access roads were improved and BMPs were installed.

In August 2011 steel staging and tower assembly began. In December 2011, brush clearing took place and wire crew staging occurred. In February 2012 the yard was being used to support habitat assessment work and HMMP implementation. In October 2012, site cleanup and hydromulching occurred.

El Monte (Hartung) Yard

The El Monte Yard was referenced in the PMR as the Hartung Yard, but the name was later changed. The 16.53-acre El Monte Yard was approved on January 13, 2011, under CPUC NTP #13. It was located approximately 5.75 miles northwest of the community of Alpine, and 5.4 miles northeast of Lakeside. The El Monte Yard was used primarily for helicopter transport and delivery, as well as materials staging, storage, and steel assembly for overhead transmission line construction within the Chocolate Canyon area.

In February 2011, access road grading, potholing, fence installation, and vegetation clearing and disking occurred at the El Monte Yard. Materials staging and steel assembly commenced in March 2011. In September, wire reels were stored, tower finish work was conducted, and staging for the 12 kV relocation underground work occurred. The yard was used for tower QC work beginning in October 2011. In April 2012, fertilizer was brought to the site and restoration work including grading and disking occurred.

The landowner requested that SDG&E leave the site fencing and gates in place when the yard was no longer needed. The CPUC approved the request as documented in Variance #43.

Helix Yard

The 20.97-acre Helix Yard was approved on January 13, 2011, under CPUC NTP #13. It was located approximately 2 miles east of Lakeside. The Helix Yard was used primarily for helicopter transport and delivery, as well as materials staging, storage, and steel assembly for overhead transmission line construction within the Lakeside area. SDG&E's contractor also installed mobile offices within this yard to serve as an office base for the workers working in the area.

In February 2011, potholing, access road grading, vegetation clearing and fencing occurred. In March 2011, the weed wash station was completed and steel delivery and assembly began.

In October 2011 continued tower assembly and Aircrane picks were reported. Concrete staging also occurred. In December 2011, staging for tree trimming was conducted. Yard use continued after energization in June 2012. In September 2012, yard cleanup occurred, followed by hydromulching.

The landowner requested that SDG&E leave the site fencing with some slats as well as gravel/rock base after the yard was no longer needed. The CPUC approved the request as documented in Variance #43.

Sycamore Estates Yard

The 35-acre Sycamore Estates Yard was approved on March 18, 2011, under CPUC Variance #2. It was located approximately 3 miles southeast of Poway and 3 miles west of State Highway 67. The Sycamore Estates Yard was used primarily for helicopter transport and delivery, as well as materials staging, storage, and tower assembly for overhead transmission line construction in the Poway area.

In July 2011, materials were staged and steel assembly and helicopter operations commenced. A wash station was set up. In August 2011, brush clearing occurred and in October 2011, water staging from a hydrant occurred. In December 2011, brush clearing occurred and foundation staging and tower assembly continued. By February 2012, the yard was being used to support habitat assessment work and HMMP implementation. The yard was cleaned up and fence removal began in August 2012, followed by hydro-mulching in September 2012.

The landowner requested that SDG&E leave the site fencing which faces Stonebridge Parkway for security purposes after the yard was no longer needed. The CPUC approved the request as documented in Variance #43.

Construction yards also were located on BLM land, as discussed below.

Dunaway Yard

The 9.93-acre Dunaway Yard was approved on April 4, 2011, under BLM NTP #2. It was located approximately 11.50 miles east of Ocotillo in Imperial County, and 0.5 miles south of the Dunaway exit from Interstate 8. The Dunaway Yard was used primarily for helicopter transport and delivery, as well as materials staging and storage for overhead transmission line construction south of Interstate 8 to the Imperial Valley Substation.

In April 2011, vegetation assessments and drainage staking were conducted. In May 2011, fencing was installed around the yard. In July 2011, FTHL exclusionary fencing was installed. Helicopter operations were conducted and wire reel delivery occurred. Water tanks at the yard were used to supply water for dust control in surrounding areas. In October 2011 cleanup occurred and the site was closed. Yard resto-

ration with hand-seeding was conducted in December 2011. During restoration activities at the Duna-way Yard, it was noted that several branches of the U.S. military were using the yard as a helicopter landing site. SDG&E's restoration specialists revisited the site to assess the site and updates were provided to the CPUC EMs.

Plaster City Yard

The 20.27-acre Plaster City Yard was approved on April 4, 2011, under BLM NTP #2. It was located approximately 7.5 miles northeast of Ocotillo and 2.5 miles north of Interstate 8. The Plaster City Yard was used primarily for helicopter transport and delivery, as well as materials staging and storage for overhead transmission line construction north of Interstate 8. SDG&E also installed mobile offices within this yard to serve as a base for the workers working in this area.

In April 2011, vegetation assessments and drainage staking were conducted. Access road grading and fence and BMP installation occurred. Materials were brought to the site and tower assembly commenced. In June 2011, helicopter operations commenced. In July 2011 FTHL exclusionary fencing was installed around the yard. In July 2011 the water tanks at the yard were used to supply water for dust control in surrounding areas. Helicopter operations continued along with staging for foundation work. In August 2011 staging for wire stringing occurred. Water staging, concrete staging, and helicopter work continued through October 2011. In December 2011 office trailers were removed and restoration of a portion of the yard began. Equipment storage and water staging continued through February 2012. Materials were removed and cleanup occurred during the spring of 2012. Yard restoration was complete by August 2012.

McCain Valley Yard

The 32.93-acre McCain Valley Yard was approved on April 4, 2011, under BLM NTP #2. It was located approximately 5.62 miles north of Interstate 8 and 8 miles north of Boulevard. The McCain Valley Yard was used primarily for helicopter transport and delivery, as well as materials staging and storage for overhead transmission line construction within the McCain Valley area and USFS lands west of the yard.

In August 2011, vegetation clearing occurred and base rock was placed on the access road. Elevated water tanks and perimeter fencing were installed. In September 2011, BMPs were installed, steel and rock deliveries occurred and a helicopter pad was constructed. In October 2011, tower assembly and helicopter operations commenced. No activity occurred here after project energization in June 2012, and the yard was restored.

Barrett Canyon Yard

The 1.59-acre Barrett Canyon Yard was approved on April 4, 2011, under BLM NTP #2. It was located immediately adjacent to the Barrett Substation, approximately 3.83 miles north of Barrett Junction and 11.75 miles south of Interstate 8. The Barrett Canyon Yard was used primarily as a materials staging and storage for overhead transmission line construction within Barrett Canyon area.

In September 2011, access road and pull-site construction commenced and topsoil was salvaged. In October 2011, boulder busting and grading occurred, followed by drilling and additional access road and pull-site grading in November. In February 2012, staging was conducted for BMP crews and toad surveys. By May 2012 the yard was no longer active. It was decommissioned and restored after project energization in June 2012.

One construction yard, Thing Valley, was located on USFS-administered land.

Thing Valley Yard

The 21.64-acre Thing Valley Yard was approved on August 9, 2011, under USFS NTP #1. It was located along La Posta Truck Trail within the CNF, approximately 2.5 miles north of Interstate 8. The Thing Valley Yard was used primarily for helicopter transport and delivery, as well as materials staging, storage, and structure assembly for overhead transmission line construction along La Posta Truck Trail within the CNF. USFS monitored the majority of the installation of the Thing Valley Yard with assistance from the CPUC EMs.

In August 2011, vegetation clearing and topsoil salvage occurred. In September 2011, pull-site grading occurred. Staging for La Posta Road work occurred in October 2011. In December 2011, water staging for dust abatement and helicopter operations commenced. BMP maintenance staging occurred in February 2012. In August 2012, straw wattle and gravel bag removal began. Fencing was removed. Continued water truck filling, and hydromulching staging for use in nearby areas occurred during yard restoration activities including grading of the helicopter pad.

Variations and TEWS

Eight CPUC variations were approved for various yards. Variance #1 was approved for the addition and use of Thomas Yard to support Link 1 construction activities. Variance #2 was approved for the addition and use of Sycamore Estates Yard to support Link 5 construction activities. Variance #4 approved a temporary helicopter landing pad at the Alpine Regional Offices. Variance #5 was approved for improvements to the entrance of Wilson Yard as well as the addition of a temporary water storage pond. Variance #14 was approved as a revision to the Construction Yard Visual Screening Plan. It permitted the removal of some sections of visual screening from the yard fences to prevent fence damage from Air-crane rotor wash. Variance #19 approved the installation of a training tower at the Rough Acres Yard. Variance #22 was approved for the addition and use of the Fromm Yard to support construction in the Mountain Springs Grade area. Variance #43 was approved to allow specific project improvements to remain at 5 construction yard sites (Bartlett-Hauser, El Monte, Helix, Kreuzkamp, and Sycamore Estates) to accommodate landowner requests.

Environmental Compliance

The following is a consolidated discussion of environmental compliance for all 20 yards used on the Sunrise Powerlink Project. Three PMs and one NCR were issued regarding construction yards. CPUC PM #1 was issued for failure to report unanticipated biological resources within 48 hours at Thomas Yard. CPUC PM #4 was issued for the unauthorized removal of a nest at SWAT Yard. CPUC PM #7 was issued for crews entering PBS habitat at AER Yard prior to the PBS monitor giving clearance. CPUC NCR #2 was issued for a combination of several PBS violations, including those at construction yards. One of the violations involved crews entering both Fromm and AER Yards prior to the PBS monitor giving clearance.

Several minor issues occurred in the yards that did not result in damage to any sensitive resources. An example is crews placing, driving, or parking equipment outside of designated construction limits. On a few occasions, this occurred within established ESA limits. On June 16, 2011, two project-related vehicles were parked inside a bird buffer at Rough Acres Yard that was marked "drive through only." Immediate corrective action was taken and no resources were damaged. On April 13, 2011, helicopters were observed flying out of the Rough Acres Yard before 7 a.m. The Link Lead was notified and helicopter crews were reminded of work hour limits. One incident occurred when conductor marker balls were staged inside of an ESA at JVR Yard. Corrective action was immediately taken and no impacts were noted.

Prior to use of the yards, crew members were given SWEAP training. New crew members were trained as they joined the project. Additionally, daily tailboards were conducted at each yard prior to starting work activities, alerting crews to any site-specific issues.

Biological monitors were present for surveys, survey sweeps immediately preceding construction, vegetation clearing, stored equipment movement, and ground disturbing activities. Depending on the location and sensitivity of resources, biological monitors would either be present for all activities or when appropriate would conduct spot checks throughout construction. Archaeological, paleontological, and Native American monitors were present depending on area resources and/or ground disturbing activities. Monitors ensured implementation of all applicable mitigation measures, permits and plans, and the integrity of ESA boundaries. Resources, including drainages and biological ESAs, were delineated with signage and fencing prior to occupation of the yards. For example, in October 2010, a number of sensitive milk-vetch populations were flagged with ESA signage at the Rough Acres Yard. Where appropriate, topsoil and plant salvage was conducted. In August 2011, cholla salvage occurred at the Fromm Yard. Depending on the season, exclusion fencing was installed. In April 2011, wildlife exclusionary fencing was installed on the access road to the Kreuzkamp Yard. FTHL exclusionary fencing was installed in July 2011, at the S2, Plaster City, and Dunaway Yards prior to 24-hour construction in Imperial County. Daily barefoot banded gecko sweeps occurred near appropriate habitat. Mitigation measures and permit requirements to protect wildlife and habitat were implemented. All trenches were ramped or sloped to prevent wildlife entrapment. In compliance with Mitigation Measure B-3a and the Weed Management Plan, wash stations were installed at yards in order to wash equipment and vehicles to prevent the spread of noxious weeds between different locations of the project area. Weed wash logs were maintained throughout construction. An internal noxious weed audit was conducted at the JVR, Kreuzkamp, SWAT, and Bartlett-Hauser Yards by SDG&E in April 2011. In March 2011 crews repaired water-filled ruts at the Wilson Yard to prevent possible egg laying by sensitive amphibians. The AER and Fromm Yards were located within PBS habitat and subject to compliance with the PBS Construction Monitoring Plan, which permitted access to the yards only from October 1 to December 31 and required approved Biological Monitors to review areas of the yard and surroundings daily to ensure that PBS were not in the area and would not be disturbed by yard activities. On June 24, 2011, the period of access was extended by the wildlife agencies to July 1 through December 31.

A significant number of avian surveys and sweeps were conducted prior to and during use of the yards. During nesting season, Biological Monitors and Avian Monitors conducted sweeps of the yards and yard access roads, noting nesting activity and establishing appropriate buffers around any nests. Three burrowing owls were believed to be present within the Thomas Yard. A survey report for burrowing owl at the Thomas Yard was submitted on January 6, 2011. Bird buffers were established and ESA signage was put in place at all nest sites, which occurred 500 feet from construction-related activity. At times, bird nest buffers interfered with yard use and access or created compliance issues. From March through May 2012, overland access to Helix Yard was constrained due to a least Bell's vireo nest buffer. El Monte Yard was located less than 0.3 miles southwest of the El Monte Golden Eagle Buffer. During helicopter operations, pilots were repeatedly reminded that they must avoid the buffer during the golden eagle breeding season which extended from December



Photo 33: Crews attempting to deter nesting birds with plastic wrap on equipment at Kreuzkamp Yard, Link 2.

through June. On April 14, 2011, it was noted to SDG&E that the size of a nesting bird buffer within the Wilson Fly Yard had been reduced without USFWS and CDFW approval. Corrective action was taken immediately and the nesting birds appeared to be unaffected according to the on-site biologist. In order to deter birds from building nests on materials and equipment stored in the yards, netting and other nesting deterrents were installed on equipment and materials.

While many of the yards were on previously disturbed sites, many provided suitable habitat for wildlife. During the project, impacts to local non-sensitive species and species of special concern were reported, including relocations and fatal impacts. The list below identifies the instances of adverse effect. Species marked with an asterisk (*) are sensitive species.

■ Wildlife killed:

- 5 California silvery legless lizards*
- 7 Two-striped garter snakes (one was dropped by a hawk)*
- Southern pacific rattlesnake
- Anna's hummingbird
- Coastal whiptail
- 3 San Diego ringnecked snakes
- 10 Coast patch-nosed snakes*
- 3 Flat-tail horned lizards*
- Olive-sided flycatchers
- Red diamond rattlesnakes
- Brewer's blackbird (not project-related)
- Barn owl
- Coast horned lizard*
- California quail
- Coastal rosy boa*
- Northern three-lined boa

■ Wildlife relocated:

- 34 San Diego coast horned lizards*
- 75 Two-striped garter snakes*
- 20 Coronado skinks*
- 27 flat-tail horned lizards*
- 48 coast patch-nosed snakes*
- 2,335 juvenile western toads and 15 adult western toads
- 6 Gopher snakes
- 8 Tiger whiptail lizards
- 6 Red diamond rattlesnakes
- Long-nosed snake
- 3 California meadow voles
- Deer mouse
- Wolf spider
- Kangaroo rat
- Side-blotched lizard
- Striped-tail scorpion
- 4 pacific tree frogs

- 2 Western fence lizards
- Northwest pocket mouse
- 7 baja chorus frogs
- 2 Southwest speckled rattlesnakes
- Southern pacific rattlesnake
- 2 San Diego pallid pocket mice
- 3 San Diego ringnecked snakes
- 2 San Diego desert woodrats
- 2 Silvery legless lizards

Kreutzkamp Yard was located in a remote part of San Diego County less than 5 miles north of the Mexican border; therefore, it was routinely patrolled by U.S. Border Patrol agents. The routine patrols conducted by the U.S. Border Patrol along the access road resulted in a higher number of snake deaths in this area than at other construction yards.

In addition to the above-listed project-related fatalities and relocations, several other wildlife issues were noted during use of the yards. In mid-October 2010, a Belding's orange-throated whiptail, a state species of concern, was observed at the Alpine Yard. It appeared to be affected by construction activities in the area. Weed abatement activities were diverted in order to avoid disturbing the bird. Aged remains of a burrowing owl chick were found during a routine survey of an unoccupied area of the Thomas Yard in November 2010. Due to the aged condition of the chick, it appeared that the death had occurred prior to use of the yard. On November 29, 2010, another dead burrowing owl was found at the Thomas Yard. The owl appeared to have been a victim of a feral cat and was found 500+ feet from active construction.

Archaeological and Native American monitors worked with crews to define approved work areas and ESA sites to avoid. In January 2011, an unanticipated cultural discovery was made at the Wilson Yard by the Native American Monitor. The area was flagged for avoidance. Another unanticipated cultural discovery was made at Dunaway Yard in May 2011. Some metavolcanic debitage (rock chips), a metavolcanic biface (two-faced hand axe), and metavolcanic interior flakes (flakes from the interior of the original rock) were discovered at the Rough Acres Yard by the Native American Monitor. The procedures and guidelines for Treatment for Unanticipated Discoveries as set forth in the Final Historic Properties Management Plan were implemented. The sites were recorded and ESA flagging was installed with no impact.



Photo 34: Stormwater BMPs improved at the Bartlett-Hauser Yard, Link 2.

SWPPP requirement adherence and BMP installation and maintenance were a major effort at all of the yards. BMPs were installed in accordance with the appropriate SWPPP and maintained and repaired as necessary throughout the duration of the project. Street sweeping and rumble plate installation and cleaning occurred as necessary. For example, in March 2011, ESA flagging was installed around a seep coming into the Kreutzkamp Yard. Reviews were performed in March 2011 at the Rough Acres and JVR Yards with representatives from SDG&E, SWRCB, and USFS. A review of the Bartlett-Hauser Yard also

was performed in March 2011 with a representative from SWRCB and the CPUC LEM. Several issues were reported by SDG&E during construction. During site preparation, the Bartlett-Hauser Yard was stripped

of all vegetation with the exception of several oak trees. Removal of the vegetation from the yard caused a significant runoff problem, which was remedied by installation of a large gabion wall at the southeastern edge of the yard. BMPs at the Bartlett-Hausser Yard needed repairs repeatedly and were again breached in March 2011. Another notable SWPPP issue occurred when a release of approximately 1000 gallons of potable water was made by a subcontractor's water delivery truck near Evan Hewes Highway, west of Painted Gorge Road in Ocotillo. The potable water reached Coyote Wash. The release was reported to USACE, SWRCB, and CDFW.

Hazardous materials and associated releases were monitored during construction. Because the Alpine Yard radio system contained lead-acid batteries, a Hazardous Materials Business Plan was submitted. A Hazardous Materials Business Plan and Spill Prevention, Control and Countermeasures Plan (SPCC) also were developed for the Rough Acres Yard. Numerous small hazardous materials spills and releases occurred at the yards. For example, a hydrocarbon sheen was observed floating on rainwater that had collected in a rubber basin at a fueling station in the JVR Yard. Absorbent pads were used to remove the sheen and the liquid was pumped into a water truck. In March 2011 a fuel spill at the JVR Yard occurred where approximately ten gallons was released and resulted in after-hours work on March 31, 2011, to contain the material and remove stained soil. Appropriate reporting was made to the San Diego Stormwater Hotline for all spills. Other types of hazardous material issues occurred. For example, heavy winds at the Alpine Construction Yard caused a portable toilet to blow over on October 27, 2010. The toilet was righted and the spilled contents were cleaned and removed.

Unexploded ordinance (UXO) was discovered at the Dunaway Yard in May 2011. The appropriate agencies were notified and the UXO was destroyed onsite by the Imperial County Bomb Squad.

The Project Fire Plan also was monitored. Yards were mowed and vegetation was cleared to keep potential fire sources at a minimum.

All yards were watered frequently to control fugitive dust. However, fugitive dust was observed on several occasions. Imperial County Air Pollution Control District (ICAPCD) filed a notice of violation on October 6, 2011, at the Plaster City Yard when opacity exceeded regulatory standards. On January 23, 2012, it was reported that a significant amount of dust was seen coming from the closed S2 Yard over the weekend. A new watering and monitoring schedule was provided and a thicker layer of tackifier was applied to the yard. On April 24, 2012, a significant amount of dust was observed at the McCain Valley Yard. The dust was a result of Aircrane operations in the yard. Improved coordination among contractors for yard watering was initiated the following day.

Trash control was an ongoing effort at the yards. Several times SDG&E needed to be reminded that trash was becoming a problem. On October 5, 2011, the SDG&E Link Lead was advised that trash was accumulating in the cultural ESAs due to high winds at the Fromm Yard. On November 16, 2011, the SDG&E Link Lead was notified that trash was blowing around at Wilson Yard due to downwash from the Aircrane. Steps were taken to ensure that all trash bins in yards were covered.

The construction yards were analyzed for traffic impacts. Per the Traffic Circulation Systems Impact Analysis conducted by KOA Corporation and dated February 22, 2010, no Traffic Control Plan was required for the Alpine Yard or Alpine Regional Field Offices. The report indicated that local intersections were operating at acceptable levels with projected project traffic.

The final projectwide traffic impact study was submitted to the CPUC on April 28, 2010, and was approved by San Diego County on September 29, 2010. The study found that the temporary additional traffic created by the yards was expected not to have any significant impacts.

The yards were monitored for visual impacts. In accordance with Mitigation Measure V-1a, “Reduce visibility of construction activities and equipment,” SDG&E installed slats in the perimeter fencing at a number of yards. As helicopter construction activities commenced, it was quickly discovered that the fencing slats created a wind barrier and that helicopter rotor wash was causing fences to be blown over. In an effort to prevent this from reoccurring, SDG&E installed screening materials that did not impede air movement as much as the slats. Visual screening blankets were tested for helicopter operations at Bartlett-Hauser Construction Yard on May 13, 2011. The material failed. A findings memorandum was submitted on May 24, which proposed amendments for visual screening. The amendments were approved by the CPUC under Variance #14, after validation by the CPUC’s visual expert.

SDG&E’s construction contractor performed 24-hour construction activities, including structure assembly within Imperial County throughout the months of July and August 2011. The night work was required because the tower steel was too hot to handle during the day. In accordance with the Revised Construction Lighting Mitigation Plan approved on July 7, 2011, SDG&E’s construction contractor performed nighttime construction activities at the S2, Plaster City, and Dunaway Yards. CPUC EMs routinely inspected the nighttime activities and reported findings to SDG&E. The number and angle of lights were adjusted to lessen the light plants’ impacts on the surrounding environment. A number of public complaints were logged during this activity at the S2 Yard. All complaints were reviewed and addressed as they came in.

Public complaints were monitored. SDG&E reported several complaints made to the Public Complaint Hotline regarding the yards. SDG&E received notification of a complaint August 9 from a resident in the vicinity of the Bartlett-Hauser Construction Yard. Water trucks were repeatedly working before 7:00 a.m. and were alleged to be using groundwater. The yard had a tank that was refilled by a tanker truck. After investigation, it was determined that the activity in question was that of a contractor working on a Border Patrol project not affiliated with the Sunrise Powerlink Project. SDG&E and its contractors ensured that all construction activities occurred during approved work hours.

During the December 9, 2009, groundbreaking ceremony at the Rough Acres Yard, public protestors were present.

5.7 Other Project Upgrades

5.7.1 White Star Communication Facility Upgrades

Upgrades at San Diego County’s White Star Communications facility were undertaken to alleviate existing operational issues and to support the addition of the Sunrise Powerlink to the existing SDG&E system. White Star Communications Facility upgrades were not directly connected to Sunrise Powerlink construction.

The upgrades occurred at the existing White Star Communications facility, owned and operated by the County of San Diego. SDG&E has an easement along the eastern side of the facility, where an SDG&E-owned and operated communication facility exists. Upgrades at the White Star facility included installation of a new 75-foot-tall 54-inch-diameter steel monopole, and removal of two existing 75-foot-tall wood poles. Three new microwave antenna dishes were mounted on the new steel pole. The existing equipment shelter was retrofitted to house new microwave communications equipment. An existing propane tank was replaced with a new propane tank.

NTP #7 for the White Star Communications facility was issued September 28, 2010. The White Star Communications facility kickoff meeting was conducted on October 27, 2010, to review construction activities and environmental concerns. SWEAP training was conducted for subcontractors working at the site. Site

preparation, including fence removal, occurred, and construction started soon after. By mid-November 2010, installation work was completed at the White Star facility.

Variations and TEWS

No variations were requested specific to White Star facility work. On November 1, 2010, one TEWS was issued for the construction vehicles within the adjacent Cal Fire parking lot at the White Star facility.

Environmental Compliance

No PMs or NCRs were issued for White Star construction. Biological Monitors conducted pre-construction surveys and conducted sweeps immediately preceding construction and were present during active construction. BMPs were installed and maintained as necessary.

On November 1, 2010, a rebar foundation cage was placed outside of the limits of construction by the delivery crew. It was immediately removed and no ESAs were involved. The site was inspected by the CPUC LEM and “drive and crush” damage was found. A Project Biologist verified that no sensitive species were damaged; no sensitive species had been previously identified at the site and the area was not included within an ESA. It was emphasized to SDG&E Project Managers that work areas need to be clearly delineated and their locations communicated during daily tailboards.

5.8 Helicopter Use during Construction

The 117.2-mile Sunrise Powerlink Project was one of the largest helicopter-supported construction projects on record. By the time the line was energized, the project had logged nearly 30,000 flight hours, with as many as 240 to 300 flights a day. The use of a large helicopter fleet on a linear project of this type was a learning experience for the utility, CPUC, and the federal and state agencies with jurisdiction over various aspects of the project.

During construction planning and as documented in the Final Project Modification Report (PMR), SDG&E determined that it would build over half of its transmission structures (233 of 438) using helicopters rather than traditional ground-based equipment. This was a substantial increase in helicopter use over what was anticipated originally. However, by using helicopters, the utility avoided constructing 74 miles of access roads to remote tower sites, and in doing so was able to reduce ground disturbance impacts, avoiding the need to mitigate these unrealized impacts. SDG&E identified that it also allowed for more efficient use of construction labor. Crews could assemble multiple tower sections in assembly-line fashion at yards rather than move from site to site to assemble the lattice towers. From the yards, tower sections were flown to the sites, lowered into place, and bolted together.



Photo 35: Aircrane and KMAX helicopters during tower assembly activities in El Monte Valley.

SDG&E established 20 construction and fly yards at various locations along the transmission corridor to support construction on nearby segments of the line. Many of the yards supported both helicopter landing facilities and large cleared areas dedicated to tower section assembly and material storage. When

helicopter activity was high, a yard generally had an on-site Flight Coordinator and/or Air Traffic Advisor to manage air traffic in and out of the yard. These personnel moved from yard to yard, depending on the level of activity at a particular yard on a particular day. The Coordinator/Advisor maintained radio contact with the pilots, who also were in contact with each other. Yards had a prepared rock pad area designated for aircraft to land, where they could park, pick up or discharge passengers and internal cargo, and refuel. Depending on needs, cargo could be loaded or attached at the landing sites or picked up elsewhere in the yard by hovering. For “picking” tower sections and larger loads, heavy-lift helicopters would hover with suspended cargo cables, which were attached by ground crews to the external load to be lifted out.

The number of helicopters working on the project at any one time varied, but the fleet consisted of up to 40 aircraft at its busiest. Helicopters served two primary functions: construction support and passenger-carrying. In addition to SDG&E and PAR helicopters, PAR contracted with a number of small helicopter companies to provide much of the fleet and pilots. SDG&E aircraft (including the Aircrane) were stationed at Gillespie Field in El Cajon, San Diego County, from where they deployed daily to construction yards and construction sites. PAR-contracted helicopters were staged at larger yards near the work areas, where there was sufficient space. Flight schedules were set each evening for the next day, based on work plans for that day and the need to haul material and ferrying crews.

At inaccessible or remote tower sites, helicopters would airlift in some or all of the equipment needed to prepare a site and install foundation footings. When tower erection was to occur, work and monitor crews would drive, hike, or be flown to the site. Tools and parts would be flown in, followed by pre-assembled tower sections. These would be lowered in place by an Aircrane, with observer helicopters hovering nearby as spotter aircraft. Once a section was set, the cargo cables would be released and the towers would be loosely bolted together by the ground crew. After all sections were assembled, the bolts would be adjusted to the appropriate torque. Helicopters also were employed for conductor stringing operations.

Prior to being authorized to fly in helicopters, all personnel were required to receive training on the proper procedures to follow when approaching, riding in, and departing helicopters. Rigging crew members responsible for preparing loads and attaching them to helicopters were required to have appropriate qualifications, including suitable training and experience. Pilots were required to have appropriate FAA certificates and to have experience in helicopter-based construction. Daily tailboard meetings with crews served as opportunities to remind personnel of safety concerns and requirements. Typically, after any significant helicopter incidents, additional/remedial training sessions were conducted for all applicable SDG&E and PAR staff. CPUC EMs also would attend.

SDG&E established a helicopter operations base within the Alpine Regional Field Offices. Sunrise Base, as the flight center was known, was capable of two-way communication with pilots and could automatically track a helicopter’s general position based on signals received at 2-minute intervals. Sunrise Base was created primarily for tracking remote worker locations for safety and not for tracking the helicopter movements. Each aircraft had a GPS unit capable of displaying for the pilot flight corridors, no-fly areas, bird nest avoidance buffers, and other information. The GPS units recorded helicopter position data on a 2- to 4-second interval. Initially, this information was deleted every evening when new data were uploaded for the next day’s flights.

Improvements were made to flight-following recordkeeping during the course of the project, in response to the need to have more accurate information in order to confirm or refute allegations of helicopters being in locations where they were not supposed to be. Rather than deleting the data at the end of the day, the information now was downloaded and forwarded to the SDG&E Aviation Management Office at

Gillespie Field for archiving and, upon request, for review by CPUC or others. Initially, only SDG&E collected the data, but after issues arose involving PAR helicopter flights, the information for PAR and sub-contractors was collected and kept as well. The data were valuable in identifying whether violations of no fly areas had occurred and in determining where and when helicopters had flown. This provided CPUC and SDG&E specific information to use when addressing complaints and allegations.

Several incidents and accidents occurred during helicopter operations that resulted in two Stop Work Orders. Section 7.1 provides detail for helicopter incidents.

6. Compliance Monitoring & Reporting

The initiation of construction was dictated by issuance of NTPs for given locations or line segments. After these approvals, work and work locations were largely determined by biological resource buffers. This was especially true in the Mountain Springs Grade area, where the seasonal PBS exclusion buffer was a significant factor. Also, the threat of wildfire in the San Diego County region is high. The threat of fire ignitions was of great concern across the entire project. Crews could not work during red flag warning days. On USFS lands Ev warning days were enforced. Biological monitors were present for surveys, survey sweeps immediately preceding construction, vegetation clearing, and ground disturbing activities. Depending on the location and sensitivity of resources, biological monitors would either be present for all activities or when appropriate would conduct spot checks throughout construction. Archaeological, paleontological, and Native American monitors were present depending on area resources and/or ground disturbing activities. Monitors ensured implementation of all applicable mitigation measures, permits and plans, and the integrity of ESA boundaries. SDG&E assigned Steve Riggs as the Environmental Field Monitor. He provided oversight of the SDG&E site monitors and traveled the work areas to observe and document adherence to all mitigation measures, including but not limited to ensuring personnel were trained for proper use of chemicals, refueling vehicles, spill prevention and response and proper storage and disposal of hazardous and solid waste. Steve Riggs also served as a point of contact for the CPUC EMs.

The CPUC EMs ensured that appropriate monitoring was being conducted by SDG&E and documented all observations and communications in their logbooks. The CPUC EMs determined whether the observed construction activities were consistent with mitigation measure and APM requirements, permit conditions, and project parameters, as identified in the Final EIR/EIS and PMR adopted by the CPUC. All compliance issues, regardless of level, were documented in the daily/weekly reports, which were provided to all agencies. The weekly reports were posted to the CPUC Sunrise Powerlink Project website:

<http://www.cpuc.ca.gov/environment/info/asper/sunrise/reports.htm>

6.1 Monitoring

Any regulatory agency with jurisdiction over an area or resource had the authority to issue compliance violations regardless of any actions taken by the CPUC and BLM.

When a construction activity or resource protection measure deviated only slightly from project requirements and did not put a resource at immediate risk, the CPUC EM would issue a verbal warning. If the issue was not remedied or repeated incidents of a similar nature occurred, the CPUC EM could elect to record the issue as an incident or issue a Project Memorandum (PM) to get the issue resolved. An example of an incident documented for the Sunrise Powerlink was construction vehicles being outside of approved work areas but causing no resource damage. See Section 6.5 for a discussion of project incidents. An example of a PM is PM #2, issued for unauthorized ground disturbance. See Section 6.2 for a full discussion of PMs issued.

A construction activity that deviated from permit conditions or mitigation measures, particularly when the activity put a resource at risk, was considered a Non-Compliance. Non-Compliance Reports (NCRs) also were issued if mitigation measures and/or permit conditions were not implemented according to applicable timing requirements. NCRs were issued if similar violations as documented by the PMs continued to occur. See Sections 6.2, 6.3, and 6.4 for discussions of project NCRs.

The CPUC EM immediately notified the designated SDG&E representatives, including the Environmental Field Monitor, of non-compliances that required immediate corrective action. Immediate notification was also provided to the CPUC Project Manager and BLM Field Manager. All CPUC NCRs and some PMs were sent to SDG&E from the CPUC Project Manager. These outlined the issue, listed actions required to bring the activity into compliance, and provided a timeline for follow-up.

Through the issuance of PMs and NCRs, patterns of non-compliance were discerned, preventative measures were developed where possible, and remedial work was scheduled, if needed.

Incident reports were also tracked in the weekly reports. Incidents that individually might not be considered non-compliance could become a non-compliance issue if after the initial non-compliance the activity was observed and documented as continuing. In other words, repeated incidences resulted in non-compliance. In the case of helicopter operation, repeated incidents led to a helicopter shutdown initiated by the CPUC. On USFS lands repeated infractions of the Fire Plan led to a shutdown on USFS lands.

Project compliance and non-compliance violation levels and the specific corrective actions are defined in Section 3.3.3.

6.1.1 State, Private & BLM Land Monitoring

The lead agencies, the CPUC and BLM, were supported by the CPUC EMs, who served as day-to-day in-field representatives ensuring compliance with the MMRCP. The Sunrise Powerlink covered multiple biological regions, including desert floor, high desert, desert scrub, chaparral, grassland, fresh water and stream, riparian forest and woodland, coastal and montane scrub, and metropolitan disturbed communities. Due to the variation in resources across the project area and the variation in mitigation measures each region required, for efficiency and the best deployment of monitors, CPUC EMs were assigned particular portions of the project. The LEM roamed the entire project based on need. CPUC EMs would reach active construction sites by vehicle or helicopter. Upon arrival, CPUC EMs would communicate with construction workers and on-site SDG&E monitors (if present) to ensure all safety protocols were reviewed. CPUC EMs noted site details (e.g., ESAs, SWPPP compliance, disturbance boundaries), photographed activities, and noted any compliance issues they encountered. Compliance issues would be brought to the attention of on-site personnel, recapped during the daily check-in call with SDG&E environmental representatives, and noted in the incident table in CPUC's weekly reports. If a compliance issue surfaced repeatedly, and/or resources were threatened or complete disregard for adherence to project requirements was observed, SDG&E, the CPUC Project Manager, and the BLM Project and Field Managers would be notified immediately by the CPUC EM. A PM or NCR would be issued, by the lead agency representatives. Further information on the PM and NCR process can be found in Section 6.2.

6.1.2 USFS Monitoring

USFS land was monitored by USFS monitors with the assistance of CPUC EMs. USFS monitors maintained a heightened awareness of compliance with the Fire Plan and SWPPP. USFS concentrated on ensuring compliance with these plans. The CPUC EMs supplemented USFS monitoring by ensuring compliance with the remaining project documents and USFS permit requirements. USFS monitors had restricted access to project helicopters. Since the CPUC EMs did not have restricted access, they could assist in the review of remote locations only accessible by helicopter. The CPUC EMs would relay any compliance concerns to the USFS monitoring group for consideration and follow-up. For project continuity, the CPUC LEM met weekly with the USFS monitoring group to discuss any trending compliance issues and review any issues that had arisen over the week on private and BLM lands. All items noted by the CPUC EMs during their

review of USFS lands were included in CPUC weekly report’s Incident Table. USFS-issued Non-Compliances also were noted in the CPUC weekly report.

6.1.3 Miramar Monitoring

MCAS Miramar was monitored by its own biological department. The CPUC EMs were not involved in any compliance monitoring on MCAS Miramar land. Information on construction progress at MCAS Miramar was documented by SDG&E and provided to the CPUC EMs.

6.2 NCRs, PMs, and Stop Work Orders on Private Land and BLM Land

The CPUC issued seven PMs over the course of project construction. The majority of the violations resulted from crews and/or equipment (including helicopters) repeatedly entering unauthorized work areas, not having biological “sweeps” performed prior to their entry onto a site, or not having required monitors present. Others were the result of SDG&E crews conducting activities without required prior authorization of a resource agency or not providing timely notifications to the agencies. A total of six NCRs and one Stop Work Order were issued to SDG&E by the CPUC. Three NCRs were a result of repeated violations of the PBS Construction Monitoring Plan. Two NCRs were issued for crews breaching cultural and desert pavement ESAs and for notification failures. Lastly, one NCR was issued for the repeated improper rigging of external loads to helicopters after the Loose-Load Containment Program was initiated by SDG&E.

A Stop Work Order for helicopter operations was issued by the CPUC as a result of a series of eight helicopter safety incidents. Helicopter safety issues are covered in greater detail in Section 7.1. These incidents included unreported helicopter rotor strikes of objects and the dropping of external loads inflight as a result of mechanical or rigging failures. A summary of the PMs and NCRs is provided in Table 5.

Table 5. Non-Compliance Reports, Project Memoranda, and Stop Work Orders for Private and BLM Lands

Type	Date	Location	Description
PM #1	12/07/10	Thomas Yard	Failure to report unanticipated biological resources within 48 hours.
PM #2	02/11/11	EP 242, Link 1	Unauthorized ground disturbance at EP 242
PM #3	03/15/11	CP 67-3, Link 5	Staking crews delivered by helicopters operating within golden eagle Buffer area.
PM #4	04/06/11	Swat Yard	Unauthorized Nest Removal from a water truck at SWAT Construction Yard.
PM #5	05/16/11	EP 340, Link 1	Operation of water trucks outside of approved disturbance areas at EP-340, in desert pavement area. Violation of Desert Pavement Plan.
PM #6	09/16/11	EP 271, Link 1	Beginning construction activities in sensitive barefoot banded gecko habitat prior to the arrival of required biological monitor.
CPUC Stop Work Order	09/27/11	Helicopter operations	A pattern of helicopter incidents that posed a risk to public and worker safety.
PM #7	09/28/11	AER CY	Construction crew entered AER Construction Yard prior to a Peninsular Bighorn Sheep monitor clearing the site.
NCR #1	09/28/11	Link 1	Breaching a marked ESA, construction activity without proper monitor present, and failing to communicate the event in a timely fashion.
NCR #2	10/27/11	Link 1	Peninsular Bighorn Sheep Construction Monitoring Plan violations.
NCR #3	12/29/11	Link 1	Peninsular Bighorn Sheep Construction Monitoring Plan violations.
NCR #4	01/04/12	Link 1	Peninsular Bighorn Sheep Construction Monitoring Plan violations.

Table 5. Non-Compliance Reports, Project Memoranda, and Stop Work Orders for Private and BLM Lands

Type	Date	Location	Description
NCR #5	02/08/12	Link 1	Construction outside of approved workspaces, intrusion into an ESA, and violation of Desert Pavement Plan.
NCR #6	04/13/12	Links 1, 2, & 5	Repeated load carrying without appropriate netting.

6.3 Non-Compliance & Shutdowns for USFS Land

The USFS issued five FS NCRs during construction. FS NCRs #1 and #2 were issued for Fire Plan and Traffic Control Plan violations. On January 7, 2012, the Fire Plan was violated again and a FS Stop Work Order was issued for work on USFS Land. FS NCR #3 was issued when problems with the color of installed structures were discovered. The Scenery Conservation Plan had not been appropriately implemented. Tower assembly, erection, and wire stringing work was suspended at specific locations. FS NCR #4 was issued for failure to make appropriate and timely notification to the USFS, and FS NCR #5 was issued for helicopter incursions into golden eagle habitat buffers. See Table 6.

Scenery Conservation Plan Implementation Compliance (FS NCR #3)

Preparation of a USFS-approved Scenery Conservation Plan (Plan) was a requirement of Mitigation Measure V-45a of the Sunrise Powerlink Project EIS/EIR. The majority of the Plan consisted of: (1) an analysis of structure access and spur roads in order to minimize road visibility and any associated visual contrast on the CNF; and (2) a transmission structure color analysis and structure color assignment. Michael Clayton (Visual Resources consultant subcontracted to Aspen) and Kermit Johansson of the USFS conducted a color assessment of all structures on the CNF to determine the appropriate shade of gray for the structures. The initial color assignment report was produced in June 2009. However, the report was revised several times between July 2009 and December 2010 because: (1) SDG&E made various route changes, necessitating reassessment of color assignments; (2) SDG&E and its suppliers had difficulty achieving stable color results; and (3) SDG&E and its suppliers continued to change the steel treatment process, which resulted in steel being different from the approved colors.

In late 2011, it was discovered that SDG&E had installed 13 structures of the wrong color in the CNF and had an additional 10 partially assembled structures of the wrong color in construction yards awaiting installation in the CNF. In January 2012, the CPUC Visual Resources consultant was asked to participate in a Non-compliance and Compensation Analysis with USFS staff and SDG&E's visual resources consultant. The impacts to middle-ground views caused by the 13 installed non-compliant structures resulted in a requirement for SDG&E to compensate the CNF with a combination of mitigation land and funding equivalent to 391 acres, up to an average cost of \$10,000 per acre. The 10 partially assembled non-compliant structures were manually treated with Natina Steel, a coloring treatment, before installation in the CNF. All 23 structures are subject to a reopener clause, which could require additional treatment and/or compensation if the structures do not exhibit satisfactory appearance at the end of two years.

Table 6. USFS Non-Compliances (NCR) Stop Work Orders

Type	Date	Location	Description
FS NCR #1	10/27/11	Links 2 & 5	FS SUP Exhibit 4 and Traffic Control Plan violations.
FS NCR #2	11/03/11	Links 2 & 5	Fire Plan and Traffic Control Plan violations.
FS NCR #3	11/30/11	Links 2 & 5	Tower assembly, erection, and wire stringing work is suspended for towers not associated with golden eagle buffers on the CNF until resolution of all non-compliant color issues are agreed upon by the USFS

Table 6. USFS Non-Compliances (NCR) Stop Work Orders

Type	Date	Location	Description
FS Stop Work Order	01/07/12	Links 2 & 5	Third non-compliance for violating the USFS Fire Plan.
FS NCR #4	02/01/12	Link 2	Failure to make timely notification following rope/wire drop between CP 100 to CP 99.
FS NCR #5	02/06/12	Links 2 & 5	Helicopter incursions into Golden Eagle Habitat Buffers.

6.4 Department of the Army and State Water Resources Control Board Non-Compliances

On March 8, 2011, the USACE issued a Notice of Non-Compliance with permit conditions (enforcement case No. SPL-2007-00704SAS). Based on information observed by the SWRCB and reported to the USACE following a site visit to the Suncrest Substation construction area on March 2, 2011, SDG&E was determined to be in non-compliance with Special Conditions of DA Permit No. SPL-2007-00704SAS 19, 21, and 23. SDG&E and the project’s Designated Biologist had not appropriately notified the USACE of stormwater/runoff issues and failed BMPs at the Suncrest Substation construction site.

As documented in the DA non-compliance letter, SDG&E did not comply with SWRCB Certification Number SB09015IN, including Administrative Conditions 8 and 10, and thus was in non-compliance with Special Condition No. 21. SDG&E had not successfully prevented sediment and excessive erosion from entering Waters of the U.S. during project construction, and therefore SDG&E was in non-compliance with Special Condition No. 23. The DA, under its non-compliance letter, stipulated resolution within 30 days. SDG&E responded to the letter and took actions to bring the situation back into compliance.



Photo 36: Marker balls staged inside of ESA signage at JVR Yard, Link 1.

6.5 Other Incidents

A total of 100 incidents occurred on private, BLM, and USFS lands during project construction. The incidents have been categorized according to whether they involved biological resources, cultural resources, fire, helicopters, safety, SWPPP or hazardous materials matters, off-ROW events, or were miscellaneous incidents. Some incidents could be listed in more than one category; however, to preclude double counting, each incident was listed only once and was placed where it seemed to fit best.

Biological Resources. Twenty-three biological resource incidents were noted throughout the construction of the project. An incident was considered a biological resource incident if it had the potential to impact a biological resource or violated sensitive species plans, permits, or mitigation measure requirements. See Table 7.

Table 7. Biological Resource Incidents

Date	Location	Biological Resource Incident Description
02/17/11	EP 244, Link 1	Nest incorrectly marked at entrance to EP 244.
03/12/11	EP 252, Link 1	Bulldozer delivered to a site prior to CPUC clearance being given.
04/07/11	JVR 12 kV, Link 1	A site was worked on prior to CPUC EM construction release for the area, no resources were damaged.
07/28/11	Link 1	Disturbance of an approximate 50' x 100' area occurred during the grading operations of the AER yard prior to approval. No resources were impacted.
09/08/11	Link 2	CPUC EM noted a water truck entering EP 91 after not having stopped at designated wash station. Corrective action was taken.
09/12/11	Link 5	Crew performed minor clearing prior to the arrival of biological monitor.
09/13/11	Link 5	Crew performed minor clearing prior to the arrival of biological monitor.
09/23/11	Link 1	Improperly covered foundation holes were noted to the Link Lead. Follow-up was performed with crews.
10/12/11	Link 1	A drill rig pulled to the side of the access road near EP 185/EP 186 and inadvertently crushed vegetation.
12/22/11	Link 1	PBHS habitat violation with entry into Fromm Yard prior to clearance from PBHS biologists.
01/09/12	Link 2	Road crew operating without an arroyo toad Monitor present at EP 50, Arroyo Toad suitable habitat. Crew was retrained.
01/10/12	Link 2	Foundation crew damaged an oak tree during mobilization effort at EP 49. Crew was retrained.
01/17/12	Link 2	Crew entered access road to EP 73/74, arroyo toad suitable habitat, prior to the 2-hour waiting period following dawn and biological monitor clearance. Crew was spoken to and better signage installed.
01/18/12	Link 1	Assembly crew arrived at EP 177 prior to an approved bird survey. Crews were ushered out by on-site avian biologist performing a survey.
01/18/12	Link 1	Foundation crew entered PBHS habitat at EP 256 outside of approved work window. They were escorted out by monitors. The Foreman for crew was released by the project and a stand-down with Foreman and foreman occurred on 01/23/12.
01/20/12	Link 5	Wire dropped between CP 96 and CP 100 during wire operations. No resources were found to be damaged.
02/24/12	Link 2	Helicopter dragged a long line through vegetation outside of workspace at EP 109. Minor vegetation impacts occurred.
02/28/12	Link 1	Project activities were noted in PBHS areas outside of appropriate work window without concurrence from Wildlife Agencies provided to CPUC EMs.
03/27/12	Link 2	Vehicle was noted to be parked within a bird buffer near EP 90.
03/28/12	Link 2	Breaches in the arroyo toad exclusionary fencing between EP 65 and EP 69 were noted to the Link Lead.
04/20/12	Link 1	Bulldozer went off ROW during grading operations near EP 255. No sensitive biological or cultural resources were damaged.
04/25/12	Link 2	Holes were noted in the arroyo toad fence along the access road to EP 76. Crews were sent out to repair prior to rain event.
05/24/12	Link 2	During the removal of guard structure flower pots and guard poles at the EP 27-1 guard structure site, a small amount of vegetation was damaged. No sensitive resources or nests were damaged after assessment by Biological and Avian Monitors.

Cultural Resources. Three cultural resource incidents were noted. Cultural resource incidents posed potential harm within a culturally sensitive area. See Table 8.

Table 8. Cultural Resource Incidents

Date	Location	Cultural Resource Incident Description
08/22/11	Link 1	Crew member threw a rock and knocked down a rock cairn located within a Cultural ESA. Appropriate agencies were notified.
03/20/12	Link 1	Marker balls staged inside a noted ESA at the JVR Yard. They were immediately moved outside of the ESA and no impacts were noted.
04/09/12	Link 1	Crews not utilizing the designated path (which avoids an ESA) from TSAP to EP 137-1. A warning was given and crews were addressed.

Fire Incidents. There were four fire-related incidents throughout Sunrise Powerlink Project construction. Details are described below. See Table 9.

Table 9. Fire Incidents

Date	Location	Fire Incident Description
05/05/11	Link 4	Three small fires were reported on Link 4 Underground. Fire tools were used by the on-site fire patrol to immediately respond per the Sunrise Powerlink Project Fire Plan. Notification to Alpine Fire was made.
08/05/11	Link 3	Small fire resulted from excavation activities along BBTT burned an area approximately 50' x 50'. Notifications to appropriate agencies were made immediately.
08/15/11	Link 2	Sparks caused by a loose chain from a project vehicle dragged along the roadway started a 2-acre fire. The fire was extinguished and proper notifications were made.
09/19/11	Link 2	A small fire near EP 42 was started due to an excavator hitting a rock during grading operations. It was immediately put out by on-site personnel using their required fire supplies.

Helicopter Incidents. Twenty-four incidents were related to helicopter use on the project. Details appear below. See also Section 7.1, which details the helicopter incidents and a related Stop Work Order, and Table 10.

Table 10. Helicopter Incidents

Date	Location	Helicopter Use Incident Description
02/18/11	Alpine HQ	Emergency weather landing and storage of 3 helicopters at Alpine Regional Field Offices occurred.
06/07/11	Link 1	During the aerial delivery of a structure body to EP 339 approximately 200 ft. outside of Plaster City Yard, the piece fell from the Aircrane. No injuries reported.
06/10/11	Link 1	During the aerial delivery of a structure layback to EP 339, 3 of the 4 hooks released and caused an emergency placement of the steel at the site. While in the process of placing it on the ground, the 4th hook released and the tower fell to the ground. No injuries reported.
07/11/11	Link 1	A skid fell off the K-MAX Helicopter while en route to a tower site. The skid was within the project ROW and no injuries were reported. The item was retrieved on foot.
08/04/11	Link 1	An air compressor was dropped approximately 500 ft north of EP 327 from a K-MAX helicopter while in transit to a micropile site. Approximately 50-60 gallons of diesel was spilled in an area approximately 75' in diameter. The site had been cleared and appropriate agencies contacted.
09/19/11	Link 2	Two micropile pipes were dropped during helicopter operations near CP 107 and rolled downhill and injured a worker trying to stop them. Minor vegetation damage was noted by on-site biologist.

Table 10. Helicopter Incidents

Date	Location	Helicopter Use Incident Description
09/22/11	Link 3	Plywood load from helicopter dropped within substation boundaries. No injuries were reported.
09/26/11	Link 1	Straw wattles being carried by helicopter dropped into an open area. No injuries were reported.
10/19/11	Link 1	A door fell off a helicopter near Plaster City Yard close to EP 332. No injuries were reported.
11/09/11	Link 2	Landing of project helicopter occurred on unapproved disturbance areas.
12/03/11	Link 1	PBHS habitat violation with low elevation flights in restricted areas.
12/04/11	Link 1	PBHS habitat violation with low elevation flights in restricted areas.
12/27/11	Link 1	Two PBHS habitat violations with low elevation flights in restricted areas.
01/13/12	Link 2	An unanticipated release of a compressor mid-flight approximately 400ft north of Kruezkamp construction yard. No injuries or damage to property occurred.
01/19/12	Link 2	Bird strike occurred during helicopter operations near EP 33. Monitors on board believed the bird to be a swallow, but no remains were found to confirm.
01/24/12	Link 5	Helicopter breached the Golden Eagle (GE) buffer at Bell Bluff region approximately 621 feet. No resources impacted.
01/25/12	Link 5	Helicopter was noted by CPUC EM to have landed outside of approved project workspace. Correction was made immediately and discussion was conducted with pilot about landing in only approved areas.
01/26/12	Link 5	Helicopter breached the GE buffer at the Bell Bluff region approximately 521 feet. No resources impacted.
01/27/12	Link 2	Helicopter breached the GE buffer at the Thing Valley region approximately 161 feet. No resources impacted.
02/01/12	Link 2	Helicopter breached the GE buffer at the Thing Valley region. No resources impacted.
02/25/12	Link 5	Helicopter experienced a hard landing at the Sycamore construction yard and damage was incurred. No injuries or resource impacts were noted.
03/02/12	Link 2	K-MAX helicopter dropped cribbing near EP 5 with no reports of injuries or impacts.
03/14/12	Link 1	A helicopter noted to be operating prior to 7 a.m. at the Rough Acres Construction Yard.
03/27/12	Link 2	Two helicopters noted to be operating prior to 7 a.m. at the SWAT Construction Yard.

Off-ROW Incidents. A total of 19 off-ROW incidents were noted on the Sunrise Powerlink Project. See Table 11.

Table 11. Off-ROW Incidents

Date	Location	Off-ROW Incident Description
11/01/10	White Star	Delivery of a rebar cage occurred outside of the approved disturbance area.
05/17/11	Link 1	BMP crew drove off the road between EP 345 and EP 346 and parked within an ESA boundary.
07/07/11	Link 5	Construction vehicles, including a project fire truck, were noted to be outside of approved disturbance areas at CP 40 and CP 41. Link leads were notified and immediate corrective action was taken.
09/20/11	Link 1	Project vehicles were noted parking outside of the approved project disturbance area. Link Lead was notified and vehicles were immediately relocated.
09/21/11	Link 1	Dozer operator drove approximately 260 ft off of ROW near EP 322. The area was surveyed by Cultural and Biological Monitors.

Table 11. Off-ROW Incidents

Date	Location	Off-ROW Incident Description
11/15/11	Link 5	Off-ROW incident along access road to CP 65/66 pull-site.
11/16/11	Link 1	Off-ROW incident along access road to EP 226/227 pull-site.
01/12/12	Link 1	Parking along McCain Valley Rd. outside of designated disturbance areas. Link Leads corrected immediately.
01/12/12	Link 5	A dozer failure led to disturbance outside of approved ROW by 15 feet near CP 59. All personnel were safe and area restored.
01/18/12	Link 1	Concrete blocks were placed outside of approved disturbance area at EP 224/5 prior to the approval of Variance #37. To limit disturbance, blocks were left, but were not used until variance approval.
01/31/12	Link 1	Fuel tanker was refueling a smaller fuel truck for use by project helicopters in unapproved workspace near JVR Yard. Link Lead made immediate correction and spoke to crew.
02/13/12	Link 2	Several contractor vehicles were parked outside of the ROW on brush adjacent to Cameron Truck Trail near EP 109. Link Lead was contacted and issue was corrected.
03/12/12	Link 2	Vehicle parked outside approved workspace and within the drip line of an oak tree.
03/20/12	Link 1	Crew vehicles were parked outside of approved workspaces along Old Highway 80. Vehicles were immediately moved upon notification.
03/21/12	Link 1	Work equipment was placed outside of approved workspace via helicopter at EP 225. Corrective action was immediately taken upon notification.
03/22/12	Link 1	Vehicle parked outside of approved workspace near EP 205-1 and project personnel observed to be smoking in a non-designated area.
03/31/12	Link 1	Bulldozer parked outside of approved workspace along the access road to EP 236. The equipment was moved upon notification to the crew.
04/02/12	Link 1	Parking occurred in unapproved project areas near S-2 Yard. Immediate corrective action was taken upon notification to Link Lead.
04/04/12	Link 1	Crew truck parked outside of approved workspace along the access road to EP 236. Monitors placed additional signage along the road.

Safety Incidents. Seven safety incidents were noted during project construction. An incident was considered a safety incident when harm or potential harm to humans occurred. Please see Sections 7.2 and 7.3, which detail the safety incidents and the development of the Safety Incident Reporting Protocol. Also see Table 12.

Table 12. Safety Incidents

Date	Location	Safety Incident Description
08/13/11	Link 2	Accident occurred along Lyons Valley Rd, where a project truck went off the embankment by 300'. No injuries reported. Assessment team was sent to the site and notifications were made.
08/18/11	Link 2	An unsteady load caused a forklift to fall to its side at EP 91. A small spill of hydraulic fluid took place, all disturbance was contained within the established work area, and no injuries were reported.
09/15/11	Link 5	Micropile platform at CP 67-3 rolled 50' downhill after unstable placement. A helicopter removed it from the site to limit damage. Minor vegetation damage noted by on-site Biological Monitor.
11/03/11	Link 1	Injury occurred when a tower leg fell onsite. Disturbance occurred outside of approved areas. Biological/Cultural Monitors reviewed and found no resources to be damaged.

Table 12. Safety Incidents

Date	Location	Safety Incident Description
03/15/12	Link 5	One incident occurred when a crew member lost control of a piece of tower bracing which dropped, struck the tower, and then hit another crew member causing lacerations to both his legs.
04/17/12	Link 4	Cement truck was noted to be driving down Alpine Blvd with chutes open. Link Lead was contacted and contractor was informed.
10/05/12	Link 2	While installing anti-climbing guards on Tower EP 32, a PAR employee lost his footing and fell approx. 25 feet. 911 was called and employee was transported for emergency care/treatment. The employee was alert and stable when transported from the site.

SWPPP/Hazardous Materials Incidents. Seven incidents related to SWPPP implementation and/or hazardous materials occurred during project construction. See Table 13.

Table 13. SWPPP and/or Hazardous Materials Incidents

Date	Location	SWPPP and/or Hazardous Materials Incident Description
03/15/11	EP 214, Link 1	Crews dewatered approximately 1 gal of groundwater from an excavation hole without having submitted a dewatering plan to the CPUC.
07/07/11	Link 1	A project water tanker was stuck on the side of Evan Hewes Highway and released approximately 1,000 gallons of potable water into Coyote Wash. All necessary notifications were made.
09/20/11	Link 1	Trackout from EP 252 was noted to Link Lead and was immediately remedied.
09/21/11	Link 3	Approximately 800 gallons of potable water released from Northern Sediment basin. Appropriate agencies were notified.
10/12/11	Link 4	Approximately 50 gallons of diesel fuel was released immediately off of Puetz Valley Road. Site was cleaned and stained soils removed. Appropriate agencies were contacted.
11/05/11	Link 5	Sediment was noted off ROW at CP 55/56 access road.
11/22/11	Link 5	Trackout noted on El Monte Rd. from in/out of CP 64/65 pull-site. Street sweeper was dispatched.

Miscellaneous Incidents. An additional 13 miscellaneous incidents did not fall into any of the above categories. Most of the incidents concerned project-related dust or trash. See Table 14.

Table 14. Miscellaneous Incidents

Date	Location	Miscellaneous Incident Description
04/06/11	JVR 12 kV, Link 1	Confusion on approved work areas due to varying maps having been distributed to workers and monitors.
11/16/11	Link 3	Trash noted to be blown around during Aircrane activities at the Wilson Yard.
01/20/12	Link 5	Gate left open along access road to pull-site between CP 64/65 and released livestock that were present. Monitors were brought onsite to herd them back into the pen and ensure security of the gate.
02/27/12	Link 3	Trash was noted to Link Lead at the Wilson construction yard.
02/29/12	Link 1	Trash was noted to the Link Lead as being blown around JVR Yard during Aircrane operations.
03/08/12	Link 1	Trash noted in several areas along the ROW, particularly the mylar taping utilized for bird deterrents,
03/29/12	Link 1	Trash at EP 190 and dust on McCain Valley Road noted to the Link Lead.
04/10/12	Link 1	Trash was observed at EP 187 pull-site.

Table 14. Miscellaneous Incidents

Date	Location	Miscellaneous Incident Description
04/24/12	Link 1	Dust was noted to be seen at McCain Valley Construction Yard due to Aircrane operations.
05/08/12	Link 2	Speeding was noted to Link Lead to/from Bartlett-Hauser construction yard.
05/16/12	Link 2	Dust was noted at Kruetzkamp construction yard to the Link Lead during Aircrane operations.
05/22/12	Link 2	Speeding was noted to Link Lead to/from Bartlett-Hauser construction yard.
09/28/12	Link 1	Gate at AER Yard left past restoration.

7. Safety

7.1 Helicopter Incidents and Stop Work Orders

Section 5.6 details project helicopter operations. To reiterate, the 117.2-mile Sunrise Powerlink Project was one of the largest helicopter-supported construction projects on record. By the time it the line was energized, the project had logged nearly 30,000 flight hours, with as many as 240 to 300 flights a day. The use of a large helicopter fleet on a linear project of this type was a learning experience for the utility, CPUC, and the federal and State agencies with jurisdiction over various aspects of the project.

Rigging crew members responsible for preparing loads and attaching the loads to helicopters were required to have appropriate qualifications, including suitable training and experience. Pilots were required to have appropriate FAA certificates and to have experience in helicopter construction. Daily tailboard meetings with crews served as opportunities to remind personnel of safety concerns and requirements. Typically, after significant helicopter incidents (detailed below), additional/remedial training sessions were conducted for all applicable SDG&E and PAR staff. CPUC EMs also would attend.



Photo 37: Helicopter safety training refresher at SWAT Yard.

Several incidents and accidents occurred during helicopter operations which resulted in two stop work orders — an internal SDG&E Aircrane operations stop work order and, later, a CPUC-issued Stop Work Order grounding all project helicopter operations. The incidents included tower section drops by the Aircrane, a skid drop, a compressor drop, tail rotor strikes, bird buffer violations, hard landing incidents, and a timber drop.

Aircrane Tower Section Drops: On June 7, 2011, a 16,400-pound tower section suspended on four hooks was lifted out of SDG&E's Plaster City Yard by an Aircrane. About 5 seconds into the flight, when the Aircrane was about 150 feet above the ground, there was an "uncommanded release" of all four hooks on the lower hook system, releasing the tower section. The section landed on BLM land approximately 20 to 30 feet north of Evan Hewes Highway. Traffic controls were in place on the roadway and no one was injured. The helicopter reported the drop and returned to the yard; FAA was contacted and initiated an investigation along with Erickson Air-Crane, the manufacturer. Faulty wiring was suspected and was replaced. FAA considered the event an "incident" and not an "accident" ("accident" being reserved for when injury or death occurs or the aircraft is damaged). SDG&E conducted field tests of the hook system using concrete blocks to simulate a 16,000-pound load. SDG&E and Erickson concluded that the aircraft was safe to fly and it was placed back in service on June 10, 2011.



Photo 38: Tower section that fell on June 7, 2011, Link 1.

On the morning of June 10, 2011, after having earlier set in place four steel tower sections without incident, while lowering a tower section at a tower site, three of the four cable hooks on the Aircrane released unexpectedly. Using the remaining hook, the pilot lowered the section so that two of its four legs were on the ground. However, before the tower could be righted, the fourth hook released and the tower section toppled. FAA immediately suspended operation of the aircraft, which was returned to Erickson for a full investigation. It was discovered that the electronic mechanism controlling the cargo hooks was faulty. Erickson provided a replacement Aircrane fitted with an older hook system, one that pre-dated the new digital hook controls on the SDG&E aircraft. This replacement helicopter had conducted 280,000 separate lifts using the older system. After testing, including lifting, carrying, and releasing heavy loads, the FAA approved the aircraft to engage in operational lifts. CPUC concurred and on June 21 gave SDG&E permission to begin using the replacement helicopter.



Photo 39: Air compressor destroyed after falling from helicopter into a field.

Compressor Drop: On August 4, 2011, a 5,500-pound compressor was being transported beneath a K-MAX helicopter when the braided cargo cable from which it was suspended parted. The compressor fell approximately 200 feet, landing on BLM land outside of the transmission line ROW and spilling approximately 60 gallons of diesel fuel and 10 to 12 quarts of oil. The cable was rated for loads greater than what the compressor weighed. The cable was sent to a materials testing laboratory, which was unable to determine whether the cable was defective in manufacture or had been damaged by kinking or other means. The construction contractor ordered additional cables and straps, alternated them to avoid overuse, and inspected them prior to use.

ing laboratory, which was unable to determine whether the cable was defective in manufacture or had been damaged by kinking or other means. The construction contractor ordered additional cables and straps, alternated them to avoid overuse, and inspected them prior to use.

Tail Rotor Strikes: On September 13, 2011, Aspen learned from a third party that project pilots had twice during 2011 been involved in tail-rotor strikes that had gone unreported to the CPUC or FAA. Occurrences of these types are required to be reported to the FAA. The first event had occurred on February 12, 2011, when an Astar helicopter's tail rotor came in contact with a large rock. On August 23, 2011, an AS350 helicopter had struck a wooden post near a landing zone. When the FAA learned of the two tail rotor strikes, it initiated both an Incident Investigation and an Enforcement Action. The pilots were fired and FAA took enforcement actions, suspending their licenses to fly. When SDG&E was queried by the CPUC, SDG&E prepared a "Detailed Unanticipated Event Notification Form" for each event, submitted to the CPUC on September 21, 2011. It was not clear when SDG&E learned of the events, as the pilots and helicopters were from subcontractor firms and apparently had kept the events quiet.

Bird Buffer Violations: From December 16, 2011, through February, 14, 2012, CPUC received public complaints of several golden eagle buffer violations by project helicopters. On February 14, 2012, CPUC requested that SDG&E provide to CPUC archived GPS flight track data for this entire period. Upon Aspen review, more than 20 confirmed golden eagle buffer violations were noted. In response to this revelation, SDG&E expanded golden eagle no-fly buffers from 4000' to 4200' and a restricted fly zone was established from 4200' to 6000'. No further golden eagle buffer violations occurred subsequent to February 14, 2012. Beginning on February 22, 2012, CPUC/Aspen requested daily flight data around golden eagle buffers for review. Additionally, Aspen conducted weekly spot checks for any bird buffer violations adjacent to work areas with a high level of helicopter activity. Through the remainder of construction, weekly spot checks identified a number of raptor buffer violations that were all immediately reported to CPUC.

Hard Landing Incident: On February 25, 2012, according to SDG&E, a PAR-contracted helicopter was in a slow stable approach to the Sycamore Yard when, within 50 feet of the landing area, the aircraft was caught in an updraft. As the helicopter continued forward movement, the winds subsided and the helicopter made an abrupt descent from approximately 15 feet above the ground. The hard landing resulted in the helicopter skid being crushed into the cabin. The pilot was uninjured, no passengers were on board, and no external load was being transported. (The helicopter was coming into Sycamore Yard to have a cargo line attached.) CPUC, NTSB, and FAA were immediately notified, and the NTSB and FAA conducted investigations.

Timber Drop: On March 2, 2012, five pieces of timber separated from a 35-piece load and fell to the ground. SDG&E represented that the load was secured with appropriate chokers and a strap, but believed that, because of the timber pieces' irregular shapes, some may have worked loose. In flight, the load spun rapidly as it was being carried, likely causing some members to be ejected from the bundle. Consequently, a directive was issued to SDG&E by CPUC to address the continuing rigging problem. (See discussion under Stop Work Orders and Directives, below.)

Issues and allegations regarding flight paths, particularly with regard to entering nesting bird buffers and other no-fly areas or flying directly over structures while carrying suspended loads, generated numerous public complaints. To better track and monitor helicopter operations, CPUC directed SDG&E to collect, keep, and make available to CPUC information that was more sophisticated and useful than the 2- to 3-minute interval aircraft location pings received at Sunrise Base. This was achieved by saving the 2- to 4-second interval position data from the GPS units aboard each helicopter. The database helped in providing factual responses to complainants and in determining whether buffer areas were being violated. A resident's assertion that a helicopter flew "right over" a home or crossed a busy road without traffic control in place could be checked against the archived data, which showed aircraft positions relative to the ground as well as their altitude. Using this data, no assertion of a suspended load being flown over buildings was ever corroborated. The findings of an investigation were conveyed to the complaining resident, along with an explanation of where and when helicopters could fly and under what conditions. FAA contact telephone, email, and address information also was provided. In most instances the resident, while not happy about the helicopters operating in the area, accepted the explanations provided.

Aspen and FAA representatives in the San Diego Flight Standards District Office established a close working relationship on helicopter-related issues. Both the CPUC and FAA received complaints. When Aspen or the CPUC received allegations of violations of FAA regulations, the FAA was notified. The FAA was kept apprised of the CPUC's efforts in monitoring helicopter activity; this allowed both the CPUC and FAA to share consistent information with callers. Based on discussions with the FAA, CPUC/Aspen was able to tell people what was and was not allowed and to provide guidance on pursuing a complaint.

Stop work orders directly affecting helicopter operations were issued twice on the project. The first one was an internal SDG&E stop work order which grounded Aircrane operations only and was associated with the Aircrane's malfunctioning cargo hooks. The stop work order related only to this specific aircraft. The helicopter was taken out of service until the hook problem was identified and fixed. After addressing the problem and conducting lift tests, SDG&E and the helicopter manufacturer determined that the helicopter could be returned to service. On the date of its return to service, the second hook release incident occurred. The FAA suspended the helicopter's certificate and it was returned to Erickson Air-Crane. A replacement Aircrane was provided, one with an older proven hook control system. FAA observed testing and allowed the replacement helicopter to begin lift operations. Upon FAA approval, CPUC concurred and allowed the helicopter to be used on the project.

The other stop work order was issued by the CPUC on September 27, 2011, and applied to all air operations. It was issued because of persistent helicopter-related safety problems, including:

- February 12, 2011 – Rotor strike (pilot error)
- June 7, 2011 – Aircrane drop of a lattice structure (mechanical failure)
- June 10, 2011 – Aircrane drop of a lattice structure (mechanical failure)
- July 11, 2011- Skid fell off K-MAX helicopter
- August 4, 2011 – Air compressor drop (rigging cable failure)
- August 23, 2011 – Rotor strike (pilot error)
- September 19, 2011 – Micropile pipe drop (rigging failure)
- September 22, 2011 – Plywood drop (rigging failure)
- September 26, 2011 – Straw wattle drop (rigging failure)

CPUC required SDG&E to cease all helicopter-based work and undertake specific actions, including:

- Conducting a safety stand-down for all pilots and ground personnel working with and around helicopters to review and retrain on proper procedures
- Conducting rigging training sessions and requiring that rigging be performed only by certified and trained personnel
- Reducing helicopter traffic and congestion by no longer ferrying crews by helicopter to sites when road access is available
- Developing an incident reporting procedure subject to CPUC approval
- Identifying renewable energy project schedules, the estimated on-line date for Sunrise Powerlink, and any other factors that might influence the urgency of meeting a target date
- Providing documentation indicating the individuals attending sessions and the topics covered

On October 4, 2011, CPUC determined that SDG&E had complied with the requirements in the Order and approved the resumption of helicopter operations.

Equipment failures and the securing of external loads continued to be problems. On October 19, 2011, a door fell off a helicopter mid-flight near the Plaster City Yard; no injuries were reported. On January 13, 2012, another compressor was released north of the Kruetzkamp Yard; no injuries were reported. On March 2, 2012, five pieces of timber separated from a load and fell to the ground on USFS land. Subsequently, at a meeting with SDG&E and CPUC, the utility stated that going forward all small-material loads would be netted or placed in boxes to prevent recurrence of a partial load loss. SDG&E also said that both it and PAR had conducted safety stand-downs and that two rigging specialists had been added to the project to provide additional oversight of operations. Following the meeting, CPUC formally requested additional information on operation safety and risk concerns. SDG&E's March 23, 2012, response reiterated the corrective actions that had been taken.

On April 16, 2012, after being informed of CPUC EM observations of helicopters transporting pipe and other loads without the agreed to netting, Edward Randolph, Director of the CPUC Energy Division, directed SDG&E by a compliance letter to initiate specific actions, including:

- Ensuring a sufficient inventory of rigging supplies maintained at each yard
- Ensuring that the supplies were readily available and that personnel were instructed on their use, and that in the absence of appropriate netting or containers the loads were not to be lifted

- Causing external helicopter loads to be photographed prior to being lifted or upon being delivered
- Causing a log to be maintained at each yard of each lift-out or delivery, showing date, time, location, and aircraft number
- Causing copies of photographs and logs to be collected daily and maintained in an accessible archive
- Making the archived files available upon request by CPUC.

SDG&E was given until April 17, 2012, to respond, with the provision that if the utility was unable or unwilling to implement the directive, all external load carrying operation would cease on April 18, 2012. By reply letter, SDG&E agreed to the measures and undertook to implement them immediately.

7.2 Other Safety Incidents

In addition to the helicopter safety issues related above, seven other safety incidents occurred during project construction.

- A tower leg fell onsite and injured a crew member. SDG&E surmised that tower anchoring practices were insufficient. To remedy the problem SDG&E submitted requests for a CPUC variance and a BLM DNA to allow the placement of temporary concrete anchor blocks outside of the tower disturbance area to help ensure crew safety. Both CPUC and BLM approved the requests.
- A crew member lost control of a piece of tower bracing, which dropped, struck the tower, and then hit another crewmember, resulting in lacerations to both of his legs.
- Micropile pipes were dropped during helicopter operations and a worker was injured trying to stop the pipes from rolling downhill. As discussed above, steps to remedy rigging problems were taken.
- An unsteady load caused a forklift to fall on its side. No injuries were reported.
- A crew member installing anti-climbing guards on a tower lost his footing. He fell approximately 25 feet and was immediately transported for emergency treatment.
- A project truck went over an embankment by approximately 300 feet. No injuries were reported.
- The chute to a cement truck was open while driving along Alpine Boulevard.

7.3 Development of Safety Incident Reporting Protocol

Following the CPUC's issuance of the broader Stop Work Order for Helicopter Operation on September 27, 2011 (see Section 7.1 for greater detail), SDG&E developed Attachment Q of the MMCRP detailing a "Protocol for Reporting Environmental and Safety Events," to clarify responsibilities for reporting to the CPUC. Two reporting categories were developed: (1) any event requiring agency notification because of regulatory or mitigation requirements; and (2) any event that may pose a risk to public health and safety, involvement of emergency responders, or a "near miss" involving large equipment including helicopters. SDG&E would immediately make contact with appropriate agency personnel, develop a "Preliminary Notification," and follow up with a "Final Notification" with a complete detail of the incident, developments, and corrective action if needed. SDG&E representatives began calling CPUC and Aspen immediately when incidents occurred, including on weekends.

8. Variances & TEWS Requested

During construction, SDG&E requested numerous variances and TEWS from the CPUC, BLM (in the form of DNAs), USFS, and other jurisdictional agencies including San Diego and Imperial Counties.

8.1 Variances for Private Lands

A total of 45 CPUC variances were requested during construction by SDG&E for additional ancillary sites, micrositing changes to project design or modifications to the project scope, and permutations to mitigation requirements. These were for private lands. Forty of the requests were approved, one was denied, and three were withdrawn by SDG&E. Additionally, in anticipation of project needs, SDG&E included a number of micrositing changes to access roads, pull-sites, TSAPs, etc., during the pre-construction NTP review process. These were included in NTP #13 as modifications to the project description.

Variances requested for the project are summarized in Table 15. The table has been organized according to whether the variance applied projectwide or related to specific Links, yards, or substations. The majority of variance requests were for additional workspace and new construction yards. Twelve variances were submitted for extra workspace and four variances were submitted for new yards. In addition to the micrositing changes made under NTP #13, three additional variance requests were submitted for micrositing changes. SDG&E also submitted five variance requests for site improvements, including the installation of helicopter landing platforms. Three variances were submitted to allow installation of temporary guard structures. Three other variances were submitted to allow additional gate installations. Two variances were submitted for use of temporary anchor blocks, one of which was withdrawn by SDG&E. Three variance requests were made for additional facilities: a temporary water tank, permanent fiber optic regeneration sites; and the permanent placement of two radio communication towers. One variance was submitted to change project plans regarding visual screening at construction yards. One variance request involved the temporary installation of a training/ceremony tower at the Rough Acres Yard. During cleanup and restoration activities, a variance was requested to leave certain site improvements in place at some construction yards to accommodate landowner desires.

Six requests were submitted for modifications and/or clarifications to mitigation requirements. One of these requests, which would have lessened fire-related red flag warning requirements, was denied by the CPUC. Other requests included broadening the work window for vegetation clearing and tree trimming. These requests involved extensive discussions with the resource agencies and led to the development of a Nesting Bird Management and Monitoring Plan (NBMMP). See Section 8.6, NBMMP Development and Implementation, for additional information. Another variance request asked for an extension of work into the eagle breeding season within some nest buffers. This variance also involved extensive discussions and documentation of wildlife resource agency approval. A joint variance approval was granted by the CPUC and BLM in this case. See Table 15.

Table 15. Project Variance Requests

Variance Request	Date Requested	Date Issued	Segment #	Description
			Projectwide	Micrositing changes including in NTP #13 request.
#3	01/06/10	01/18/11	Projectwide	Modification to tree trimming requirements.
#3 MOD	01/25/11	01/26/11	Projectwide	Modification to brush clearing requirements.
#9	03/29/11	04/06/11	Projectwide	Perform construction activities outside of hours allowed by local ordinances with local jurisdiction approval.

Table 15. Project Variance Requests

Variance Request	Date Requested	Date Issued	Segment #	Description
#31	11/08/11	Retracted	Projectwide	Request for site-specific exemption of Condition 37 of NTP #13.
#36	01/20/12	02/08/12	Projectwide	Variance to allow vegetation clearing between January 15 and February 14.
#11	04/06/11	04/22/11	Link 1	Additional workspace east of EP 215.
#12	04/15/11	04/25/11	Link 1	Additional turnaround along the access road to EP 220-1.
#18	06/27/11	07/14/11	Link 1	Gate installation between mile markers 38.5 and 39.5.
#18 Mod	10/03/11		Link 1	Alternative for installation of Gate #4.
#21	07/07/11	07/15/11	Link 1	Guard structures from EP 255 to Imperial Valley Substation.
#27	09/20/11	10/18/11	Link 1	Temporary Staging area near Mountain Springs Grade Road.
#45	09/17/13	10/01/13	Link 1	Convert temporary access road to EP 219-1 to permanent.
#13	04/13/11	05/06/11	Links 1 & 2	Two fiber optic regeneration sites.
#13 Mod	05/08/12	05/10/12	Links 1 & 2	Alter configuration of regeneration sites to meet fire safety requirements.
#23	08/15/11	10/20/11	Links 1, 2, & 5	Additional landing platforms and TSAPs.
#29	10/21/11	11/01/11	Links 1, 2, & 5	Additional guard structures identified for wire pulling activities.
#29 Mod	01/04/12	01/06/12	Links 1, 2, & 5	Modification to guard structure location.
#30	11/01/11	11/15/11	Links 1, 2, & 5	Temporary parking and turnaround areas.
#32	11/15/11	12/09/11	Links 1, 2, & 5	Additional workspace for wire pulling activities.
#32 Mod	01/04/12	01/06/12	Links 1, 2, & 5	Modification to guard structure location
#33	11/28/11	12/16/11	Links 1, 2, & 5	Additional workspace for structure access and wire pulling activities.
#37	01/20/12	02/08/12	Links 1, 2, & 5	Temporary placement of concrete blocks outside of approved work areas.
#25	09/01/11	09/09/11	Links 1 & 5	Extended use of approved TEWS areas for parking and staging.
#8	03/02/11	03/08/11	Link 2	Alternate access route to Structure EP 27.
#15	05/12/11	05/19/11	Link 2	Alternate access to EP 84.
#26	09/15/11	09/20/11	Link 2	Water tank installation at Barrett Canyon Yard.
#41	04/17/12	04/27/12	Link 2	Cinnamon Drive Road improvements near EP 36-1.
#42	05/09/12	Retracted	Link 2	Temporary concrete anchor block placement.
#34	11/29/11	12/02/11	Links 2 & 5	Extension of allowable work window within GE buffer (MM B-7h). Joint CPUC and BLM approval.
#44	09/06/12	10/02/12	Links 2 & 5	Permanent placement of radio communication facilities at CP-108 and EP-87-1 TSAPs. Permanent additional TSAP at CP-108.
#10	04/04/11 (revised)	04/14/11	Link 4	Additional construction workspace at Viejas Creek Bridge.
#16	05/16/11	05/21/11	Link 4	Additional parking space for use during underground construction.
#6	02/01/11	03/01/11	Link 5	Variance from Mitigation Measure H-1a (CC) to allow work outside of the dry season.

Table 15. Project Variance Requests

Variance Request	Date Requested	Date Issued	Segment #	Description
#20	06/28/11	08/05/11	Link 5	Additional disturbance for access, pull-sites and topsoil stockpile at CP 48-2 to CP 51-2.
#30 Mod	02/09/12	02/09/12	Links 5	Modification to perform long lining activities.
#35	12/22/11	01/04/12	Link 5	Improvements to existing road & drainage, Simpson property.
#38	02/10/12	02/22/12	Link 5	Gate installation near CP 55.
#39	02/10/12	Retracted	Link 5	Additional workspace at CP 23 pull-site.
#40	03/20/12	03/21/12	Link 5	Additional workspace near GS-NF-7, San Vicente Reservoir.
#7	02/11/11	02/17/11	Suncrest Substation	Additional work areas for construction trailers, parking, etc.
#24	08/25/11	08/29/11	Suncrest Substation	Additional vegetation clearing around construction trailers.
#28	10/19/11	Denied	Suncrest Substation	Allow work to continue at Suncrest Substation during a Red Flag Warning (RFW) event.
#17	05/18/11	05/24/11	Encina Substation	Driveway improvement.
#1	11/04/10	11/10/10	Yard	Thomas Construction Yard (El Centro, CA)
#2	12/22/10	03/18/11	Yard	Sycamore Estates Construction Yard.
#4	01/13/11	03/01/11	Yard	Helicopter Temporary Landing Pad area at the Alpine Regional Field Offices.
#5	02/01/11	02/09/11	Yard	Site improvements at the Wilson Construction Yard and along Bell Bluff Trail
#14	04/28/11	05/03/11	Yards	Change visual screening at Project construction yards from slats to fabric.
#19	06/27/11	06/29/11	Yards	Installation of training tower at Rough Acres Construction Yard.
#22	07/08/11	08/04/11	Yards	Fromm Construction Yard.
#43	09/05/12	09/13/12	Yards	Post-construction landowner requests at 5 yards.

8.2 DNAs for BLM Lands

Prior to the start of construction, the Project Modifications Report (PMR) was approved by the CPUC and BLM through a determination memorandum dated September 22, 2010. The PMR was addressed in BLM’s Determination of NEPA Adequacy (DNA) and supporting memoranda for the PMR, dated September 22, 2010. The DNA concluded that proposed modifications to the approved project, including Links 1, 2, and 5, conformed to the applicable land use plans and that the existing NEPA EIS documentation fully covered the modified project.

Additionally, in anticipation of project needs, during the pre-construction NTP review process SDG&E presented a number of micrositing changes to access roads, pull-sites, TSAPs, etc., as well as a revision to its Plan of Development (POD) to store hazardous materials (gasoline, diesel fuel, crankcase oil, lubricants, and cleaning solvents) at construction yards. These requests were included as modifications to the project description in NTP #2.

During construction, four DNA requests were made. BLM DNAs are summarized in Table 16. Additional micrositing changes were requested. These included: extra workspace for guard structures; temporary

and permanent TSAPs; the conversion of two temporary radio communication towers to permanent usage; the use of additional temporary access and spur roads; use of supplementary parking areas; placement of temporary concrete anchor blocks; and a modification to the vegetation clearance restrictions in Mitigation Measure B-8a pertaining to clearance of vegetation during the general avian breeding season to allow the placement of the temporary concrete anchor blocks outside of approved work areas. As previously mentioned, extensive discussions regarding vegetation clearing and tree trimming during bird nesting season resulted in the development of the NBMMP, which was approved by both BLM and CPUC; see Section 8.6. Variance #34 involved allowing the extension of work into the early part of eagle breeding season and was a joint approval granted by the CPUC and BLM.

Table 16. BLM Determination of NEPA Adequacy Requests

DNA Request	Date Requested	Date Issued	Segment	Description
PMR DNA	May 2011	09/22/10	Projectwide	Project Modifications Report changes
BLM NTP #2 DNA	03/28/11	04/04/11	Links 1, 2, & 5	Micrositing changes to the approved project on BLM lands in Links 1, 2, and 5
Construction DNA #1	07/19/11	08/05/11	Links 1, 2, & 5	Micrositing changes to the approved project on BLM lands
Construction DNA #2	10/21/11	12/14/11	Overhead	Micrositing
Joint CPUC and BLM Variance Letter #34	11/29/11	12/02/11	Links 2 & 5	Extension of allowable work window within GE buffer (MM B-7h).
Construction DNA #3	02/08/12	02/10/12	Overhead	Anchor Block placement outside of approved work areas
Construction DNA #4	11/09/12	01/30/13	Links 2 & 5	Permanent placement of radio communication facilities and secondary TSAPs at CP 60 and EP 146

8.3 USFS Variances

On CNF, the District Ranger evaluated and provided variance approval. Variance requests made to the USFS are provided in Table 17. Project Activity Level (PAL) is a system that the USFS uses to identify various levels of fire danger. The PAL level is adjusted based on prevailing climatic conditions and fire risk. Each PAL (A, B, C, D, E, Ev) has associated work restrictions and work-hour limits. Specific work activities allowed on each PAL day were determined by the USFS on a one- to three-week basis (based on SDG&E's request). Forty variance requests were made by SDG&E to the USFS for the Sunrise Powerlink Project. SDG&E requested permission to conduct activities during extended work hours and on certain PAL days. Requests were also made to clarify certain mitigation measures. All of the variance requests were approved by USFS.

- Thirty-six of the variance requests were for alterations to the Fire Plan that extended work hours at specific locations until 1 p.m. on PAL Ev days and the use of welding equipment on PAL D days.
- SDG&E requested that work begin at certain sites prior to the completion of road improvements along La Posta Road. Construction work at the sites was not approved; however, some related work (i.e., some vegetation clearing, geotechnical boring, driveway work, and gate and barrier installation) was approved at these sites.

- A request was made for the placement of temporary water tanks at two sites along La Posta Road. Work at locations that were not serviced by La Posta Road, including helicopter accessed sites, were allowed to be worked on prior to the completion of road improvements on La Posta Road.
- It was determined that the placement of rock aggregate was similar in scope to dust abatement and could be conducted on PAL Ev days after 1 p.m. Modifications were made to one TSAP, two access roads, and one gate barrier. Two temporary work areas were requested.
- One request was for insecticide use to control bee and wasp nests.
- A request was made to extend vegetation clearing into bird nesting season; each location was reviewed on a case-by-case basis.
- One request was made to land helicopters in an access road near EP 35. One request was made to place a temporary weather station at the Thing Valley Construction Yard.
- One request was to place temporary concrete anchor blocks outside of approved workspaces. Several requests were made to conduct work on Sundays and holidays. The USFS does not typically give permission to work on certain days, but stipulated that all work be in compliance with County of San Diego ordinances.
- One variance request allowed a one-time extension of work to December 15, within golden eagle breeding season.
- Lastly, an SDG&E variance request asked for concurrence that two golden eagle nest sites were inactive and that construction activities could take place within the established buffers.

Table 17. USFS Variance Requests

USFS Variance Approval	Segment	Description
08/17/11	USFS lands	Work on PAL fire danger days
08/18/11	USFS lands	Work on PAL fire danger days
08/19/11	USFS lands	Work on PAL fire danger days
08/25/11	USFS lands	Work on PAL fire danger days
08/25/11	Link 2	Request for work sites along La Posta Road
09/01/11	USFS lands	Work on PAL fire danger days
09/08/11	USFS lands	Conduct work until 1:00 p.m. on PAL fire danger days
09/09/11	Link 2	Temporary placement of water tanks at EP 125 pull-site and EP 130 (inside of Thing Valley Construction Yard)
09/15/11	USFS lands	Work on PAL fire danger days
09/22/11	USFS lands	Work on PAL fire danger days
09/29/11	USFS lands	Work on PAL fire danger days
10/06/11	USFS lands	Work on PAL fire danger days
10/13/11	USFS lands	Work on PAL fire danger days
10/20/11	USFS lands	Work on PAL fire danger days
10/27/11	USFS lands	Work on PAL fire danger days
10/28/11	USFS lands	Request for work sites, addition of a subcontractor and insecticide use
11/03/11	USFS lands	Work on PAL fire danger days

Table 17. USFS Variance Requests

USFS Variance Approval	Segment	Description
11/10/11	USFS lands	Work on PAL fire danger days
11/17/11	USFS lands	Work on PAL fire danger days
Dec 2011	Eagle Buffer areas	Work in Eagle breeding season
12/01/11	USFS lands	Work on PAL fire danger days
12/15/11	USFS lands	Work on PAL fire danger days
01/05/12	USFS lands	Work on PAL fire danger days
01/19/12	USFS lands	Work on PAL fire danger days
01/26/12	USFS lands	Work on PAL fire danger days
02/02/12	USFS lands	Work on PAL fire danger days
02/08/12	USFS lands	Extension of vegetation clearing, TSAP and access road revision, temporary work areas, helicopter landing area, and temporary weather station installation.
02/09/12	USFS lands	Work on PAL fire danger days
02/16/12	USFS lands	Work on PAL fire danger days
02/23/12	USFS lands	Work on PAL fire danger days
03/01/12	USFS lands	Work on PAL fire danger days
03/08/12	USFS lands	Work on PAL fire danger days
02/08/12	USFS lands	Sunday Work
03/19/12	USFS Lands	Sunday Work
03/22/12	USFS lands	Work on PAL fire danger days
03/29/12	USFS lands	Work on PAL fire danger days
04/06/12	USFS lands	Concurrence that Bell Bluff and Thing Valley golden eagle nests are inactive – permission to enter buffer areas
04/12/12	USFS lands	Work on PAL fire danger days
04/26/12	USFS lands	Work on PAL fire danger days
05/10/12	USFS lands	Work on PAL fire danger days
05/20/12	USFS lands	Work on PAL fire danger days
05/31/12	USFS lands	Work on PAL fire danger days
06/04/12	USFS lands	Sunday and holiday work.
06/07/12	USFS lands	Work on PAL fire danger days
06/14/12	USFS lands	Work on PAL fire danger days

8.4 Other Agency Variances

Local jurisdictions also issued variances from local ordinances and regulations. These were approved by way of variance letters and permit allowances. For example, Imperial County issued an approval letter allowing 24-hour work 7 days a week on the project. San Diego County issued a Project Traffic Control Permit that defined specific traffic protocols and timing. San Diego County also issued numerous separate variance approval letters and amendments that allowed Sunday work at specified areas and dates at various yards, specific roads and areas of the ROW, areas in need of emergency BMP repairs, and for

paving operations. San Diego County also approved work on Columbus Day 2011, 24-hour work at the Suncrest Substation except on Sundays, and an extension of work hours in the community of Alpine allowing work from 7 a.m. to 7 p.m. Monday through Friday and 9 a.m. to 5 p.m. on Saturdays. MCAS Miramar issued a variance to allow Sunday work on January 8, 2012. Variances were acquired from the City of Oceanside to allow work at the San Luis Rey Substation outside of normal work hours of 7 a.m. to 7 p.m. on June 5 and 6, 2011, as well as for Sunday work on February 6 and 20, 2011. A variance to operate at night at the Encina Switchyard was obtained from the City of Carlsbad prior to construction in October 2010. Caltrans issued several encroachment permits for State highway ROW in Imperial and San Diego Counties that included allowances for Sunday work as well. Copies of variances from other agencies were submitted to the CPUC for the project record.

8.5 TEWS Requested for Private and BLM Lands

TEWS areas were previously disturbed areas with no sensitive resources onsite or adjacent to the subject parcel. These are listed in Table 18, organized by Link. TEWS were approved by the CPUC EMs for periods of up to 60 days. Prior to construction, resource surveys were conducted over a wide corridor and landowner agreements were generally conditioned to allow use of lands outside of the planned work corridor, if needed. Thirty-nine TEWS requests were submitted on the Sunrise Powerlink Project for private (CPUC) and BLM lands. All requests were approved by CPUC EMs in the field after site inspections and verification of documentation. The majority of requests, 25 in total, pertained to the need for extra parking areas. Six were requested for extra workspace and staging areas. Five were requested for additional/alternative access to approved project areas. One was needed for a pull-site and one was needed to site a temporary water tank.

Table 18. Temporary Extra Workspace (TEWS) Requests

TEWS Request	Date Requested	Date Approved	Segment	Description
TEWS #1	11/01/10	11/01/10	White Star	Asphalt paved area for vehicle parking and staging
TEWS #9	05/17/11	05/24/11	Link 1	Use of SWPL tower sites for parking (EP 331-341)
TEWS #11	06/16/11	06/16/11	Link 1	Use of alternative access to EP 240, per the request of the landowner at JVR
TEWS #12	06/20/11	06/20/11	Link 1	Use of SWPL tower sites for parking (EP 295-299)
TEWS #13	06/30/11	07/01/11	Link 1	Use of SWPL tower site for parking (EP 324)
TEWS #14	07/01/11	07/01/11	Link 1	Use of SWPL tower sites for parking (EP 300, EP 302, EP 306, EP 307, EP 312)
TEWS #15	07/06/11	07/06/11	Link 1	Use of SWPL tower sites for parking (EP 294, EP 303, EP 304, EP 305)
TEWS #16	06/30/11	07/07/11	Link 1	Additional parking along Mountain Springs Grade Road
TEWS #20	07/18/11	07/19/11	Link 1	Parking near EP 314
TEWS #21	07/22/11	07/25/11	Link 1	Parking near EP 315
TEWS #22	07/26/11	07/26/11	Link 1	Parking near EP 291-293
TEWS #23	08/05/11	08/05/11	Link 1	Parking near EP 290
TEWS #27	09/29/11	09/30/11	Link 1	Parking near EP 248.
TEWS #28	09/28/11	10/03/11	Link 1	Parking & staging area adjacent to EP 301.
TEWS #30	10/06/11	10/06/11	Link 1	Parking & staging at Chevron Gas Station on Carrizo Gorge Road.
TEWS #31	11/09/11	11/10/11	Link 1	Parking at EP 252A-1 and EP 254-3-E.

Table 18. Temporary Extra Workspace (TEWS) Requests

TEWS Request	Date Requested	Date Approved	Segment	Description
TEWS #35	03/26/12	03/27/12	Link 1	Additional parking area between EP 227/EP 228.
TEWS #7	04/06/11	04/07/11	Link 2	Northern access road to EP 79
TEWS #8	04/14/11	04/14/11	Link 2	Northeast spur of access road to EP 84
TEWS #24	08/09/11	08/10/11	Link 2	Parking near EP 90/EP 91
TEWS #24	08/09/11	08/10/11	Link 2	Parking near EP 90/EP 91
TEWS #26	09/13/11	09/13/11	Link 2	Temporary use of access road near Barrett Substation
TEWS #29	09/13/11	09/13/11	Link 2	Placement of water tank at Barrett Substation.
TEWS #36	04/26/12	04/26/12	Link 2	Additional workspace adjacent to Access Road EP 11-3-N.
TEWS #37	05/25/12	05/25/12	Link 2	Additional workspace near EP 32.
TEWS #38	05/25/12	05/29/12	Link 2	Additional workspace adjacent to EP 119.
TEWS #2	03/17/11	03/18/11	Link 4	Parking on Puetz Valley and Alpine Blvd
TEWS #3	03/17/11	03/18/11	Link 4	Parking on Harbison Canyon and Alpine Blvd
TEWS #5	03/24/11	03/24/11	Link 4	Parking at 3900 Willows Road West
TEWS #6	03/24/11	03/24/11	Link 4	Parking at 5840 Willows Road East
TEWS #4	03/22/11	03/23/11	Link 5	Storage on One Father Junipero Sierra Trail
TEWS #10	05/24/11	05/24/11	Link 5	Parking and pull-site adjacent to Alliant University
TEWS #17	07/11/11	07/12/11	Link 5	Parking near CP 20
TEWS #18	07/11/11	07/12/11	Link 5	Parking near CP 24
TEWS #19	07/11/11	07/12/11	Link 5	Parking near CP 29
TEWS #25	09/07/11	09/07/11	Link 5	Temporary use of access road near El Monte Road (12 kV)
TEWS #32	11/09/11	11/15/11	Link 5	Temporary material & equipment staging area off of Willows Road.
TEWS #33	02/09/12	02/09/12	Link 5	Additional parking area between CP 75 to CP 88.
TEWS #34	03/06/12	03/06/12	Link 5	Additional parking area along Highway 67.
TEWS #39	06/27/12	06/27/12	Link 5	Additional parking and staging at El Monte Park.

8.6 NBMMP Development & Implementation

Both BLM and CPUC NTPs for the overhead portions of the Sunrise Powerlink Project were approved in early 2011. Many of the work areas required vegetation clearing and tree trimming prior to active construction. As a condition of approval for the project, the CPUC, BLM, and USFS required measures to protect nesting birds and their eggs, as they are protected under the Migratory Bird Treaty Act and/or California Fish and Game Code. Mitigation Measure B-8a adopted in the EIR/EIS and MMCRP required conducting vegetation clearing between August 16 and January 14 and tree trimming/removal between September 16 and December 31 to avoid the “take” of nesting birds. To begin work on the overhead areas that required tree trimming, SDG&E submitted a variance request to the CPUC. After gaining wildlife agency concurrence, and after review by the CPUC’s biological consultant, CPUC Variance #3 was approved on January 18, 2011, allowing limited tree trimming between January 1 and September 15, 2011 on non-federal lands only. The wildlife agencies (USFWS and CDFW) required special conditions be followed during tree trimming activities covered under Variance #3, such as specific survey and work timing requirements and, if nests or nesting behavior were detected, that activities would be postponed until

the nesting cycle was complete. SDG&E submitted a Variance #3 modification request, which would allow limited vegetation clearing during the 2011 avian nesting season. Modification to Variance #3 was approved on January 26, 2011 for non-federal lands only. Again, CPUC's biological consultant reviewed the request and concurrence was gained from the wildlife agencies. Special conditions were imposed.

The desire to undertake vegetation clearing and tree trimming on federal lands remained and was revisited during a number of intensive multi-agency conference calls beginning in February of 2011. The ability to conduct tree trimming and vegetation clearing activities and avoid "take" was debated. After extensive deliberation, a Nest Survey Protocol was approved in April 2011 by the CPUC and BLM to allow vegetation clearing and tree trimming during the 2011 avian breeding season with a 7:3:1 approach to nesting bird surveys (i.e., conduct nest surveys 7 days and 3 days prior to construction, and conduct a nest sweep the morning of construction). SDG&E could not conduct any vegetation clearing or tree trimming without prior concurrence from the wildlife agencies. The need for further clarifications arose, and a draft NBMMP for 2011 was developed. SDG&E was required to submit vegetation analyses and Nest Survey Reports (NSRs) for each area to be cleared or trimmed. Nest Buffer Justifications (NBJs) were also submitted where changes to nest buffers were proposed on a site-to-site basis so that they could be approved by the wildlife agencies and/or designee. The wildlife agencies delegated the review of these submittals to the CPUC's biological consultant. Along with development of the NBMMP, the wildlife agencies continued to provide input for improving the Nest Log in 2011. The intent of the Nest Log was to allow determination of the effectiveness of the minimization and avoidance measures being implemented by SDG&E as part of the nest monitoring program. A separate NBMMP was prepared for the USFS. The CPUC/BLM version underwent approximately five revisions between July 2011 and its approval in February 2012. The revisions were made based on numerous conference calls, meetings, and comments with/by SDG&E, the wildlife agencies, CPUC, and the CPUC biological consultant. Subjects of continuing discussion were the definition of "active" with reference to nests, what constituted an "effective buffer," and how buffers were determined.

The wildlife agencies received all submitted NSRs and NBJs during the 2011 nesting season from its beginning until July, at which time the wildlife agencies could no longer handle the volume of submittals. The CPUC biological consultant took over their review until the end of the nesting season (September 15). There were no nest removal requests in 2011, as there was no provision for nest removal in the draft NBMMP. (The NBMMP approved in February 2012 allowed for nest removals under certain circumstances.) Approximately 323 NSRs and 6 NBJs were submitted for review in 2011.

It was expected that all of the necessary tree trimming and vegetation clearing on the project would have been completed prior to the onset of the 2012 avian nesting season; however, many areas remained to be trimmed and cleared after January 15. In addition, unanticipated areas that needed clearing were identified, including tower anchor block locations. The CPUC/BLM version of the Sunrise NBMMP was approved February 24, 2012. The circumstances under which an "unoccupied" nest could be removed without wildlife agency concurrence and the conditions that would need to be met before placing deterrents in raptor nests (due to an incident with a red-tailed hawk nest) were added as attachments to the approved version of the CPUC/BLM NBMMP. Additionally, conditions for allowing through construction traffic on project access roads during the nesting season at the discretion of the SDG&E Avian Biologist and without concurrence of the wildlife agencies were added to the NBMMPs. In 2012, SDG&E asked to modify the survey approach to a 10:1 schedule (i.e., 10-day survey prior to construction and a nest sweep the morning of construction where no vegetation removal/trimming was required); Mitigation Measure B-8a of the Final EIR/EIS required only a pre-construction survey within 10 days of starting construction. The 10:1 schedule was accepted by the wildlife agencies. Based on the CPUC biological consultant's experiences with the format of the NSRs in 2011, SDG&E worked with the CPUC consultant to

develop a report format that better provided the information needed to determine whether the results of a nest survey were acceptable. The survey methods also were discussed and better defined.

In order to remove/trim vegetation during the 2012 nesting season, Variance Request #36 was submitted, and was approved by the CPUC on February 8, 2012. Variance Request #37, to place concrete anchor blocks that would crush vegetation during the nesting season, was approved by the CPUC on February 8, 2012. Wildlife agency concurrence was gained for both variances, and the approvals required the 7:3:1 survey approach and the completion of a vegetation analysis to be submitted for approval with the NSR for the 7-day survey.

During the entire 2012 nesting season, the wildlife agencies requested that the CPUC biological consultant review the NSRs, NBJs, and nest removal requests. Approximately 530 NSRs and 65 nest removal requests were submitted; 250 NBJs were submitted to the USFS for review.

During the 2011 and 2012 nesting seasons, SDG&E made additional requests that were found to be acceptable. Special monitoring and reporting conditions were required. These requests included:

- Blanket exemption of survey requirements to undertake BMP inspection and repair.
- Use of ultrasonic deterrents (not included in the NBMMP) in limited locations directed at project equipment to deter nesting.
- Plugging of holes in 69 kV poles during the nesting season to prevent nesting.
- Removing repeated unoccupied nest attempts without prior wildlife agency concurrence.
- Ending the 2012 nesting season for raptors on August 15 instead of September 15 based on recommendations of SDG&E avian biologists and SDG&E data on raptor nesting observations made during 2011 and 2012.

Numerous issues and problems arose during development of the NBMMP and construction.

- SDG&E changed the types of construction activities but did not notify CPUC or the wildlife agencies.
- Buffers between nests and operating helicopters were not specifically covered in the NBMMP. SDG&E stated that it was adhering to the buffer distances in the NBMMP (i.e., “we generally establish helicopter buffers at 100, 300 or 500 feet as an internal process depending on the species”).
- Wildlife agency concerns about lack of communication or responses to communication. For example, CDFW was concerned that SDG&E did not have a CESA permit for the least Bell’s vireo, and that the 300-foot buffer being implemented for EP 77 (from Mitigation Measure B-7e in the Final EIR/EIS) was not sufficient to protect the vireo from the impacts of Airplane operations in what was otherwise a very remote, quiet, canyon.

Progress made on issues that arose during construction and development of the NBMMP provided opportunities for lessons learned. These included:

- Utilities should obtain wildlife agency approval of an NBMMP prior to the start of nesting season and should consider submitting the NBMMP as part of the PEA.
- Helicopter use must be addressed in an NBMMP.
- Utilities should establish the Nest Log format early and have it approved by the wildlife agencies prior to nesting-season construction.

- Utilities need to make use of and deploy nesting deterrents earlier (i.e., prior to the nesting season) and maintain them, including training all personnel on their purpose maintenance. The types of deterrents also need to be evaluated based on experience. For example, Mylar® tape was determined to be ineffective on Sunrise, and ultrasonic deterrents appeared to be effective when directed at small areas on certain Sunrise equipment/structures.
- Utilities need to include more frequent/rigorous nest searches in active construction areas, particularly in construction yards, so that nests are not missed.

9. Final Inspection and Pre-Energization

Energization of the Sunrise Powerlink had been planned to occur during the summer of 2012. On March 13, 2012, the California Independent System Operator (CAISO) sent a letter to SDG&E encouraging the utility to take all steps necessary to have the line energized by June 1, 2012. Ongoing problems with the Southern California Edison San Onofre Nuclear Generating Station had significantly impaired the import of power into the San Diego region. With summer demand approaching, availability of the Sunrise Powerlink was critical.

The EIR/EIS and MMCRP outlined several mitigation measure requirements that were necessary prior to energization. In addition, several permit requirements also stipulated completion prior to line energization. Table 19 lists the applicable pre-energization requirements and confirmations of completion. Starting in April 2012, SDG&E and Aspen held weekly conference calls to discuss project status and confirm completion of all necessary pre-energization tasks. The 230 kV portions of the line (Links 4 and 5) were energized on June 15, 2012. On June 17, 2012, the 500 kV portion of the Sunrise Powerlink (Links 1 and 2) became fully energized and control was transferred to CAISO.

At the time of energization, an extensive punchlist of closeout and restoration items remained to be completed at many of the project sites and yards. This close-out work continued through November 2012. The checklist of remaining work was shared with the CPUC EMs. It included final grading, hydromulching, and miscellaneous structure installations (e.g., warning and number signs) throughout the project alignment, including at structure sites, pull-sites, and construction yards. This work was monitored similarly to active construction. As work tasks were noted as complete by SDG&E, the area was reviewed by CPUC EMs to ensure that all construction material and related items had been removed and restoration activities completed. A number of SWPPP BMPs were identified that will remain on some tower structures to aid in soil retention during the stabilization process. SDG&E tracked the remaining SWPPP items through its SWPPP O&M team members to ensure follow-up.

Table 19. Pre-Energization Requirement Compliance

MM # and/or Permit Condition	Specific Pre-Energization Requirement	Compliance
CDFWSAA-3.22, 3.24, 3.25 USFWS BO GCM-17	A wildlife conservation easement or its equivalent shall be recorded or prepared on each mitigation site to protect existing fish and wildlife resources in perpetuity. The Grantee named shall be approved by CDFW. The easement or its equivalent shall be completed prior to energizing the transmission line.	No Longer a Pre-energization Requirement – On May 3, 2012, SDG&E received an 18-month extension to the deadline for recording the conservation easements. The letter granting the extension was forwarded to the CPUC, USFS, USFWS, and BLM. SDG&E will continue to work with CDFW on the preparation of the conservation easements for each of the mitigation properties as applicable.
B-01a and USFS SUP Exhibit 12	All off-site mitigation parcels shall be approved by the CPUC, BLM, Wildlife Agencies, and USFS (for alternatives with impacts to National Forest lands) and must be acquired or their acquisition must be assured before the line is energized.	Complete – SDG&E has acquired (e.g., has full title and ownership) 8 of 9 of the approved mitigation properties. SDG&E has deposited funding and assured the acquisition and management of the 9th property in an escrow account. The State Lands Commission approved the land transfer on January 26, 2012. For impacts located on USFS lands, SDG&E has acquired the 4 properties identified as mitigation for habitat loss. This information has been verified by the USFS and Cleveland NF Staff provided a letter of release on April 30, 2012. A copy of this letter was submitted to the CPUC and BLM on May 14, 2012.

Table 19. Pre-Energization Requirement Compliance

MM # and/or Permit Condition	Specific Pre-Energization Requirement	Compliance
B-07c USFWS BO SSCM-19	Fund, design, construct, and provide for maintenance of a system of warning devices, signs, and fences to reduce the probability of PBS deaths due to vehicle collisions while crossing I- 8 in consultation with Caltrans and the Wildlife Agencies to facilitate PBS movement through/ across the island using structures currently present. A feasibility study and proposed course of action will be completed before the transmission line is energized, and systems and structures will be operational within 5 years of the date the line is energized.	Complete – SDG&E completed a Course of Action Plan and Long Term Concept Plan for PBS, which was submitted to the Wildlife Agencies on February 2, 2012 and to Caltrans on March 30, 2012. Comments were received from the USFWS on March 30, 2012 and a meeting with the agencies occurred on April 20, 2012. SDG&E will continue to work with the wildlife agencies and Caltrans to address Caltrans' comments.
C-05a	The Applicant shall design and implement a long-term plan to protect National Register of Historic Places (NRHP and/or CRHR)-eligible sites from direct impacts of project operation and maintenance and from indirect impacts (such as erosion and access) that could result from the presence of the project. The plan shall be submitted to the BLM, CPUC, and other appropriate land-managing agencies for review and approval at least 30 days prior to project operation.	Complete – SDG&E submitted a draft of the long-term Management plan to the BLM to distribute to the tribes for a 45-day review. The plan was distributed by the BLM to the tribes and the CPUC on April 27, 2012.
F-01b	SDG&E shall submit an updated Plan for review and comment by the following agencies at least 90 days prior to energizing the Proposed Project: CPUC, BLM and USFS, and shall submit the Plan (with agency comments incorporated) for review and approval by Cal Fire at least 90 days prior to energizing the Proposed Project.	Complete – The amended guide was part of the preparation and approval of the Memorandum of Understanding (MOU) included Cal Fire and other organizations. The MOU states that the fire agencies have reviewed and commented on SDG&E's recently amended Semptra Utilities Wildland fire Prevention and Fire Safety Guide, also known as SDG&E Electric Standard Practice (ESP) 113.1, in accordance with Mitigation Measure F-1b. The MOU obtained its final signature from the County of San Diego on January 25, 2012. A copy of the final executed MOU was distributed to the CPUC, BLM, USFS and Cal Fire on May 2, 2012.
F-02a	The Applicant shall establish adequate conductor clearances prior to energizing the project by removing all vegetation from within 15 radial feet of new and relocated overhead 69 kV, 230 kV, and 500 kV conductors under maximum sag and sway.	Complete – All tree trimming activities to establish adequate line clearances were completed in December 2011.
F-03b	A community education and outreach program on the fire prevention plans and practices implemented by the MOU shall be adopted.	Complete – The final MOU signature was obtained from the County of San Diego on January 25, 2012. A final signed and approved. MOU has been completed and was submitted to the CPUC, BLM, USFS and Cal Fire on May 2, 2012.
Fire and Fuel FPP-17	The Suncrest Substation site will be assessed by the Sunrise Fire Marshal and the responsible fire agency for wildland fire threat and/or risk prior to beginning operations associated with that site.	Complete – The Sunrise Fire Marshal, Dennis Baldrige, conducted the assessment on May 14, 2012, with the responsible fire agencies. On May 16, 2012, San Diego Rural Fire Protection District submitted a letter determining that no further hazard reduction measures were necessary. A copy of this determination was submitted to the CPUC, BLM and USFS on May 21, 2012.

Table 19. Pre-Energization Requirement Compliance

MM # and/or Permit Condition	Specific Pre-Energization Requirement	Compliance
PS-2a	As part of the siting and construction process, SDG&E shall identify objects (such as fences, metal buildings, and pipelines) within and near the ROW that have the potential for induced voltages and shall implement electrical grounding of metallic objects in accordance with SDG&E's standards.	Complete – The grounding of objects within and/or near the ROW has been completed. Documentation of compliance with this measure was submitted to the CPUC on June 4, 2012 the 230 kV portion of the line and Suncrest Substation and on June 14, 2012 for the 500 kV portion of the line.
V-45a Visual SCP §2.7	All off-site mitigation parcels for scenic compensation shall be approved by the USFS must be acquired, or acquisition be assured, before the line is energized.	Complete – SDG&E has taken possession of the 4 properties identified as mitigation for scenery loss. This information was verified by the USFS on April 27, 2012.
WQC-08 (401)	Full title and ownership or land transfer agreements for all compensatory mitigation properties shall be finalized before energization of Sunrise Powerlink Transmission Line, unless an extension is requested by the SDG&E and granted by the State Water Board.	No Longer a Pre-energization Requirement: SDG&E has acquired (e.g., has full title and ownership) 4 of 5 of the approved mitigation properties and has deposited funding for the acquisition and management of the 5th property in an escrow account. The State Water Board granted an extension request, allowing a delay in the property transfer. A copy of the approval was submitted to the CPUC and BLM on May 18, 2012.
WR-02b	Identify feasible PCT relocation options, under the direction of the federal agencies, Trail construction and restoration shall be completed within one year of energizing the line.	Complete – SDG&E submitted a report on May 30, 2012 to the CPUC, BLM and USFS that identifies feasible PCT relocation options to reduce the number of times the Sunrise Powerlink Project crosses the PCT to only once, rather than 3 times. On June 15, 2012, the USFS submitted to SDG&E and the CPUC correspondence stating that the pre-energization requirements of this measure have been satisfied.
WR-02c	SDG&E shall consult and coordinate with the USFS, BLM, and the Pacific Crest Trail Association to develop mitigation options to compensate for the final impacts to the PCT. SDG&E shall prepare and submit a report to the BLM and USFS for approval prior to energizing the new transmission line. Projects shall be completed within one year of energizing the transmission line.	Complete – SDG&E, completed and submitted a report with feasible PCT compensation options to the USFS, BLM, and the CPUC on May 30, 2012. On June 15, 2012, the USFS submitted to SDG&E and the CPUC correspondence stating that the pre-energization requirements of this measure have been satisfied.
V-07b	SDG&E shall complete installation of the screening prior to the start of project operation.	Complete – Screening as required by the revised Suncrest Substation Screening Plan, dated October 20, 2011, was installed and inspected by the CPUC on April 24, 2012. A redlined revised Screening Plan was submitted to the CPUC on June 13, 2012, documenting that all of the screening elements within the substation fence line have been agreed upon and energization may proceed. CPUC and SDG&E will continue to work on additional landscaping elements during post-construction.
USFS SUP §III.C	The holder shall prepare and annually review, by February 1st, an operating plan. The operating plan shall be prepared in consultation with the authorized officer and shall cover all operations authorized by the permit.	Complete – SDG&E completed a draft of the operating plan and will continue to work with the USFS throughout the Project's service life. On June 14, 2012, the USFS confirmed that the 2012 Annual Operating and Maintenance Plan satisfied all of the conditions of the Sunrise Powerlink Project Special Use Permit. A copy of this correspondence from the USFS was submitted to the CPUC on June 14, 2012.

10. Restoration and Revegetation

CPUC EMs monitored restoration activities throughout the project to ensure that mitigation measures were adhered to. Restoration activities involved restoring original slopes and/or engineered areas, and application of prescribed hydroseeding/hydromulching to temporary disturbance areas at tower pads, pull-sites, temporary access roads, guard sites, and construction yards. Permanent 100' by 100' tower pad sites and permanent access roads were regraded to promote proper water flow. To maintain accessibility and adherence to the project Fire Plan, no seed was applied. In certain areas, salvaged vegetation was replanted to promote a faster recovery during the revegetation process. Approved vegetation was planted around the Suncrest Substation to aid in the revegetation process on slopes and to provide visual screening.



Photo 40: Hydromulching at EP 89-1 pull site, Link 2.

To meet the requirements of Mitigation Measure B-1a, SDG&E had Site Specific Restoration Plans (SSRPs) prepared by a qualified restoration contractor. Approximately 65 SSRPs were prepared to cover all 260 temporary impact areas. These SSRPs were based on location and the plant communities present at and around each site. Each plan detailed specific restoration goals based on a corresponding pre-project reference site. For each reference site the plans listed dominant species, pre-project native cover, and pre-project non-native cover. Presence of rare plants and any waterways were noted in the SSRPs.

The habitat restoration sites for the Sunrise Powerlink ROW were divided into six sections: desert, mountains east, mountains west, coastal, total uplands, and total wetlands. As shown in Table 20, site preparation, seeding, and cactus planting (if applicable) have been completed for the Sunrise habitat restoration sites. Each habitat restoration site has a rotating monitoring and maintenance schedule. According to the Restoration Plan for Sensitive Vegetation in Temporary Impact Areas (RPSV), during Year 1, maintenance and monitoring site visits will occur at least monthly for the first 120 days after planting and at least four additional times during the remainder of the year. Table 20 provides a summary of progress as of April 2013 for the habitat restoration sites.

Success of a site is determined by the restored physical condition, achieving 75% or more of pre-project native plant cover, 55% or less of pre-project non-native plant cover, and a native species richness of greater than 50% of pre-project data. For consistency, restoration monitoring for all sites was considered to have begun on October 1, 2012, regardless of the actual time of seeding, and this date began the five-year maintenance and monitoring program. However, many sites were not fully restored (i.e., not seeded) until after that date.

Table 20. Sunrise Habitat Restoration Implementation, Maintenance & Monitoring (as of April 2013)

Section	Implementation Tasks (percent complete)			Maintenance Visit (percent complete)			Monitoring (qualitative)			Performance Monitoring (quantitative) 2013
	Site Preparation	Seeding	Cactus Planting	1st	2nd	3rd	1st	2nd	3rd	
Desert	100%	100%	100%	100%	100%	63%	100%	100%	0%	100%
Mountains East	100%	100%	100%	100%	61%	12%		89%	0%	0%
Mountains West	100%	100%	100%	100%	85%	0%	100%	98%	0%	0%

Table 20. Sunrise Habitat Restoration Implementation, Maintenance & Monitoring (as of April 2013)

Section	Implementation Tasks (percent complete)			Maintenance Visit (percent complete)			Monitoring (qualitative)			Performance Monitoring (quantitative) 2013
	Site Preparation	Seeding	Cactus Planting	1st	2nd	3rd	1st	2nd	3rd	
Coastal	100%	100%	N/A	100%	88%	21%	99%	96%	6%	20%
Total Uplands	100%	100%	100%	100%	84%	22%	100%	95%	2%	25%
Total Wetlands	100%	100%	N/A	100%	100%	pending	pending	N/A	N/A	0%

A review of the restoration sites was performed on March 21 and 22, 2013 with a member of SDG&E's restoration team, the CPUC EM, and a restoration biologist from Aspen, to confirm that the requirements put forth in the site-specific restoration plans were being met. A report documenting this review was provided to the CPUC Project Manager.

In general, SDG&E currently is on track to meet its restoration goals. Sites were re-contoured to match the surrounding topography when appropriate. Waterways impacted during construction were restored. Several seedlings were observed that had been included in the prescribed seed mixes used throughout the alignment. Native seedlings not present in the seed mixes were also observed, suggesting that a viable native seed bank was present within the existing soil. However, it was noted that sites seeded in 2012 (primarily sites east of Jacumba Valley Ranch Yard) had noticeably more growth than sites seeded in 2013. The modest germination rates at sites seeded in 2013 is likely attributable to below-average rainfall. It is expected that, with additional rainfall, germination will increase.

11. Public Complaint and Resolution Summary

Public complaints and inquiries about Sunrise Powerlink Project activities reached SDG&E and CPUC through various avenues.

- **SDG&E** established a project community relations office in Alpine, separate from the SDG&E operations center so as to be accessible to the public. Mr. Todd Voorhees, SDG&E, was in charge of the office and community relations, including responding to complaints and concerns. This office also advised people on how to make claims for losses and damages. An SDG&E-established website provided contact information and general project information. Mr. Voorhees was active in attending community and organization meetings and sharing his contact information widely. Notices required to be issued during various aspects of project construction also included Mr. Voorhees' contact information. As required by the CPUC, SDG&E maintained customer complaint logs identifying the name, date/time, issue, SDG&E responsible department, and resolution for contacts from the public. Early in the project, SDG&E established regular open meetings in seven localities: Imperial Valley (El Centro), Boulevard, Campo, Jacumba, Alpine, Lakeside, and Scripps Ranch. SDG&E used these meetings to answer questions about the project. By its own account, after a number of sessions, the utility discontinued the meetings because they had become non-productive events at which the same attendees would repeat the same complaints and make argumentative statements. In lieu of these meetings, SDG&E began regularly attending local planning group meetings in Alpine, Boulevard, and Jacumba. (San Diego County uses local planning groups as surrogates to offer planning suggestions and advice to the Planning Commission and Department regarding their part of the County. The local planning groups have an advisory role only.)
- **CPUC** maintained a separate project call-in telephone line (hotline) and a dedicated email address for people to contact the Commission regarding the project. The CPUC-maintained Sunrise Powerlink Project website provided the contact information, as did public notices. As construction ramped up, CPUC designated Mr. Fritts Golden, Aspen, to address queries and complaints that were distracting field EMs from their duties. Communications directly to Ms. Billie Blanchard, CPUC Project Manager, and to the CPUC project hotline and dedicated email address were forwarded to Mr. Golden for follow-up. The CPUC Project Manager was kept apprised of issues and of progress in their resolution.
- The **San Diego County Supervisor** representing the eastern portion of the County developed an informal communication channel with CPUC/Aspen and SDG&E. This came about because constituents would contact the Supervisor's office, which in turn contacted SDG&E and CPUC/Aspen. The Supervisor's office was both a conduit for complaints by other others and the source of concerns expressed on its own behalf.

Two aspects of the project generated by far the greatest number of contacts: helicopter operations and underground construction on Alpine Boulevard through the community of Alpine. As the activity for both of these operations increased, so did the number of complaints. Addressing the issues raised by these and other operations was more than an occasional task. Therefore, CPUC requested that Aspen appoint a single person to deal with complaints in a timely fashion. This allowed the field EMs and Manager to focus their energies on their primary responsibilities of monitoring compliance with mitigation measures.

Aspen added two additional Monitors to the project to monitor helicopter and cargo issues. From the ground, it is difficult to ascertain an aircraft's altitude or its position relative to objects on the ground. This difficulty became problematic when trying to respond to complaints about helicopter flight paths and altitudes. In addition, absent being in exactly the right place to observe the aircraft, Monitors had only complainant observations to go by, and these could not be verified. As a result, data collection and retention obligations were imposed on the utility with regard to flights and flight paths. The dedicated

Monitors observed operations and requested flight track data when an aspect of the flight required investigation, either as a result of their own observations or from a complaint/allegation. Random tracks were also pulled for review.

Aspen responded to persons making contact through the various communication avenues available. Where appropriate, the complaint or issue was referred to SDG&E community relations for direct follow-up, with CPUC/Aspen being advised of the outcome. Where appropriate, Aspen would confirm with the person reporting a complaint or issue whether it had been addressed. Depending on the topic, Aspen would request information from SDG&E and then address the complaint directly. Aspen and SDG&E Public Affairs kept each other informed of issues as they arose and of their resolution.

Most complaints or information requests were adequately addressed with one or two telephone calls or emails. A few individuals required considerably more attention regarding their particular issues, and a few individuals repeatedly contacted CPUC/Aspen and SDG&E throughout the project with numerous and repetitive complaints, allegations, and general comments.

In situations where it was determined that a complaint was not project-related (e.g., illegally obtaining water from a groundwater well, which was being done by a contractor for a Border Patrol project), the information was passed to the appropriate jurisdiction and the citizen advised of this. In some instances, the CPUC investigated a complaint and the person also was referred directly to the agency with legal jurisdiction. For example, helicopter flight safety complaints went to the Federal Aviation Administration and CPUC/Aspen obtained flight track information, or complaints about weekend construction noise were referred to the County responsible for permit issuance and variances.

Examples of complaints and allegations include:

Helicopter Activity:

- Overflights of buildings while carrying external loads
- Noise disturbing residents
- Noise frightening horses
- Noise and proximity of helicopters causing bird deaths in aviary
- Violating established season bird nesting and sheep habitat buffer areas
- Crossing roads with loads where there is no traffic control
- Flying in an unsafe manner or too low
- Operating on weekends

Alpine Underground Construction:

- Loss of revenue due to construction in front of business
- Loss of business due to general disruption on Alpine Road
- Destruction of vegetation or property
- Blocking property access
- Poor traffic management
- Insufficient or no notice of work to be done
- Temporarily placing materials in public ROW (roadside)

General:

- Portable toilets blown over
- Conductor strung on ground where it would be a hazard to dirt road users
- Dust from construction yards

- Night lighting at construction yard
- Roadside litter
- Speeding vehicles
- Damage to road surfaces and culverts
- Visibility of towers and substation from residences
- Commencing work before time specified in noise ordinance
- Use of city water for dust control
- Damage to water well from blasting

CPUC/Aspen endeavored to contact each person by telephone or reply by email. Most people were pleased that a CPUC representative responded and were satisfied with the explanations and follow-up provided or the additional utility or agency contact information furnished. A few individuals made complaints or allegations over a wide range of topics throughout the project and were rarely satisfied with the information they were given.

A number of public demonstrations occurred at various times during construction. Two demonstrations were noted in the community of Alpine. A large demonstration occurred outside of the Rough Acres Yard during a tower ceremony attended by Governor Schwarzenegger.



Photo 41: Community protestors at the groundbreaking ceremony at the Rough Acres Yard.

12. Operations and Maintenance

A number of Sunrise Powerlink Project mitigation measures and permit conditions include requirements that extend post-construction, into O&M. In terms of project mitigation requirements:

- Under Mitigation Measure B-3a long term implementation of weed control is required in all areas that were temporarily and permanently impacted by the project and will continue throughout its life.
- Mitigation Measure B-7c requires that SDG&E minimize impacts to PBS. Specifically, maintenance activities including the use of helicopters in critical PBS habitat must be limited to times outside of the lambing season or greatest water need, or must operate a minimum of 1,500 feet above the ground. However, maintenance activities in critical PBS habitat may occur during the lambing season or greatest water need if prior approval is obtained from the wildlife agencies.
- Mitigation Measures B-7h requires appropriate avoidance/minimization strategies for eagle nests. No construction or maintenance activities shall occur within 4,000 feet of an eagle nest during the eagle breeding season.
- Mitigation Measure B-12a requires SDG&E to conduct maintenance activities outside of the general avian breeding season. When not feasible qualified biologists shall work with qualified acousticians to conduct noise assessments and if needed surveys in sensitive avian territories. Tree trimming or removal shall only take place between September 16 and December 31, outside of the raptor breeding season.
- Mitigation Measure F-2a requires that SDG&E maintain adequate conductor clearances by inspecting the growth of vegetation along the entire length of the overhead transmission line at least annually.

SDG&E is required to adhere to other O&M requirements, such as arroyo toad habitat work hour restrictions, restoration and restoration criteria inspections reporting, and conducting avian line strike surveys and raven control inspections.

Soon after Sunrise Powerlink energization in June 2012, SDG&E reported to the CPUC and BLM that O&M operations seasonal biological resource buffer restrictions as outlined in the mitigation and permit requirements were problematic. SDG&E proposed easing or eliminating certain requirements especially in regard to PBS and eagle buffer areas. Numerous meetings were held with the CPUC, BLM, USFS, USFWS, and CDFW. The agencies requested that SDG&E provide concrete timelines and frequencies for activities and justifications for proposed changes.

SDG&E has since outlined O&M tasks and timetables and proposed refinements to implementing of O&M mitigation measure requirements. The wildlife agencies stated that the USFWS Biological Opinion will need to be reinitiated or an amendment/addendum be prepared to formalize changes to species conservation measures; the BLM will need to agree, and then the USFWS and BLM will formally consult. SDG&E will simplify and clarify language in the O&M Implementation Plan and prepare a stand-alone PBS O&M Avoidance and Minimization Plan that can be referenced by USFWS. SDG&E must have a process in place that will document any changes to species' habitat over time, and this would mean updating SDG&E GIS layers with species information. The details of this process would be included in the reinitiated BO or an amendment/addendum. The USFWS has recently introduced some flexibility into its administration of applicable laws relevant to eagle territories. Therefore the CPUC and BLM will defer to USFWS on whether exceptions to radial restrictions are acceptable and under what conditions and for what activities.

On November 4, 2013, a joint CPUC/BLM letter was sent to and acknowledged by SDG&E that summarized the lead agencies' understanding of the status of current and future O&M activities as they relate to Sunrise Powerlink Project requirements.