

Jennifer L. Kaminsky SOCRE Environmental Project Manager San Diego Gas & Electric Company (T) 858-503-5028

October 24, 2018

Andrew Barnsdale Project Manager California Public Utilities Commission 505 Van Ness Avenue San Francisco, CA 94102

Re: Notice to Proceed Request No. 4 for Transmission and Distribution Line Work as part of the South Orange County Reliability Enhancement Project.

Mr. Barnsdale:

On December 15, 2016, the California Public Utilities Commission (CPUC) voted to grant San Diego Gas & Electric Company (SDG&E) a Certificate of Public Convenience and Necessity (Decision D.16-12-064) for the South Orange County Reliability Enhancement Project (SOCRE or Project) contingent upon implementation of the Mitigation Monitoring, Compliance and Reporting Program (MMCRP). SDG&E is formally requesting approval of Notice to Proceed No. 4 (NTP-4) from the CPUC for construction of overhead and underground transmission and distribution line work (located west of the San Juan Capistrano (SJC) Substation) as identified herein and described in the Final Environmental Impact Report (FEIR), dated April 25, 2016 (State Clearinghouse No. 2013011011).

Pursuant to the Project's MMCRP, the following information (Sections 1.0 to 11.0) is provided and organized as outlined in Section 3.2.2, Notice to Proceed Process Requirements, and contains all pertinent information required for the CPUC to authorize NTP-4 activities.

1.0 Description of Work and Comparison to FEIR

As described in the Project's FEIR (Section 2.3.3, New Transmission and Distribution Lines; page 2-15) SDG&E will construct new overhead and underground transmission and distribution line work associated with the Project's West-Side Getaways. See below for a full description of NTP-4 work components and a comparison of the components to those described in the FEIR. In addition, please refer to **Attachment A**, **NTP-4 Figure 1** for depiction of the NTP-4 work components.

Distribution and Transmission Line Work

Segment 1a - 138-kV Transmission Lines (West-Side Getaways)

As described in the Project's FEIR, along Segment 1a, four of the six 138-kV transmission lines (TL13833, TL13834, TL13837, and TL13847) will connect to the new 138-kV facilities at the SJC Substation that will exit the substation in new underground conduit installed west under Camino Capistrano to four new steel cable-riser poles (poles No. 1a, 2a, 4a and 5a). Existing steel pole No. 3a, located west of the SJC Substation and adjacent to the existing railway line, will be reused to support TL13833 and will connect to another existing steel pole located south of pole 3a (previously scheduled to be removed) and across to pole No. 5a. Pole 3a and the pole south of pole 3a are currently being evaluated and may need to be replaced based on engineering's recommendations. Existing steel and wood 138-kV utility poles will be removed, and the four lines will continue in overhead positions.

TL13837 and TL13847 will be installed in new underground conduit west of Camino Capistrano prior to transitioning upward on poles No. 1a and 2a on the east side of Avenida de la Vista. The underground conduit will be located within SDG&E's existing right-of-way (ROW) but installed underground. The existing lines, which will be replaced, are overhead.

12-kV Segment A - Getaways (West Side, Underground)

Segment A (identified on NTP-4, Figure 1) will be approximately 930 feet long. Circuits 195, 313, 314, and 799 will be installed in the new underground conduit for the 138-kV getaways out of the west side of the SJC Substation. Two of the circuits will exit the underground conduit to the north to a new cable-riser pole No. D1 and then continue overhead on existing structures, and two circuits will exit the underground conduit to the west and then continue overhead on existing structures.

12-kV Segment B - Circuits 196, 197, and 315 (New Underground Conduit)

Segment B (identified on NTP-4, Figure 1) will be approximately 1,900 feet long. From the SJC Substation, Circuits 196, 197, and 315 will be installed in new underground conduit south along Camino Capistrano and to the west towards Avenida de la Vista. NTP-4 does not include the undergrounding of conduit along Calle Bonita and Calle Santa Rosalia (and eventually east toward Interstate 5). This work will be completed under a separate NTP request.

Other Work

In addition to the distribution and transmission line work described above, NTP-4 work activities include the relocation of a street light located near the north west corner of the SJC Substation, the connection of the SJC Substation's storm water drainage system to the storm drain located in Camino Capistrano, geotechnical investigations, and the reconfiguration of the SJC Substation's driveways along Camino Capistrano.

Comparison of Work to FEIR

The NTP-4 Project components described above are consistent with the descriptions contained within the Project's FEIR and Final Decision, with the addition of minor design and engineering details that were not available during preparation of the FEIR. One change of note is that pole 3a, described in the FEIR as being replaced with a new steel pole may no longer be replaced, as the existing steel pole was recently installed as a result of non-project related work. In addition, the

existing steel pole located just south of pole 3a was recently installed as a result of non-project related work and may be used in place. Pole 3a and the pole south of 3a are currently being evaluated by engineering. If they satisfy engineering requirements, then these poles will be reused in order to reduce impacts in this area related to removal and installation of new structures. In addition, utilization of the existing pole south of 3a will create a perpendicular crossing over the railroad instead of a crossing at 45-degrees, which is generally more acceptable to the railroad for electrical crossings. As shown on Figure 1, the reuse of the existing steel poles will result in a slightly modified angle for TL13833's crossing of the railroad line and the need to remove and replace one pole would be reduced from the Project's scope of work.

One other minor change is the potential shift in the location of the cable pole at the corner of Calle Lorenzo and Camino Capistrano. The location of this pole is contingent on the location of underground utilities, soil conditions and land rights. However, based on information available the location is identified on Figure 1 and is approximately 6-ft north and 2-ft east of the location identified in the FEIR.

2.0 Description of Activities for Project Component

As described in the Project's FEIR (Section 2.4.5, Transmission Line Construction and Removal; page 2-49) and below, SDG&E contractors will complete transmission and distribution line work activities. Please note that the activities described below illustrate the more substantial activities to occur during construction but are not comprehensive of every activity that must be performed to construct transmission and distribution line work, including those activities associated with construction mitigation and compliance described in the Project's MMCRP and approved plans. In addition, geotechnical work or soil testing may be needed to finalize design requirements for the facilities discussed herein.

Overhead Transmission Line Construction

The steel poles will be delivered in sections and assembled within the temporary work area (as shown on NTP-4, Figure 1) or at a nearby staging area (e.g., SJC Substation), a large crane will be used to lift and install each steel pole in the ground. Poles will be installed either via direct-bury with guy wire anchors (as needed) or using foundations depending on soil conditions. Guy wires will be installed in a manner that would not impede public access or create a safety hazard. Aerial bucket trucks are used to access structure arms as needed for modifications after the poles are installed.

After the poles are installed, stringing equipment will be set up on either end of a pull to pull (or string) the conductor into place using conventional pulling equipment located at each conductor pull site.

Where necessary, guard structures will be installed temporarily to protect roadways railways, and utility corridors. Traffic control may also be used for roadway and railway crossings. Please refer to Section 10, Permits and Approvals, for additional information regarding NTP-4 permit requirements.

Existing Steel and Wood Pole Removal

Existing transmission line poles and components (e.g., cross arms, hardware, conductor insulators) will be removed and properly recycled or disposed of in accordance with applicable laws and regulations, as well as the Project's Hazardous Materials and Waste Management Plan (HMWMP) and Hazards and Hazardous Materials Mitigation Measures (MMs) and Applicant Proposed Measures (APMs) described in **Attachment B**, **MMCRP Requirements Tracking Table for NTP-4**. The hole will be backfilled with clean fill or bentonite and the site will be stabilized and restored.

Underground Transmission Line Construction

The majority of the underground conduit will be installed using open-cut trenching techniques. Single-circuit transmission line trenches will be approximately 7 feet deep and 3 feet wide. Trench depth will vary depending on soil stability and the presence of existing substructures. The trench will be widened and shored where necessary to meet California Occupational Safety and Health Administration safety requirements.

Trenching operations will be staged so that approximately 300 to 500 feet of trench is left open on a street at any one time, or as allowed by local permit requirements (e.g., City of San Juan Capistrano traffic control permit¹). While the completed trench sections are being restored, additional trench sections will be excavated. This process will continue until trenching is completed. If water is encountered, trenches will be dewatered in accordance with the Project's HMWMP and all applicable laws and regulations.

After trenching, SDG&E will install conduit to house the electrical cables and pour concrete around the conduit to form duct banks. Approximately 8-inch diameter PVC conduit will be installed. Additional spare ducts and ducts for communication cables will be installed in the same trench as the conductor cables.

Road base backfill, or a slurry concrete cap, will be installed after backfilling, and disturbed road surfaces will be restored in compliance with local permits.

Cable Pulling, Slicing, and Termination

Each conductor section will be spliced at the vault or cable pole and pulled into the conduit. Similar to the overhead work, a cable-pulling rig will be placed at one end and a cable reel at the other end to pull the conductor through the conduit vault to vault until the underground conductor reaches a substation or a transition area (i.e., cable pole) where the conductor converts to an overhead installation.

¹ Per City of San Juan Capistrano Traffic Control Permit Special Conditions, during non-construction hours, all open trenches or other openings shall be backfilled with temporary asphalt concrete (A.C.) or covered with steel plates secured with spikes and temporary A.C. feathered edges or as otherwise directed by local authorities.

Vault Installation

SDG&E will excavate and place vaults in regular intervals during trenching for conduit installation. The vaults are used to pull cables through the conduits and splice cable together. Each vault would have one or two manhole covers and would take approximately one week to install.

Trenchless Drilling

Trenchless drilling will be used to install new underground conduit beneath Camino Capistrano and under the railroad tracks, west of the SJC Substation. It is anticipated that the jack and bore method will be used, which involves the use of an auger to push a steel casing through the soil, followed by installation of Hobas piping (or steel conduit) approximately 45 inches wide (previously identified as 36-inch Hobas piping or steel conduit per the Project's FEIR). Trenchless drilling will be a continuous operation and may require overnight work. As such, the drilling will be performed in accordance with APM NOISE-1, MM NV-1 and MM NV-3 (as applicable) and measures contained in the Project's Noise Control Plan (MM NV-5) will be implemented.

12-kV Overhead Distribution Line Installation

The two 12-kV structures will be installed either through the direct-bury or foundation construction methodology. The holes for each pole will be excavated using a drilling rig and new poles will be delivered to the worksite by a flatbed truck. Assembly and erection will be similar to the description provided above for the transmission line poles. Crane and boom/bucket truck sizes will vary depending on the height of the pole.

Bucket trucks or temporary guard structures will be at road crossings and/or flaggers will be used to halt traffic for brief periods while overhead conductor is installed. Conductor stringing activities for the overhead distribution circuits will be similar to the methodology used for the transmission lines.

As shown on NTP-4 Figure 1, SDG&E will perform potholing and/or geotechnical investigations within the delineated polygon at the corner of Calle Lorenzo and Camino Capistrano in order to identify existing underground utilities and confirm soil conditions. This information will be used to finalize the engineering design and location of the distribution cable pole within the work area shown on Figure 1. The existing wood distribution pole will be removed as shown in Figure 1 and replaced with a steel cable pole.

12-kV Underground Distribution Line Installation

Underground distribution lines will be installed in a duct bank composed of PVC conduit, along with manholes/handholes. Trench depth will be determined based on site-specific topography and soil conditions, but it is anticipated that the trenches will be approximately 6 feet deep and 2.5 feet wide. Vaults will be installed in-line with the underground duct banks approximately every 500 to 800 feet. Vaults will be delivered to the associated work areas on flatbed trucks and lowered into place using small, truck-mounted cranes.

After conduit installation, concrete will be poured around the conduit to form duct banks. Conductor cables will be installed in the duct banks upon completion of the duct bank installation. Each cable segment will be pulled into the duct bank and terminated at the cable-riser pole where the line converts to an overhead configuration.

Strom water Drainage System Connection

SDG&E will connect the SJC Substation's storm water drainage system to the main storm drain line located on Camino Capistrano at two locations. At each location, a trench will be dug across Camino Capistrano where the storm drain pipelines will be installed and connected to the main line. Once connected, road base backfill, or a slurry concrete cap, will be installed after backfilling, and disturbed road surfaces will be restored in compliance with local permits.

3.0 Staging

As authorized by CPUC in NTP-2, NTP-4 work activities will mainly utilize the SJC Substation property for construction staging. As such, most of the required long-term staging, laydown areas, equipment storage and Project vehicle parking necessary to support the activities included in NTP-4 will be conducted within the existing SJC Substation property.

As necessary to complete work on Camino Capistrano and other private and public ROWs, temporary equipment parking and materials storage will occur on the public ROW as authorized by the City of San Juan Capistrano through the encroachment and traffic control permitting process. Construction workers may park personal or company vehicles in legal parking locations on city streets near the SJC Substation or other Project components in accordance with local parking restrictions.

4.0 Location of Project Components

NTP-4 work activities will take place west of the SJC Substation, from Calle Lorenzo at the northern extent, to Calle Bonita at the southern extent, and to Avenida de la Vista at the western terminus. The approximate 2.3-acre work area is bounded by mostly residential land uses and the majority of NTP-4 work will be located on Camino Capistrano, adjacent to the railroad line and within SDG&E's existing ROW. Please refer to Figure 1 in **Attachment A**, **NTP-4 Figures**, for a view of the transmission and distribution components. Prior to the commencement of NTP-4 work activities, SDG&E will obtain any additional land rights (temporary and/or permanent) that will be required to install the Project components included in this NTP request.

5.0 Estimated Area of Land Disturbance

As described in the Project's FEIR, the transmission and distribution line work are designated for approximately 0.05 acre of permanent and 2.24 acres of temporary disturbance. In accordance with the Construction General Permit (2009-0009-DWQ [As amended by 2010-0014-DWQ and 2012-0006-DWQ]), effective soil cover (e.g., hydromulch or another effective soil stabilization technique) will be applied on disturbed, inactive areas in order to control erosion in compliance with the Project's Stormwater Pollution Prevention Plan (SWPPP).

6.0 Construction Schedule and Duration

Construction associated with NTP-4 activities is anticipated to begin within 30 days of issuance of NTP-4 and satisfaction of all preconstruction requirements, including obtaining all necessary ministerial permits as described in Section 10.0 of this NTP request. The transmission and distribution line work will take approximately 30 months to complete. As described in MM NV-1, daily construction equipment operating used and staging hours are planned for daylight hours (7:00 A.M. to 6:00 P.M.), Monday through Friday. Work may occur on Saturdays as needed to meet schedule demands. If construction activities are necessary outside of these hours outlined in the City of San Juan Capistrano noise ordinance (e.g., nights, holidays, and Sundays), SDG&E will follow the terms and notifications outlined in MM NV-1 and the Project's approved Noise and Vibration Control Plan.

7.0 Construction Personnel

Approximately 20 to 30 construction personnel will typically be onsite for NTP-4 work activities. Peak number of construction personnel, including SDG&E management and environmental compliance personnel, onsite at one time for NTP-4 activities will be approximately 45 personnel. Please see Attachment B, MMCRP Requirements Tracking Table for NTP-4 for further details on applicable monitoring requirements.

8.0 Off-Road Diesel Equipment List

In addition to the list below, hand tools, hand power tools and equipment rated less than 50 horsepower may be used for NTP-4 work activities, SDG&E anticipates conducting SJC Substation rebuild and upgrade activities (described in Section 2.0) using the equipment listed in the table below.

Equipment Description	Fuel Type	On-Road or Off-Road		
Water Truck	Diesel	On-Road		
Water Truck	Diesel	Off-Road		
289 Skid Steer	Diesel	Off-Road		
430 Backhoe	Diesel	Off-Road		
930 Loader	Diesel	Off-Road		
Chipper	Diesel	Off-Road		
End Dump	Diesel	On-Road		
Dozer	Diesel	Off-Road		
Road Grader	Diesel	Off-Road		
Compactor	Diesel	Off-Road		
Loader	Diesel	Off-Road		
Dump/Haul Truck	Diesel	On-Road		
Excavator	Diesel	Off-Road		
2-ton Flatbed Truck	Gasoline	On-Road		
Aerial Bucket Truck	Diesel	On-Road		
100 Ton Crane	Diesel	Off-Road		
15-ton Crane	Diesel	Off-Road		
Drill Rig with Auger	Diesel	On-Road		
Concrete Truck	Diesel	On-Road		
Backhoe	Diesel	Off-Road		
Fork Lift	Diesel	Off-Road		

Equipment Description	Fuel Type	On-Road or Off-Road
Trencher	Diesel	Off-Road
Handheld Compactor	Gasoline	Off-Road
Boom Lift	Diesel	Off-Road
Jack-n-Bore Machine	Diesel	Off-Road

All equipment and vehicles anticipated to be used to complete NTP-4 construction activities are identified in the equipment list outlined in Appendix F, Detailed Construction Equipment Use tables, of the Project's FEIR. If equipment not listed in Appendix F or above is needed during construction, it will comply with the tier rating and reporting requirements found in APM AQ-2 and actual emissions will be tracked and reconciled in compliance with MM AQ-1. In support of compliance with MM AQ-1, SDG&E provided estimated construction NOx emissions calculations to the CPUC for all construction activities anticipated to occur in 2017 and 2018, which includes activities identified in NTP-4. As required by MM AQ-1, SDG&E will submit additional NOx emissions calculations annually through the end of construction prior to continuing work at the beginning of each calendar year.

9.0 Preconstruction Requirements, Status and Mitigation Measures/Applicant Proposed Measures

During construction of the components described herein, SDG&E will implement all applicable APMs and MMs as identified in the Project's FEIR and in the MMCRP. The applicability and status of all APMs and MMs included within the Project's MMCRP is provided in Attachment **B**, **MMCRP Requirements Tracking Table for NTP-4**. The table is color coded for easy reference by applicability, timing and the status (if the measure contains a preconstruction requirement). Preconstruction measures that are pending as noted in Attachment **B** include the following:

- *MM BR-3: Preconstruction Surveys*: A CPUC-approved, qualified biologist will perform a preconstruction survey within 14 days of the start of ground disturbance.
- *MM GEO-1: Conduct an Engineering-level Geotechnical Investigation for Liquefaction Potential and Implement Recommended Design Measures*: Prior to construction, an engineering-level geotechnical investigation shall be performed at Pole Nos. 1a through 5a.

Prior to construction, SDG&E will communicate the environmental concerns and appropriate work practices to all SDG&E crews and contractors through a Safety Environmental Awareness Program (SEAP) training. The SEAP includes, but is not limited to, a review of air quality, archaeological and paleontological resources, biological resources, dust control measures, hazardous waste and spill prevention, construction fire control and emergency response measures, and noise control measures. SDG&E has been completing SEAP trainings as necessary since the start of construction and will continue to provide training for NTP-4 activities.

10.0 Permits and Approvals

Construction activities included in NTP-4 will require the local agency and state permits listed in the table below. SDG&E will obtain all necessary permits prior to initiating the specific Project

activities triggering each permit requirement. Copies of all permits will be made available to the CPUC in accordance with the MMCRP Section 4.

Agency	Permit/Approval	Applicability to Project Component
City of San Juan Capistrano	Recycled Water Truck	Transportation of recycled water
	Program/Recycled Water Use Permit	required for NTP-4 activities.
State Water Resources	Construction General Permit and	Ground disturbance of over 1 acre. The
Control Board	Stormwater Pollution Prevention Plan	Project's current SWPPP (WDID
		930C381897) covers the activities
		described in NTP-4.
California Department of	Hauling Permit	Use of oversized delivery trucks on a
Transportation		State highway. and local roadways as
		required, and encroachment into City
		ROW.
City of San Juan Capistrano	Traffic Control Permit	Traffic control for lane closures on City
		streets as required for NTP-4 work
		activities.
City of San Juan Capistrano	Encroachment Permit	Approval for work within the City's
		public ROW (e.g., underground work on
		Camino Capistrano).
Metrolink/Amtrak/ Southern	Railroad Crossing Permit, Right of	Permission to install overhead conductor
California Regional Rail	Way Encroachment, Right of Entry,	cable across railroad lines. Permission to
Authority	Construction Design and Plans	construct within and under (jack-and-
	Approval	bore trenching) a railway ROW.
		Approval of design, construction, and
		construction staging plans.

SDG&E submitted a Construction General Permit Notice of Intent and SWPPP by uploading the documents to the State Water Resources Control Board Storm Water Multiple Application Report Tracking System on December 1, 2017. WDID number 930C381897 was issued for work on the SJC Substation property on December 4, 2017. The SWPPP will be amended to fully cover all of the NTP-4 activities. A copy of the Project's SWPPP will be kept and maintained onsite and can be provided to the CPUC upon request. The Project's Notice of Intent and SWPPP can be accessed via the following link:

https://smarts.waterboards.ca.gov/smarts/faces/PublicDataAccess/PublicNoiSearch.xhtml (Search Application ID 492681)

NTP-4 construction activities will be conducted within the City of San Juan Capistrano public ROW. As outlined in the above table, a traffic control permit and encroachment permit are required for this work and will be obtained prior to the start of construction activities that are within the public ROW. Furthermore, SDG&E will implement the Project's FEIR APM TR-1 (Avoid Traffic Near Schools), APM TR-2 (Avoid SR-74 Traffic), APM TR-3 (Emergency Access) and APM TR-4 (Off-Peak Deliveries) that will minimize potential impacts to public safety as described in **Attachment B**.

11.0 Request for Approval

SDG&E respectfully requests authorization of NTP-4 to construct the overhead and underground transmission and distribution line work located west of the future SJC Substation as conditioned on any pending pre-construction requirements identified herein and in **Attachment B** by October

31, 2018. Should you have any questions or need additional information, please to not hesitate to contact me at (858) 503-5028 or by email at <u>jkaminsky@semprautilities.com</u>.

Sincerely,

Sf I.K.J

Jennifer L. Kaminsky SOCRE Environmental Project Manager

Attachment A: NTP-4 Figure 1 Attachment B: MMCRP Requirements Tracking For NTP-4

 cc: Joe Donaldson, Ecology and Environment, Inc. Keri Cuppage, SDG&E
 Kelly Stallings, SDG&E
 Mary Turley, SDG&E
 Kenda Pollio, KP Environmental ATTACHMENT A NTP-4 Figure 1



SOCRE PROJECT

NTP-4 FIGURE 1 SAN JUAN CAPISTRANO SUBSTATION

San Juan Capistrano Orange County, CA

LEGEND

0	Existing Transmission Structure
•	Existing Transmission Structure (pole may be replaced dependant on engineering requirements)
○○	Proposed Transmission Riser Pole Proposed Location for New Distribution Riser Pole
×	Existing Structure to be Removed
\otimes	Storm Drain
212 212	Street Light Relocation Proposed 138 kV Overhead Transmission Line Proposed 138 kV Underground Transmission
	Line Proposed 12 kV Overhead Distribution Line Proposed 12 kV Underground Distribution Line - Segment A Proposed 12 kV Underground Distribution Line - Segment B Storm Drain Pipeline
	Potential Access Road
·	Railroad Potholing and Distribution Cable Pole Work Area Jack and Bore Pit
	Temporary Work Area
	Vault
	Permanent Work Area
	San Juan Capistrano Substation Site
0 L	25 50 75 100 Feet
OS ANGE COUNTY	



ATTACHMENT B MMCRP Requirements Tracking Table For NTP-4

APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM)	TIMING	APPLICABILITY TO NTP-4	STATUS
AESTHETICS			
APM AES-1: Clean Work Areas. During construction, SDG&E would keep construction activities as clean and inconspicuous as practical.	During Construction and Restoration	Applicable	SDG&E and its contractors will implement this measure during NTP-4 activities.
APM AES-2: Restoring Disturbed Areas. When proposed project construction has been completed all disturbed terrain would be restored through recontouring and revegetation in order to reestablish a natural appearing landscape and reduce potential visual contrasts between disturbed areas and the surrounding landscape.	During Restoration	Applicable	Upon completion of NTP-4 activities, all disturbed terrain will be restored per the applicable restoration related requirements, including those mandated by MM AES-2.
APM AES-3: Visual Screening - San Juan Capistrano Substation. The applicant would install landscaping and a screening wall would be installed in key areas along the perimeter of San Juan Capistrano Substation to partially screen views of substation structures and to visually integrate the new substation facilities with the existing setting. Figure 2-4 depicts the general location of new substation landscaping. Plant material would be appropriate to site-specific conditions and the local landscape setting. Landscaping would be consistent with technical requirements for proposed project operations and maintenance and would incorporate input from the City of San Juan Capistrano, local residents, and SDG&E's facility security.	Restoration and Operation	Not Applicable	NTP-4 activities including overhead and underground transmission and distribution line work are located outside the future San Jan Capistrano (SJC) Substation property.
MM AES-1: Architectural Review of San Juan Capistrano Substation. To ensure that the aesthetic design of San Juan Capistrano Substation facilities, such as walls, buildings, and landscaping, are consistent with the City of San Juan Capistrano's aesthetic design criteria, the applicant shall submit a revised series of elevations and a landscape plan to the City's Architectural Review Board (ARB) prior to filing for grading and building permits. The ARB shall have the opportunity to provide input to the CPUC on whether the applicant's revised plans are consistent with the City's aesthetic design criteria and if any modifications are appropriate. The CPUC will take into account the ARB's input in reviewing and approving the aesthetic design and landscaping for the San Juan Capistrano Substation. The applicant shall not initiate ground-disturbing activities until the CPUC approves the aesthetic design and landscaping plan for the San Juan Capistrano Substation.	Pre-construction	Not Applicable	Complete. The CPUC approved the Project's Aesthetic Design Plan on April 16, 2018. However, NTP-4 work activities will take place outside the SJC Substation property.
MM AES-2: Minimize Clearing and Ground Disturbance and Restore Disturbed Areas to Pre- Project Conditions. Clearing and ground disturbance required for construction, operation, and maintenance, including, but not limited to, access roads, pulling sites, construction and maintenance pads, and construction laydown areas, will be the minimum required, and the applicant will consult with the CPUC to identify and implement methods to restore disturbed areas to pre-construction conditions for all areas not required for operation and maintenance.	During Construction, Restoration, and Operation	Applicable	NTP-4 activities will occur within the area located west of the SJC Substation and is part of the Project's approved temporary and permanent impact area. At the completion of construction activities, the area will be restored per

South Orange County Reliability Enhancement ProjectMeasure Not Applicable to NTP-4NTP-4 RequestApplicable to NTP-4 – Measure to be Implemented During
Construction/Restoration/OperationOctober 2018Applicable to NTP-4 – Pre-Construction Status Pending/Ongoing
Applicable to NTP-4 – Pre-Construction Status Complete/Approved

APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM)	TIMING	APPLICABILITY TO NTP-4	STATUS
The applicant will consult with the CPUC to identify and implement methods to restore disturbed areas to conditions that would blend with the overall landscape character, to the extent feasible. Areas around new or rebuilt transmission structures that must be cleared during the construction process or other areas of ground disturbance will be regraded and revegetated to restore these areas to an appearance that will help blend them into the overall landscape character.			applicable restoration related requirements, including in local ministerial encroachment permits (e.g. road repaving) or through coordination with property owners.
MM AES-3: Screen or Effectively Locate Laydown Areas. Laydown areas within view of residences, scenic roads, and recreational facilities will be effectively located to limit views (aesthetic effects) of materials, equipment, vehicles, and other items used during construction. Staging and laydown areas that cannot be located away from public views will be screened using opaque fencing or landscaping to limit aesthetic effects. Where laydown areas are visible from publicly accessible areas and roads, any associated signage will be kept to the minimum necessary to communicate information about the project, safety, and security. All laydown areas will be effectively reclaimed immediately following completion of their use.	During Construction and Restoration	Applicable	A temporary construction fence (with tan mesh screening) was installed at the SJC Substation staging yard as part of NTP-2 and would effectively screen views of NTP-4 staging activities within the SJC Substation.
MM AES-4: Glare and Color Contrast Reduction for Transmission Structures and Conductors. To reduce potential glare and color contrast for components of the project, the finish on all new transmission structures will be non-reflective (e.g., steel that has been galvanized and treated to create a dulled finish) to reduce light reflection and color contrast and help blend the structures into the landscape setting. All new transmission conductors will be non-specular to minimize conductor reflectivity and help blend them into the landscape setting.	During Construction	Applicable	Transmission poles will have a dulled steel finish and conductor connected to the transmission poles leaving the SJC Substation will be non-specular.
MM AES-5: Shield or Downcast Construction Lighting. To reduce the potential for visual impacts associated with construction lighting, lighting for construction activities will be limited to an amount required for safety of construction personnel and security of construction equipment. In order to minimize the effect of light pollution in the surrounding area, all construction lighting will be operated and oriented to mostly or fully eliminate off-site light spill at all times.	During Construction and Restoration	Applicable	SDG&E will implement MM AES-5 during NTP-4 activities.

South Orange County Reliability Enhancement Project	Measure Not Applicable to NTP-4
NTP-4 Request	Applicable to NTP-4 – Measure to be Implemented During
	Construction/Restoration/Operation
October 2018	Applicable to NTP-4 – Pre-Construction Status Pending/Ongoing
Page 2 of 37	Applicable to NTP-4 – Pre-Construction Status Complete/Approved

APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM)	TIMING	APPLICABILITY TO NTP-4	STATUS
AIR QUALITY			
 APM AQ-1: Control Fugitive Dust Emissions. The applicant would minimize fugitive dust by: Using a gravel apron to reduce mud/dirt track-out from unpaved truck exit routes. Applying water to disturbed areas within a construction site. Limiting the onsite vehicles to a 15-mph speed limit on unpaved roads. If necessary, SDG&E or its contractor(s) can install speed monitoring equipment at strategic locations and along project roads. Requiring all trucks hauling dirt, sand, soil, or other loose material to be covered with a fabric tarp and maintain a freeboard height of 12 inches. Applying a cover to storage piles when wind events are declared. 	During Construction and Restoration	Applicable	SDG&E will implement this measure during NTP-4 activities.
Requiring local streets to be swept by Rule 1186-compliant PM10 efficient vacuum units a minimum of once per month.			
 APM AQ-2: Minimize NOX and Particulate Matter (PM) Emissions from Off-Road Diesel-Powered Construction Equipment. Where available, SDG&E will ensure that all off-road diesel-powered construction equipment with engines greater than 50 horsepower are compliant with Tier 4 interim or Tier 4 off-road emissions standards, as specified by the phase-in schedule below: 2015: 5% Tier 4 interim engines 2016: 10% Tier 4 engines 2017: 20% Tier 4 engines 2018: 30% Tier 4 engines 2019: 40% Tier 4 engines 2020: 50% Tier 4 engines 2020: 50% Tier 4 engines 2019: 40% Tier 4 engines 2020: 50% Tier 4 engines 2019: 40% Tier 4 engines 2020: 50% Tier 4 engines 2020: 50% Tier 4 engines hall be operated with tailpipe retrofit controls that reduce exhaust emissions of NOx and PM to no more than Tier 3 emission levels. Equipment with an engine not compliant with the Tier 4/Tier 4 interim standard will be allowed only when the applicant has performed (and documented) a good faith effort (due diligence) to locate Tier 4 and/or Tier 4 interim equipment in the Project vicinity (defined as within 200 miles of the Project site). Use of older equipment (operated with tailpipe retrofit controls that reduce exhaust emissions of NOx and PM to no more than Tier 3 emission levels) would be allowable following due diligence and associated documentation that no Tier 4/Tier 4 interim equipment (or emission sequivalent retrofit equipment) is available for a particular equipment type. Each 	During Construction and Restoration	Applicable	NTP-4 activities will utilize off-road diesel-powered construction equipment with engines greater than 50 horsepower and that are compliant with Tier 4 interim or Tier 4 off-road emissions standards as specified in the phase-in schedule for years 2018 through 2020. Construction occurring after 2020 will continue to meet a minimum of 50% Tier 4 usage. In the event SDG&E cannot achieve the Tier 4 equipment minimum usage requirements provided, documentation of due diligence will be submitted to the CPUC per APM AQ-2.

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case shall be documented with written correspondence (or signed statement and electronic mail) by the appropriate construction contractor, along with documented correspondence from at least two construction equipment rental firms providing equipment within the defined project vicinity (200 miles). Documentation of due diligence will be submitted to CPUC staff for before equipment is used on the project. The applicant will make available to CPUC staff and/or construction monitors a copy of each piece of construction equipment's certified tier specification, BACT documentation, and/or CARB or SCAQMD operating permit, as applicable, at the time of mobilization of each applicable unit of equipment.				
MM AQ-1: Oxides of Nitrogen (NO_x) Credits. The emissions of NO _x due to construction of the proposed project will be mitigated through the purchase of Regional Clean Air Incentive Market Trading Credits (RTCs) for every pound of NO _x emissions in excess of the SCAQMD regional significance threshold of 100 pounds per day. The total amount of NO _x RTCs to be purchased will be calculated when the construction schedule is finalized. The applicant will purchase and submit the required RTCs to the SCAQMD at least 60 days prior to the start of each construction year for the upcoming year of construction. The applicant will also track actual daily emissions during construction according to a monitoring plan that includes records of equipment and vehicle usage.		Pre-construction and during Construction	Applicable	Complete. As per the 2017 and 2018 NOx Construction Emissions Mitigation Analysis Memo submitted to the CPUC on 11/3/2017, estimated emissions for 2017 and 2018 construction activities, including NTP-4 activities, are below the 100 pounds per day threshold. Therefore, no credits need to be purchased for work associated with this NTP. SDG&E will track actual daily emissions during construction as required by the Project's monitoring plan. Furthermore, given that Project activities extend beyond 2018, SDG&E will submit estimated NOx emissions calculations (and purchase credits if required) for future construction years prior to continuing construction into 2019 and beyond.
BIOLOGICAL RESOURCES				
SDG&E Subregional Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP) Operational Protocols: See Appendix O.		Pre-construction, during Construction, and Operation	Not Applicable	None of the work areas associated with NTP-4 are considered natural areas subject to the requirements of the NCCP/HCP.
NTP-4 Request Applicable Construction		Not Applicable to e to NTP-4 – Meas ion/Restoration/(sure to be Imple Operation	-
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 MM BR-1: Limit Construction to Designated Areas and Protect Riparian, Aquatic, and Wetland Areas. In all project locations, vehicular traffic (including movement of all equipment) will be restricted to established construction areas indicated by flagging and signage. CPUC notification and approval will be required for any additional disturbance areas already identified and evaluated for the project pursuant to CEQA. As feasible, the applicant shall use disturbed or low habitat value areas before using undisturbed or higher quality habitat areas, as determined by a qualified biologist. Prior to ground disturbing activities, sensitive resources, such as waterbodies, oak trees, special status plant populations, and natural communities, will be clearly marked and avoided. All aquatic features, including vegetated washes, creeks, drainages (ephemeral and perennial), and riparian areas, will be spanned by the 230-kV transmission and 12-kV distribution line where possible. If construction will occur within 200 feet of an aquatic feature, biological monitors will establish and maintain a minimum exclusionary buffer of 50 feet from the delineated extent of all jurisdictional wetland features. If the applicant cannot maintain the 50-foot exclusionary buffer, the applicant shall consult with USACE and CDFW regarding potential impacts to streams or wetlands. If nighttime lighting is necessary adjacent to aquatic areas, lighting shall be shielded away from these areas to prevent impacts on aquatic wildlife. 	Pre-construction, during Construction, and Operation	Applicable	All NTP-4 activities will be limited to the area located west of the SJC Substation site that is part of the Project's approved temporary and permanent impact area. There are no riparian, aquatic or wetlands areas and no occurrences of state or federally listed species within NTP-4 work limits.
MM BR-2: Biological Monitoring. CPUC-approved, qualified biological monitors will be present during construction and restoration activities in areas where sensitive resources identified by a CPUC-approved biologist may be impacted by construction of the project. Biological monitors will be assigned to the project in areas of sensitive biological resources. The monitors will be responsible for ensuring that impacts on special status species, native vegetation, wildlife habitat, or unique resources will be avoided to the fullest extent possible. Where appropriate, monitors will flag the boundaries of areas where activities will need to be restricted in order to protect native plants and wildlife or special status species. Those restricted areas will be monitored to ensure their protection during construction. The applicant shall submit the biological monitors' daily monitoring reports and monthly biological monitoring reports to the CPUC, CDFW and USFWS.	During Construction and Operation	Applicable	While the NTP-4 work area is not identified as an area where sensitive resources are present, biological monitors may be onsite during NTP-4 activities as needed to monitor compliance with biological Mitigation Measures and applicable Plans.

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 MM BR-3: Pre-construction Surveys. a. Pre-construction surveys will be conducted by CPUC-approved, qualified biologists according to standardized methods. Surveys will encompass all construction areas. Existing baseline vegetation data will be used during post-construction restoration efforts, as outlined in Section 7 of the SDG&E Subregional NCCP/HCP. Pre-construction surveys will take place for each discrete work area within 14 days of the start of ground disturbance, or if work has lapsed for longer than 14 days. b. Additionally, a CPUC-approved, qualified biologist will conduct pre-construction clearance sweeps for special status species at all access, staging, and work areas where suitable habitat is present within approximately 24 hours of construction and restoration activities each day. c. In addition to these pre-construction surveys, a CPUC-approved biologist will conduct protocol-level surveys for coastal California gnatcatcher and least Bell's Vireo along the proposed 12-kV distribution line where surveys have not yet taken place. A CPUC-approved biologist will also perform protocol-level southwestern willow flycatcher and rare plant surveys throughout the entire project area, where suitable habitat exists. If a special status species is found at any time, the CPUC will be notified within 48 hours, and the CPUC will determine the need for additional consultation with the appropriate resource agency or agencies. 	Pre-construction (no more than 14 days).	Applicable	Ongoing. a. Resumes for qualified biologists were approved by the CPUC on June 16, 2017. SDG&E will continue to provide additional resumes for approval throughout construction as needed. CPUC approval of the resume is required prior to a new biologist starting work on the Project. Pre-construction surveys will be performed prior to start of NTP-4 ground-disturbing activities as required. b. Suitable habitat is not present within NTP-4 work areas; therefore, this portion of the measure is not applicable. c. Suitable habitat is not present within NTP-4 work areas; therefore, this portion of the measure is not applicable. If special status species are found during construction, the CPUC will be notified and surveys will be performed as required.	
MM BR-4: Limit Removal of Native Vegetation Communities and Trees. The removal of native vegetation and trees will be limited to the minimum practicable area required for construction of the project. To the extent feasible, grading, grubbing, graveling, or paving will only occur for permanent project components. Temporary staging areas will be used in such a way that it facilitates post-construction restoration, per Section 7 of the SDG&E Subregional NCCP/HCP. Drive-and-crush methods will be employed, with the exception of those areas where this method is not feasible for temporary staging areas for safety reasons and placement of temporary structures, such as construction trailers and drop tanks.	During Construction and Restoration	Applicable	Although native vegetation and tree removal are not anticipated, ornamental tree removal for the jack & bore under the rail road tracks west of the SJC Substation, as well as the removal of any hazard trees beneath the 138 kV transmission lines, will be required. SDG&E will implement MM BR-4 during NTP-4 construction as necessary.	
MM BR-5: Avian Safe Building Standards. The applicant will design all transmission structures installed as part of the proposed project to be consistent with the Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006 (APLIC 2006).	Pre-construction	Applicable	Complete . The transmission structures have been designed and will be constructed in accordance with Avian Safe Building Standards.	
MM BR-6: Migratory Birds and Raptors Impact Reduction Measures. The applicant will develop a Nesting Bird Management Plan in consultation with the USFWS, CDFW, and CPUC that	Pre-construction, during	Applicable	Complete. The Nesting Bird Management Plan was approved by the	
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 outlines protective measures and BMPs that will be employed to prevent disturbance to active nests of both special status and Migratory Bird Treaty Act (MBTA) -protected bird species with the potential to occur in the project area. The Nesting Bird Management Plan will include the following components: Appropriate survey timing, extents, and methods, including dates of local breeding season when surveys must take place; monitoring and reporting protocol; protocol for determining whether a nest is active; and protocol for documenting, reporting, and protecting active nests within construction and restoration areas will be included in the Nesting Bird Management Plan. If pre-construction survey protocols exist for a-special status avian species with a potential to be impacted by the project, the plan will outline the implementation of these protocols. The survey area will include the construction area, plus an additional distance large enough to accommodate the protective buffer of MBTA-protected bird species likely to occur in proximity to the construction area. The plan will also specify approved nest deterrent methods, inactive nest management, and state that project-related nest failures will be reported to the USFWS and CDFW. Appropriate and effective buffer distances, including horizontal buffers from nests, horizontal buffers from territories, if appropriate, and vertical buffers for helicopters will be included. Buffers will not be based on generalized assumptions regarding all nesting birds, but will be specific to the site and species/guild and account for specific stage of nesting cycle and construction work type. During constructions for common species must be approved by the CPUC-approved avian biologist and USFWS, CDFW, and the CPUC. Buffer reductions for common species must be approved by the CPUC-approved avian biologist and USFWS, CDFW, and hoise for each class of helicopter (i.e. Light Duty, Medium Duty, and Heavy Duty). Surveys and monitoring of the active buffer area	Construction, and Restoration		CPUC on 8/16/2017. SDG&E will implement the Plan as required during construction.

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that the plan will be finalized no more than two months prior to the start of construction. The final plan will be implemented during construction and restoration activities. A Nesting Tracker will be maintained and updated weekly during the nesting bird season, and will be submitted to USFWS, CDFW, and CPUC on a monthly basis. This Nesting Tracker will contain data such as species, location, buffer, monitor name, and status of the nest.			
 MM BR-7: Coastal Cactus Wren Avoidance. a. Pre-construction Surveys. CPUC-approved biologists will perform pre-construction surveys in potential coastal cactus wren habitat within 200 feet of each discrete work area and record the location and quality. Pre-construction surveys will take place within two weeks prior to the start of ground disturbance or when work has lapsed for longer than two weeks. b. Conservation. Should suitable coastal cactus wren habitat patches be identified in or within 200 feet of work areas, the areas will be avoided to the greatest extent possible during construction. Habitat includes, but is not limited to, mature cholla or prickly-pear cactus typically less than 1 meter in height, interspersed with California sagebrush, California buckwheat, and blue elderberry. Habitat patches may be as small as approximately 1 acre. Habitat patches located in close proximity to construction activities should be protected by physical barriers, such as rope or signage. c. Habitat Restoration Plan for Coastal Cactus Wren Habitat. Prior to construction of the proposed project, and with the coordination and review of USFWS and CDFW, SDG&E will prepare a habitat restoration plan for coastal cactus wren habitat. Details of the restoration plan will be finalized pending consultation between the applicant, SDG&E, USFWS, and CDFW. The restoration plan will be prepared by a qualified botanist familiar with this vegetation association. The plan will include the following elements: planting/reseeding species mentioned above in correct ratios so as to be suitable for coastal cactus wren; monitoring plan and schedule, including duration and performance criteria; and any specific measures that will be required to ensure success of the restoration effort. Suitable habitat will be project area, it must be no more than 3 miles away from the project area. d. Take Avoidance. Should biologists identify nesting coastal cactus wrens at any time during construction, biologists	Pre-construction, during Construction, and Restoration	Not Applicable	Coastal Cactus Wren habitat assessment was included in the Nesting Bird Management Plan approved by the CPUC on 8/16/2017. Per the habitat assessment it has been determined that no suitable habitat for this species occurs within 200 feet of the NTP-4 work area.

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 MM BR-8: Western Burrowing Owl Impacts Reduction Measures. a. Pre-construction Surveys for Burrowing Owls. Prior to ground disturbance, a CPUC-approved biologist will conduct pre-construction take-avoidance surveys for burrowing owls within 150 meters of project areas in suitable habitat no more than 14 days prior to ground-disturbing activities according to methods outlined in the CDFW's 2012 (or most recent) Staff Report on Burrowing Owl Mitigation (CDFG 2012). Surveys will provide data on whether burrowing owls occupy the site and, if so, whether the owls are actively nesting. b. Burrowing Owl Impact Avoidance. If pre-construction take-avoidance surveys detect the presence of any active burrowing owl burrows during breeding season, the burrows will be avoided, and construction activities within 150 meters will be enclosed by construction fencing. Buffer sizes are outlined in the CDFW's Staff Report on Burrowing Owl Mitigation. Active burrowing owl burrows should be monitored regularly according to methods outlined in the Nesting Bird Management Plan, and buffers should remain in place until the nest fledges or fails. c. Eviction. If, in consultation with the CDFW, it is determined that project activities require removal of occupied burrows, or burrows potentially occupied by burrowing owls, eviction and burrow closure may be required to ensure against "take" of owls or nests. However, eviction is required, it will occur only after consulting with CDFW and CDFW approval of a Burrowing Owl Exclusion Plan. Monitoring will be conducted to ensure take is avoided during eviction procedures. Owls may not be evicted or captured without prior authorization from the CDFW. 	Pre-construction, during Construction, and Restoration	Not Applicable	NTP-4 activities are not located within 150 meters of suitable habitat. MM BR-8 is not applicable. Note that Appendix D of the 2012 Staff Report on Burrowing Owl Mitigation states that surveys should be conducted "no less than 14 days", but implementation of the surveys will conform to the requirements stated in this mitigation measure (i.e., "no more than 14 days") because that approach precludes the possibility of burrowing owls re-colonizing a site after the surveys are conducted.
 MM BR-9: Invasive Plant Control Measures. The applicant will use standard BMPs to avoid the introduction and spread of controllable invasive plant species such as tamarisk (<i>Tamarix</i> sp.) and giant reed (<i>Arundo donax</i>) during construction of the project. Proper handling during construction will include the following: All vehicles and equipment will be cleaned prior to arrival at the work site. Crews, with construction inspector oversight, will ensure that vehicles and equipment are free of soil and debris capable of transporting noxious weed seeds, roots, or rhizomes before the vehicles and equipment are allowed use of access roads. Straw or hay bales used for sediment barrier installations or mulch distribution will be obtained from state-cleared sources that are free of invasive weeds. The applicant will develop an Invasive Plant Management Plan to outline the methods that will be employed to prevent the spread of invasive plants on site. This plan will be submitted to the CDFW and CPUC for review and comment no more than six months prior to the start of construction, with the intent to produce a final draft of the plan no later than two months prior to the start of construction. 	Pre-construction, during Construction and Restoration	Applicable	Complete. The Invasive Plant Management Plan was approved by the CPUC on 8/14/2017. CDFW stated they had no comments on the Plan on 7/19/2017. SDG&E will implement the Plan as required during construction.

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MM BR-10: Mitigation Plan Development. To ensure that the project is consistent wit SDG&E Subregional NCCP/HCP, the applicant will prepare and implement a Mitigation the project. The Mitigation Plan will:	Plan for	Pre-construction and during Construction	Not Applicable	There is no habitat within the NTP-4 work area that is subject to the SDG&E Subregional NCCP/HCP; therefore, a
 Detail a consultation process in accordance with Section 6.2.1 of SDG&E's NCCP/HC Alternatively, an updated process and timeline can be developed as allowed by bot and CDFW. 				Mitigation Plan is not applicable to NTP- 4 activities.
 Require SDG&E to provide the CPUC with written confirmation from USFWS and CE the consultation process has been carried out to the satisfaction of the agency and consistent with the SDG&E Subregional NCCP/HCP. 				
 Include a summary of the policies and procedures in the SDG&E Subregional NCCP/ are relevant to other HCPs/NCCPs, conservation plans, and public or private conser preserve areas, including, but not limited to: 				
 Operational protocols used in sensitive habitat areas; 				
 Mitigation for temporary and permanent impacts, including habitat enhancemen mitigation credits; 	nt and			
 Coordination and consultation procedures with the USFWS and CDFW; 				
 Definition of preserve area according to the SDG&E Subregional NCCP/HCP; 				
 Identification and mapping of areas that may qualify as a preserve area within 1 any project component; and 	00 feet of			
- A review of locations where there may be potential conflicts among conservation	n plans.			
• This plan will be submitted to the USFWS, CDFW, and CPUC for review and comme the intent to produce a final draft of the plan, approved by the CPUC, no less than a months prior to the start of construction. Implementation of the Mitigation Plan, e any restoration or other physical habitat improvements that are required as a result agency consultation, will be implemented prior to the start of construction.	two excluding			
CULTURAL RESOURCES				
APM CUL-1: Worker Training for Cultural Resources. Prior to the initiation of construct ground-disturbing activities, all SDG&E, contractor, and subcontractor personnel woul training regarding the appropriate work practices necessary to effectively implement t and to comply with the applicable environmental laws and regulations, including the p for exposing subsurface cultural resources and paleontological resources and to recog possible buried resources. Training would inform all construction personnel of the anti-	ld receive the APMs potential gnize	Pre-construction, during Construction and Restoration	Applicable	Ongoing . Worker Training (SEAP) has been developed and submitted to the CPUC on 07/07/2017. The SEAP training was first administered on September 13, 2017. All Project personnel will be required to participate in the SEAP prior
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procedures that would be followed upon the discovery or suspected discovery of arch materials, including Native American remains, and their treatment, as well as of paleo resources.				to starting work on the Project. SEAP administration will remain ongoing throughout construction for all new Project personnel.
APM CUL-2: Cultural Resource Monitoring. A qualified archaeologist would attend pre- construction meetings, as needed, and a qualified archaeological monitor would monitor ground disturbing activities in the vicinity of all known cultural resources within the proposed project area. The requirements for archaeological monitoring would be noted on the construction plans. The archaeologist's duties would include monitoring, evaluation of any finds, analysis of collected materials, and preparation of a monitoring results report conforming to Archaeological Resource Management Reports guidelines.		During Construction and Restoration	Applicable	A qualified archeologist will be present as necessary for ground disturbing activities; defined as activities that would alter the existing elevations of the site, involve site development, grading, grubbing or tree root removal. NTP-4 activities will be performed in compliance with the Project's Cultural Resources Construction Monitoring Plan approved by the CPUC on 6/26/2017.
APM CUL-3: Avoid Known Cultural Resources. Known cultural resources that can be avoided would be demarcated as Environmentally Sensitive Areas. Construction crews would be instructed to avoid disturbance of these areas.		Pre-construction and during Construction	Applicable	Known cultural resources will be demarcated as Environmentally Sensitive Areas in compliance with the Project's Cultural Resources Construction Monitoring Plan approved by the CPUC on 6/26/2017.
APM CUL-4: Unanticipated Cultural Finds . In the event that cultural resources are discovered, the archaeologist would have the authority to divert or temporarily halt ground disturbance to allow evaluation of potentially significant cultural resources. The archaeologist would contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The archaeologist, in consultation with SDG&E's Cultural Resource Specialist, would determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities are allowed to resume. For significant cultural resources, a Research Design and Data Recovery Program would be prepared and carried out to mitigate impacts.		During Construction and Restoration	Applicable	SDG&E will implement APM CUL-4 if unanticipated cultural resources are discovered in compliance with the Project's Cultural Resources Construction Monitoring Plan approved by the CPUC on 6/26/2017.
APM CUL-5: Curate Cultural Discoveries. All collected cultural remains would be cataloged and permanently curated with an appropriate institution. All artifacts would be analyzed to identify function and chronology as they relate to the history of the area. Faunal material would be identified as to species.		During Construction and Restoration	Applicable	If necessary, SDG&E will collect, catalog, and curate cultural discoveries in compliance with the Project's Cultural Resources Construction Monitoring Plan approved by the CPUC on 6/26/2017.
	Applicable	Not Applicable to	sure to be Imple	mented During

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APM CUL-6: Archeological Monitoring Results Report. An archaeological monitoring results report (with appropriate graphics), which describes the results, analyses, and conclusions of the monitoring program, would be prepared and submitted to SDG&E's Cultural Resource Specialist, SDG&E's Environmental Project Manager, and the CPUC. Any new cultural sites or features encountered would be recorded with the <i>SCCIC or SCIC</i> .	During Construction and Restoration	Applicable	APM CUL-6 will be implemented by SDG&E as necessary and in compliance with the Project's Cultural Resources Construction Monitoring Plan approved by the CPUC on 6/26/2017.
APM CUL-7: Monitoring by Native Americans. Native American monitoring may be implemented if transmission line construction has the potential to impact identified and mapped traditional locations and places. The role of the Native American monitor would be to represent tribal concerns and communicate with the tribal council. Appropriate representatives would be identified based on the location of the identified traditional location or place.	During Construction and Restoration	Applicable	APM CUL-7 will be implemented by SDG&E as necessary.
APM CUL-8: Paleontological Monitoring. A paleontological monitor would work under the direction of a qualified project paleontologist and would be on site to observe excavation operations that involve the original cutting of previously undisturbed deposits with high paleontological resource sensitivity. A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials.	During Construction and Restoration	Applicable	A paleontological monitor may be onsite for NTP-4 excavation and ground- disturbing activities. Furthermore, all NTP-4 activities will be performed in compliance with the Project's Paleontological Monitoring and Treatment Plan, which was approved by the CPUC on 08/29/2017.
APM CUL-9: Discovery of Fossils. In the event that fossils are encountered, the paleontological monitor would have the authority to divert or temporarily halt construction activities in the area of discovery to allow recovery of fossil remains in a timely fashion. The paleontologist would contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The paleontologist, in consultation with SDG&E's Cultural Resource Specialist, would determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities are allowed to resume. Because of the potential for recovery of small fossil remains, it may be necessary to set up a screen-washing operation on site. When fossils are discovered, the paleontologist (or paleontological monitor) would recover them along with pertinent stratigraphic data. In most cases, this fossil salvage can be completed in a short period of time. Because of the potential for recovery of small fossil remains, such as isolated mammal teeth, recovery of bulk sedimentary matrix samples for off-site wet screening from specific strata may be necessary, as determined in the field. Fossil remains collected during monitoring and salvage would be cleaned, repaired, sorted, cataloged, and deposited in a scientific institution with permanent paleontological collections, and a paleontological monitoring report would be written.	During Construction and Restoration	Applicable	APM CUL-9 will be implemented as necessary in compliance with the Project's Paleontological Monitoring and Treatment Plan which was approved by the CPUC on 08/29/2017.

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 APM CUL-10: Building of Distinction Requirements. The applicant proposes to take the following steps found in Council Policy 602, which applies to the alteration, modificated demolition of "significant" structures: 1. Advertise, for a period of three months, that the former utility structure may be averal relocation. 2. Prepare a photographic record of the former utility structure. Photographs will include a construction of any unusual or unique architectural features; and c. Views of the structure from a distance. In addition, measured drawings or plans will be included. If not relocated, allow the removal of any architectural elements of the former utility for a period of two weeks at the expense of any local historic interest group or organize removing the element. 	tion, or available for clude:	e-construction	Not Applicable	Complete . NTP-4 does not include any work within the SJC Substation or work that would affect the former utility structure.
removing the element. MM CUL-1: Supplemental Worker Training for Cultural Resource. As a supplement to APM CUL-1, this measure requires the applicant to incorporate the following specific topics into the pre-construction cultural resource training for all on-site personnel: —Describe the role of cultural and paleontological resources monitors and the role of Native American monitors; —Describe the types of cultural and paleontological resources that may be found in the project area; —Describe the potential for human remains to be discovered during ground disturbing activities; and —Describe the penalties associated for breaking the laws relevant to the protection of cultural and paleontological resources training components will be developed by a CPUC-approved cultural resources consultant (see MM CUL-3) and CPUC-approved paleontological consultant (see MM CUL-6). The applicant shall provide a copy of the training material and trainee sign-in sheets to the CPUC prior to construction.		e-construction, iring instruction, d Restoration	Applicable	Complete . The Worker Training (SEAP) has been developed and submitted to the CPUC on 07/07/2017. The SEAP training was first administered on September 13, 2017. All Project personnel will be required to participate in the SEAP prior to starting work on the Project. SEAP administration will remain ongoing throughout construction for all new Project personnel. The SEAP sign-in sheets for each month are provided as an attachment in the Monthly Environmental Compliance Report submitted to the CPUC on the 10 th of each month.
 MM CUL-2: Construction Monitoring Plan. Prior to construction, the applicant will submit a Construction Monitoring Plan for the proposed project, prepared by the approved consultant(s) (MM CUL-3) for review and approval by the CPUC. The final Construction Monitoring Plan shall be implemented, as specified, throughout construction and restoration. The Construction Monitoring Plan shall, at a minimum: Identify areas where native soil will be disturbed by construction or restoration of the 		e-construction, Iring Instruction, d Restoration	Applicable	Complete . The Construction Monitoring Plan was approved by the CPUC on 06/26/2017. The Construction Monitoring Plan will be implemented during construction.
		Annitarity		
	nty Reliability Enhancement Project Measure Not Applicable to NTP-4 Construction/Resto		sure to be Imple	mented During
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APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM))	TIMING	APPLICABILITY TO NTP-4	STATUS
proposed project or where known cultural resources (APM CUL-2) occur in the projo as areas that will be monitored by a CPUC-approved archaeologist.	ject area			
 Confirm that archeological monitoring will be performed during all ground disturbin activities along Segment 1a of the 230-kV transmission line, Segment A of the 12-kV distribution line, and within the proposed San Juan Capistrano Substation to prever potential damage to buried Juaneño/Acjachemen deposits. 	v			
• Describe monitoring procedures that will take place for each project component are required.	rea, as			
• Describe how often monitoring will occur (e.g., full time, part time, spot checking).				
Describe monitoring reporting requirements (APM CUL-6).				
 Describe the Testing and Evaluation Plans and Data Recovery Plans (APM CUL-4 and CUL-5). 	d APM			
Include contact information for those to be notified or reported to.				
MM CUL-3: Qualified Cultural Resources Consultants. The applicant will retain the ser qualified professional (CPUC-approved) cultural resources consultants who meet or ex United States Secretary of the Interior qualification standards for professional archaeo published in 36 Code of Federal Regulations (CFR) 61 and who have experience workin jurisdictions traversed by components of the proposed project sufficient to identify the range of cultural resources that may be found in the proposed project area. The consu also have knowledge regarding the cultural history of the proposed project area. The r and supporting information for each cultural resource consultant will be submitted to for approval. At least one qualified cultural resources consultant must be approved by prior to start of construction.	kceed the blogists ng in the le full ultants will resumes the CPUC	re-construction	Applicable	Complete . The CPUC approved a qualified cultural resource consultant on 04/27/2017 and on 09/12/2017. In addition, the CPUC approved qualified cultural resource monitors on 01/12/2018 and 07/18/2018.
MM CUL-4: Native American Consultation and Participation Planning. As a supplement CUL-7, prior to construction, the applicant will provide evidence to the CPUC that tribes requesting consultation with the applicant regarding the project design and impacts on resources were consulted. In addition, the applicant will provide evidence to the CPUC tribes that express interest in the project during any phase (i.e., project application thr of construction and restoration) have been given the opportunity to participate in add cultural resources surveys (MM CUL-5) and/or cultural resources monitoring when per by a CPUC-approved cultural resources consultant (MM CUL-3). To outline the expected duties and responsibilities of all parties involved, the applicant CPUC-approved cultural resources consultant will submit a Native American Participate	es d n cultural C C that a rough end ditional rformed it and a	re-construction, luring construction, nd Restoration	Applicable	Complete . SDG&E submitted a Native American Monitoring Plan (NAMP) to the CPUC on 07/26/2017 and submitted to the tribes on 07/27/2017. A copy of the 8/14/2017 response received from the Juaneno Band of Acjachemen Nation indicating that they had no comments on the NAMP was submitted to the CPUC on 8/17/2017. The NAMP will be implemented during construction.
		t Applicable to		
NTP-4 Request	Applicable to	o NTP-4 – Meas	ure to be Imple	mented During

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APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM)	TIMING	APPLICABILITY TO NTP-4	STATUS
prior to construction. The final Native American Participation Plan shall be implemented, as specified, throughout construction and restoration. Tribes that have expressed interest in the project prior to construction will be given the opportunity to participate in development of the plan. At a minimum, the plan will specify that:			
• Native American monitors, if approved by a tribe, are expected to participate in worker environmental awareness and health and safety training and follow all health and safety protocols.			
• Attendance by Native American monitors during construction and restoration of the proposed project is at the discretion of the tribe, and the absence of a Native American monitor, should the tribes choose to forgo monitoring for some reason, will not delay work.			
• The Native American monitors will have the ability to notify a CPUC-approved cultural resources consultant who has the authority to temporarily stop work (MM CUL-3) if they find a cultural resource that may require recordation and evaluation.			
• Interpretation of a find will be requested from Native American monitors involved with the discovery, evaluation, or data recovery of unanticipated finds for inclusion in the final Cultural Resources Report.			
• The tribes involved with preparation of the Native American Participation Plan will be given the opportunity to participate in the development of Testing and Evaluation Plans and Data Recovery Plans (MM CUL-2) if the development of these plans is required.			
• Native American monitors approved by a tribe for monitoring work on the project will be notified 30 days prior to start of construction of the various project components.			
• The Native American monitors will be compensated for their time. If more than one tribal group wishes to participate in the monitoring, SDG&E will work out an agreement for sharing of monitoring compensation.			
• Define a process to inform tribes of completed cultural surveys and to provide a copy of the survey to interested tribes.			

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APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM)	TIMING	APPLICABILITY TO NTP-4	STATUS
MM CUL-5: Additional Cultural Resources Surveys. Prior to issuance of the notice to proceed, the applicant will ensure that qualified archaeological consultants, as specified in MM CUL-3, will conduct intensive-level cultural resources surveys (transects no greater than 10 meters) for all areas to be disturbed that have not already been surveyed for cultural resources and that, prior to the project, had been undisturbed. Surveys shall also include a California Historic Resources Information System search and Native American Heritage Commission Sacred Lands file database search. Reports that specify the research design, methods, and survey results will be submitted to the CPUC for review and must be accepted by the CPUC prior to the start of ground disturbance in the previously unsurveyed areas.	Pre-construction	Not Applicable	The NTP-4 work area has been previously surveyed; therefore, MM CUL-5 does not apply.
MM CUL-6: Qualified Paleontological Consultants . The applicant will retain the services of qualified professional paleontological consultants with knowledge of the local paleontology and the minimum levels of experience and expertise, as defined by the Society of Vertebrate Paleontology's Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010). The resumes and supporting information for each paleontological consultant will be submitted to the CPUC for approval. At least one qualified paleontological consultant must be approved by the CPUC prior to start of construction.	Pre-construction	Applicable	Complete . The CPUC approved SDG&E's qualified paleontological consultant on 04/27/2017 and on 09/12/2017. In addition, the CPUC approved qualified paleontological monitors on 07/18/2018.
MM CUL-7: Paleontological Monitoring and Treatment Plan . Prior to start of construction, the applicant will submit a Paleontological Monitoring and Treatment Plan for the proposed project that is prepared by a CPUC-approved paleontological consultant (MM CUL-6) to the CPUC for approval. This plan will be adapted from the Society of Vertebrate Paleontology's Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010) to specifically address each project component. In addition, the plan will, at a minimum:	Pre-construction, during Construction, and Restoration	Applicable	Complete . The Paleontological Monitoring and Treatment Plan (PMTP) was approved by the CPUC 08/29/2017. The approved PMTP will be implemented during construction.
• Describe the criteria used to determine whether an encountered resource is significant and if it should be avoided or recovered.			
• Identify construction and restoration impact areas of moderate to high sensitivity for encountering paleontological resources and the shallowest depths at which those resources may be encountered.			
• Describe methods of recovery, preparation, and analysis of specimens, final curation of specimens at a federally accredited repository, data analysis, and reporting.			
• Briefly identify and describe the types of paleontological resources that may be encountered.			
• Describe monitoring procedures that will take place for each component of the project that requires monitoring.			
• Describe how often monitoring will occur (e.g., full time, part time, spot checking), as well as			

South Orange County Reliability Enhancement Project	Measure Not Applicable to NTP-4
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APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM)	TIMING	APPLICABILITY TO NTP-4	STATUS
the circumstances under which monitoring will be increased or decreased.			
Describe the circumstances that will result in the halting of work.			
• Describe the procedures for halting work and for notifying construction and restoration crews when work is to be halted and to be resumed.			
Include testing and evaluation procedures for resources encountered.			
Describe procedures for curating any collected materials.			
• Outline coordination strategies to ensure that the CPUC-approved paleontological consultant (MM CUL-6) conducts full-time monitoring of all grading activities in sediments determined to have a moderate to high sensitivity.			
Include reporting procedures.			
Include contact information for those to be notified or reported to.			
For sediments of low or undetermined sensitivity, the Paleontological Monitoring and Treatment Plan will specify the level of monitoring necessary. Sediments with no sensitivity will not require paleontological monitoring. The plan will define specific conditions in which monitoring of earthwork activities could be reduced and/or depth criteria established to trigger monitoring. These factors will be defined by an approved (MM CUL-6) paleontologist.			
MM CUL-8: Preservation of Former Utility Structure at Capistrano Substation. The applicant shall incorporate the following design specifications at Capistrano Substation and features shown in Appendix S of this EIR with the purpose to rehabilitate the west wing of the former utility structure at Capistrano Substation per the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings:	Pre-construction and during Construction	Not Applicable	NTP-4 work activities do not involve the demolition of the SJC Substation's former utility structure.
 Replacement of the current landscaping with landscaping that returns the existing utility structure's setting to an earlier appearance. 			
• Construction of an approximately 5-foot-tall retaining wall parallel to the northern and eastern walls of the retained west wing.			
• Construction of a masonry wall approximately 10 feet tall on the inside of the western perimeter of the substation. When viewed from the exterior, the masonry would vary from 12 to 15 feet in height due to grading behind the substation wall. The northern and southern perimeter walls would remain at approximately 10 feet in height.			
• The existing utility structure shall remain approximately 4 inches from the western perimeter wall.			

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• The southern and western walls of the retained portion of the existing substation shall be located outside of the secured substation facility and will be visible from Camino Capistrano. The northern and eastern walls of the existing utility structure shall effectively act as part of the substation security wall.			
• Installation of new steel doors to replace the doors in the southern, eastern, and northern walls of the existing utility structure. The northern and eastern doors will serve as part of the security wall.			
• Construction of a driveway from the main substation access to the structure's southern door.			
• Set back the southern driveway vehicle access gate by approximately 80 feet from Camino Capistrano.			
 Set back the northern driveway access gate by approximately 35 feet from Camino Capistrano. 			
• The northern and southern vehicular access gate shall be approximately 30 feet wide. Each pair of gates will be made of black wrought iron and be approximately 15 feet in width.			
• Grading and the phased site development would be similar to that of the Proposed Project Substation.			
Modifications to the existing utility structure shall include:			
• East Wing Demolition: Retain 12 inches of roof and walls where the east wing intersects the west wing of the existing structure. This will allow the remaining portion of the roof and wall visually to read as a "ghost" of the east wing once it is removed.			
West Wing Rehabilitation:			
 Western Wall: the exterior wall, concrete wall iron jacking, and windows will be repaired. Security bars will be installed on all interior windows. 			
 Northern Wall: Deteriorated, non-original, sidelights, and transom windows shall be replaced to match the original. Those that are replaced shall be made from steel rather than wood for increased security. Door assembly does not require glazing, but shall be constructed exclusively of steel following the original pattern. This wall and replacement door will only be accessible from the interior. 			
- Eastern Wall: The interior door shall be replaced with a new exterior door that matches the original but is designed for exposure to the elements. Glazing is not required for the door or existing windows, but design should follow the original pattern. The eastern wall, window, and door will only be accessible from the interior.			
- Southern Wall: Deteriorated, non-original, sidelights, and transom windows shall be replaced to match the original. Those that are replaced shall be made from steel rather			

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APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM)	TIMING	APPLICABILITY TO NTP-4	STATUS
than wood for increased security. Door assembly does not require glazing, but shall be constructed exclusively of steel following the original pattern. Due to visibility from the street, the door. should include translucent wire glass at the transom. Where glazing occurs at the transom, security bars shall be installed on the interior.			
- Interior Window Sills: Where water damage has occurred, windows sills shall be repaired.			
- Interior Crane: The movable crane shall be retained.			
 Lighting: A lighting plan shall be developed and implemented. It will include manually operating exterior wall sconces on the north and south walls. 			
The applicant shall prepare and implement a historic architect monitoring plan. The plan shall include, but shall not be limited to, the following information:			
 Qualifications of the historic architect monitor (must meet the Secretary of the Interior's Professional Qualifications Standards); 			
Activities that shall be monitored by the historic architect monitor;			
 Authority given to the historic architect monitor to halt construction on the former utility structure in order to prevent damage to the structure; 			
 Procedures that the historic architect monitor will follow to halt construction and the procedures to restart construction; and 			
Reporting procedures for the historic architect.			
The historic monitoring plan shall be submitted to the CPUC for approval at least six weeks prior to start of construction on the former utility structure.			
• The applicant shall also prepare a Historic American Building Survey (HABS) photographic documentation for the utility structure before the east wing is removed. The applicant shall provide the HABS documentation to the CPUC at least six weeks prior to start of construction on the former utility structure.			

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APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM	1)	TIMING	APPLICABILITY TO NTP-4	STATUS
GEOLOGY, SOILS, AND MINERAL RESOURCES				
APM GEO-1: Conduct an Engineering-level Geotechnical Investigation for Liquefact Potential and Implement Recommended Design Measures. A geologic hazard evalue conducted by URS in 2008 to evaluate the pole locations along the Proposed Project transmission line route for the presence of geologic hazards that may affect the new poles. The geologic hazard evaluation indicated the presence of geologic conditions p susceptible to liquefaction at the locations of proposed Pole Nos. 8, 9 and 10. Prior to construction, an engineering-level geotechnical investigation would be performed at locations under the supervision of a California Certified Engineering Geologist or Cali licensed Geotechnical Engineer to further evaluate the liquefaction potential at each pole locations and to develop design measures to minimize the potential for damage Proposed Project structures in the event of strong ground shaking. Recommendation geotechnical investigation would be incorporated into the final design for these struct These recommendations would include augmented grading practices, expanded eros measures and deeper foundations.	ation was towers and potentially these fornia of these to ns of the ctures.	Pre-construction, during Construction, and Restoration	Not Applicable	The construction of Pole Nos. 8, 9 and 10 are not included in NTP-4.
APM GEO-2 Conduct an Engineering-level Geotechnical Survey for Landslides and Implement Recommended Design Measures to Ensure Slope Stability is not Impacted and the Potential for Damage to Protect Structures is Minimized. A geologic hazard evaluation was conducted by URS in 2008 to evaluate the structure locations along the Proposed Project transmission line route for the presence of geologic hazards that may affect the new towers and poles. The geotechnical hazard evaluation identified areas with recent and ancient landslides along the Proposed Project transmission line route due to unstable slope conditions in portions of both the Capistrano and Monterey formations Prior to construction, an engineering-level geotechnical investigation would be performed at each pole location along the transmission line route that is in or near a mapped landslide or other unstable slope condition. This investigation would be performed under the supervision of a California Certified Engineering Geologist or California licensed Geotechnical Engineer, and would identify protection measures to be designed and implemented to ensure that the Proposed Project does not materially increase slope stability risks and to minimize potential for damage to Proposed Project structures in the event of landslides. These recommendations would include augmented grading practices, expanded erosion control measures and deeper foundations.		Pre-construction, during Construction, and Restoration	Not Applicable	The construction of poles and towers that are in or near a mapped landslide or other unstable slope condition are not included in NTP-4.
MM GEO-1: Conduct an Engineering-level Geotechnical Investigation for Liquefaction Potential and Implement Recommended Design Measures. Prior to construction, an engineering-level geotechnical investigation shall be performed at Pole Nos. 1a through 5a under the supervision of a California Certified Engineering Geologist or California licensed Geotechnical Engineer to further evaluate the liquefaction potential at each of these pole		Pre-construction, during Construction, and Restoration	Applicable	Pending. SDG&E prepared a preliminary engineering-level geotechnical investigation and incorporated the investigation's recommendations into the design of transmission structures
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APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM)	TIMING	APPLICABILITY TO NTP-4	STATUS
locations and to develop design measures to minimize the potential for damage to proposed project structures in the event of strong ground shaking. Recommendations of the geotechnical investigation shall be incorporated into the final design for these structures.			Nos. 1a through 5a, which are included in NTP-4. Additional geotechnical investigations may be necessary to finalize design of these structures and connecting structures. These poles will not be installed until a P.E. confirms that the required geotechnical recommendations have been incorporated into the final design of the structures.
GREENHOUSE GASES			
 APM GHG-1: Operations Emissions Controls. SDG&E developed this APM to ensure that sulfur hexafluoride is properly managed. SDG&E would implement its existing sulfur hexafluoride mitigation strategies during the operation and maintenance of sulfur hexafluoride-containing equipment installed as part of the proposed project. These strategies include: Recording company-wide sulfur hexafluoride purchases, use, and emissions rates to comply with the USEPA's requirements for Electrical Transmission and Distribution Equipment Use (Mandatory Reporting of Greenhouse Gases, 40 CFR Part 98, Subpart DD) and the CARB's Regulation for Reducing Sulfur Hexafluoride Emissions from gas-insulated switchgear (Code Regs. Tit. 17, § 95350-95359); 	During Operation	Not Applicable	NTP-4 does not include any equipment containing sulfur hexafluoride.
 Implementing a sulfur hexafluoride recycling program; 			
 Training employees on the safety and proper handling of sulfur hexafluoride; 			
Continuing to report GHG emissions with the Climate Registry; and			
 Implementing SDG&E's sulfur hexafluoride leak detection and repair program. This program includes monthly visual inspections of each GCB, which includes checking pressure levels within the breaker and recording these readings in SDG&E's Substation Management System. During the installation or major overhaul of any GCB, the unit is tested over a 24-hour period to ensure no leaks are present. Minor overhauls of each GCB are conducted every 36 to 40 months to check overall equipment health. This process includes checking gas pressure, moisture ingress, and sulfur hexafluoride decomposition. If the GCB fails any of these checks, the unit is checked for leaks and repaired. In addition, all GCBs are equipped with a gas- monitoring device and alarm that automatically alerts SDG&E's Grid Operations Center. If gas pressure approaches minimum operating levels, an alarm is immediately reported to SDG&E's Substation Construction and Maintenance Department. The GCB is usually inspected for leaks within 24 hours of such an alarm. SDG&E's leak detection practice 			

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APPLICABILITY APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM) TIMING TO NTP-4 **STATUS** includes the following three methodologies: - Spraying a leak-detection agent onto common leak points—including O rings, gaskets, and fittings; - Using a field-monitoring device (sniffer) to detect the presence of sulfur hexafluoride gas; and - Using a laser-detection camera to detect the presence of sulfur hexafluoride gas when the above two methods are unsuccessful in finding a leak. HAZARDS AND HAZARDOUS MATERIALS APM HAZ-1: Conduct Environmental Site Assessment. Prior to the start of earth disturbance Pre-construction Not Applicable NTP-4 activities are located west of the activities at the upper yard portion of the existing Capistrano Substation site, a Phase II SJC Substation, and therefore, this APM Environmental Site Assessment (soil sampling) would be performed and, if any contaminated is not applicable. soil is found to be present, contaminated soils would be managed, removed, transported, and disposed of in accordance with all applicable laws, ordinances and safety standards. The Environmental Site Assessment would be completed pursuant to American Society for Testing and Materials International standard requirements. APM HAZ-2: Hazardous Materials and Waste Management Plan. The applicant would prepare Pre-construction. Applicable Complete. The Hazardous Materials and a project-specific Hazardous Materials and Waste Management Plan (HMWMP) following final Waste Management Plan was submitted during on 08/02/2017 and approved by the CPUC project approval and be submitted to the CPUC prior to issuance of any applicable Notice Construction, to Proceed for the project. Handling, recycling, and waste transportation, and temporary waste CPUC on 09/07/17. SDG&E will and Restoration storage procedures would be outlined within the HMWMP. The project-specific HMWMP would implement the Plan during NTP-4 include site-specific procedures and would be developed based on SDG&E standards and activities. applicable hazardous materials laws, standards, and regulations. Sampling and cleanup levels would be established in the HMWMP as follows: Confirmation samples would be taken to ensure that site conditions are consistent with current and proposed land uses (i.e., electric substation); Confirmation samples would be taken, utilizing industry standard testing methods (e.g. EPA Methods), for appropriate site-specific contaminants of concern; • Final sampling procedures would be included within the project-specific HMWMP; and • Final cleanup levels would be identified in the HMWMP and be consistent with acceptable levels for Commercial Industrial land uses. Plans for the unanticipated discovery of contaminated soil and/or groundwater during construction would be included in the HMWMP, including: Procedures in response to the discovery of contaminated soil or groundwater, including South Orange County Reliability Enhancement Project Measure Not Applicable to NTP-4 Applicable to NTP-4 – Measure to be Implemented During NTP-4 Request Construction/Restoration/Operation

ATTACHMENT B: MMCRP REQUIREMENTS TRACKING TABLE

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those for stopping work, securing the contaminated area, preventing the spread of contamination, and appropriate waste management (testing, profiling, shipping disposal);				
• Training requirements for construction workers performing excavation activities;				
Dewatering procedures; and				
 Procedures for notifying SDG&E and agency personnel in the event of the discovery of contaminated soil and/or groundwater. 				
The applicant's outline of environmental procedures for management of the follow addressed in the HMWMP:	ving would be			
Asbestos Management;				
Hazardous Materials Transportation Security Plans;				
Hazardous Materials and Waste Management;				
Hazardous Material and Waste Shipping;				
Hazardous Waste Minimization Plans; and				
Field Guidelines for Emergency Incidents.				
Soil sampling and building materials sampling results from applicable Environmental Site Assessments would be applied to development of the HMWMP.				
APM HAZ-3: Personal Protection Equipment. Specialized crews would be utilized to conduct any remediation (safe removal of contaminants) at the Capistrano Substation site prior to actual construction of the proposed project commencing. Proper personal protection equipment would be utilized by all remediation workers that may come into contact with known contaminated soil or hazardous building materials. Personal protection equipment would be determined based upon the nature of the contamination present at any given portion of the substation site and would comply with all applicable CalOSHA standards.		During Construction and Restoration	Applicable	SDG&E will implement this measure during NTP-4 activities as needed.
APM HAZ-5: Recycling and Reuse. It is SDG&E's practice to reuse or recycle all old structures/ poles, materials, and components following the retirement of substations, transmission lines, and structures/poles. Whatever cannot be reused or recycled is disposed of at an appropriate facility pursuant to all applicable laws.		During Construction and Restoration	Applicable	SDG&E will implement this measure during NTP-4 activities and will recycle or reuse materials as feasible.
APM HAZ-6: Fire Control. Construction restrictions would occur during times of high fire threat such as Red Flag Warnings issued by the National Weather Service or other severe fire weather conditions as identified by SDG&E.		During Construction and Restoration	Applicable	A revised Construction Fire Prevention and Emergency Response Plan was approved by the CPUC on 04/11/2018. SDG&E will implement the revised
South Orange County Reliability Enhancement Project Measure N		Not Applicable to NTP-4		
		ble to NTP-4 – Measure to be Implemented During		
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APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM)	TIMING	APPLICABILITY TO NTP-4	STATUS
Consistent with SDG&E's Electric Standard Practice 113.1 and the project-specific fire plan, prior to starting construction activities, SDG&E would clear dead and decaying vegetation from proposed project work areas where personnel are active or where equipment is in use or being stored within ROWs, staging areas, stringing sites, and access roads. Cleared dead and decaying vegetation would either be removed or chipped and spread on site. The project-specific fire plan would requirements for equipping diesel and gasoline operated engines with spark arrestors, carrying emergency fire suppression equipment, furnishing a water truck on or immediately adjacent to the proposed project work area, restricting smoking and vehicle idling, construction restrictions during Red Flag Warning periods (as applicable); and conducting pre-activity tailgate meetings that include fire safety discussions.			Construction Fire Prevention and Emergency Response Plan during construction.
 MM HAZ-1: Hazardous Substances Contamination Prevention Plan. Prior to construction, the applicant shall prepare and implement a Hazardous Substances Contamination Prevention Plan supplementing the Hazardous Material Business Plan to prevent the release of hazardous materials and hazardous waste. The plan will include the following requirements and procedures: Training requirements for construction workers in appropriate work practices, including spill prevention and response measures. Additional training requirements for those performing excavation activities shall be required and shall include training on types of contamination (e.g., petroleum hydrocarbons, lead, asbestos, and <i>hazardous materials</i> (as defined by the California Health and Safety Code) and identifying potentially hazardous contamination (e.g., stained or discolored soil and odor). 	Pre-construction, during Construction, and Restoration	Applicable	Complete. The Hazardous Materials and Waste Management Plan supplants the Hazardous Substances Contamination Prevention Plan and was approved by the CPUC on 09/07/17. SDG&E will implement the Hazardous Materials and Waste Management Plan during construction.
 Contain all hazardous materials at work sites and properly dispose of all such materials. Hazardous materials shall be stored on pallets within fenced and secured areas and protected from exposure to weather and further contamination. 			
 Fuels and lubricants shall be stored only at designated staging areas. 			
• Maintain hazardous material spill kits for small spills at all active work sites and staging areas. Thoroughly clean up all spills as soon as they occur.			
• Store sorbent and barrier materials at all construction staging areas, including staging areas used during activities for decommissioning. Sorbent and barrier materials will be used to contain runoff from contaminated areas and from accidental releases of oil or other potentially hazardous materials to prevent the runoff from entering the storm drainage system.			
• Perform all routine equipment maintenance at a shop or at the staging area and recover and			

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APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM)	TIMING	APPLICABILITY TO NTP-4	STATUS
dispose of wastes in an appropriate manner.			
• Monitor and remove any vehicles with chronic or continuous leaks from use and complete repairs before returning them to operation.			
• Store shovels and drums at the staging areas. If small quantities of soil become contaminated, use shovels to collect the soil and store in drums before proper off-site disposal. Large quantities of contaminated soil may be collected using heavy equipment and stored in drums or other suitable containers prior to disposal. Should contamination occur adjacent to staging areas because of runoff, shovels and/or heavy equipment shall be used to collect the contaminated material.			
Procedures for transporting, shipping, and disposal of hazardous waste.			
Procedures for managing asbestos containing material.			
• Procedures for notifying applicant and agency personnel in the event of the discovery of contaminated soil and/or groundwater. Contact information for federal, regional, and local agencies, the applicant's environmental coordinator(s) responsible for the cleanup of contaminated soil or groundwater, and licensed disposal facilities and haulers.			
• Procedures for dewatering, including storage, testing, treatment, and disposal requirements and dewatering BMPs with reference to the applicant's Stormwater Pollution Prevention Plan (SWPPP).			
This plan will be submitted to the CPUC for review and approval 30 days prior to the start of project construction.			
MM HAZ-2: Contaminated Materials from MCB Camp Pendleton. Excavation, grading, or removal of any materials within MCB Camp Pendleton boundaries shall be accomplished in accordance with EPA Best Management Practices for Outdoor Shooting Ranges (EPA-902-B-01-001), RCRA, the Clean Water Act, 40 CFR 260 (Federal Hazardous Waste Regulations), and California Title 22 (California Hazardous Waste Regulations). All work shall be accomplished with every effort to prevent the spread of any potential contamination or release of any potential existing contaminants to the environment in accordance with all federal, state, and local laws, regulations and instructions. Prior to the removal of any soil or wood and construction debris that has been used in live fire training and received impact from rounds, the soil or debris shall be sampled for appropriate hazardous in accordance with all federal, state, and local laws, regulations, and instructions. Also, prior to the removal of any wood and construction debris that has been used in live fire training and received impact from rounds, the debris should be sampled for lead and other constituents. If the soil, wood, or debris is determined to be hazardous waste, it will be handled and disposed of in accordance with applicable hazardous waste	During Construction and Restoration	Not Applicable	NTP-4 does not include activities on Marine Corps Base (MCB) Camp Pendleton.

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Branch, AC/S Environmental Security. Solid lead or copper removed from the base shall be recycled in accordance with the base Qualified Recycling Program regulations.			
MM HAZ-3: Worker Safety Training. As part of the worker environmental awareness program, the applicant will prepare a safety training module, in coordination with an appropriate representative from MCB Camp Pendleton, to inform all on-site personnel of the active military training activities occurring within MCB Camp Pendleton and the potential hazards associated with working at Talega Substation. The worker environmental awareness program shall include training on how to identify unexploded ordinance and what procedures shall be followed if potential unexploded ordinance is identified, including the "Three R's" method: Recognize, immediately Retreat, and Report to the Provost Marshal's Office at (760) 725-3888 or dial 911 immediately. The applicant shall provide a copy of the training material and trainee sign-in sheets to the CPUC prior to construction.	Pre-construction and during Construction	Not Applicable	NTP-4 does not include activities on MCB Camp Pendleton.
 MM HAZ-4: Fire Prevention and Emergency Response Plan. The applicant will develop and implement a Fire Prevention and Emergency Response Plan. This plan, and a record of contact and coordination with the Orange County Fire Authority (OCFA), will be submitted to the CPUC for review and approval 30 days prior to the start of construction of the proposed project. The plan will describe fire prevention and response practices that the applicant will implement during construction of the proposed project to minimize the risk of fire and, in the case of fire, provide for immediate suppression and notification. The plan will include: Fire prevention and response practices, including the proper dispensing and storage of gasoline, diesel, and other fuels and combustible chemicals; power tool and equipment use; emergency access; fire suppression equipment and training; vegetation clearing; designated parking areas; appropriate climatic conditions and designated areas to perform welding or blow torch activities and other hot-work activities; and ceasing of any or all work activities, including helicopter use, as directed by the OCFA or other applicable fire department representatives. Communication protocols for on-site workers to coordinate with local agencies and emergency personnel and for the applicant's environmental health and safety personnel to coordinate with on-site workers in the event of fire, flood, or other emergencies or increased risk of emergency during construction or operation of the project. The Project Construction Manager, Contract Administrators, and/or Site Foreman will be present at each worksite during construction activities, and it will be their responsibility to 	Pre-construction, during Construction, and Restoration	Applicable	Complete . A revised Construction Fire Prevention and Emergency Response Plan was approved by the CPUC on 04/11/2018. SDG&E will implement the revised Construction Fire Prevention and Emergency Response Plan during construction.

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monitor the contractor's fire-prevention activities. The Project Construction Manager, Contract Administrators, and/or Site Foreman will have full authority to stop construction as needed to prevent fire hazards. The Project Construction Manager, Contract Administrators, and/or Site Foreman responsibilities will include:			
- Maintain a complete copy of the Fire Prevention and Emergency Response Plan;			
- Serve as a point of contact for fire departments in the event of fire or other emergency;			
 Manage the prevention, detection, control, and extinguishing of fires started accidentally as a result of construction activity; 			
 Review site-specific fire prevention and emergency response plans with construction personnel prior to starting work in each project area; 			
- Ensure that all construction personnel are trained in fire safety measures relevant to their responsibilities. At minimum, construction personnel will be trained in fire prevention and emergency reporting. Each member of the construction work force will be trained and equipped to extinguish small fires (i.e., the fire can be controlled or extinguished by portable fire extinguishers, small hose systems, or portable water supplies without the need for protective clothing or breathing apparatus);			
- Be equipped with radio and cellular telephone access for the duration of each work day;			
 Ensure that all construction personnel are provided with operational radio and/or cellular telephone access to allow for immediate reporting of fires or other emergencies and ensure that communication pathways and equipment are tested and confirmed operational each day prior to initiating construction activities at each worksite; 			
 Maintain an updated key personnel and emergency services contact (telephone and email) list onsite and available to construction personnel; and 			
- Construction workers will immediately report all fires to the nearest Fire Risk Manager.			
The required fire suppression equipment, tools, and other materials to be included with each construction vehicle on the Project.			
MM HAZ-5: Discovery of an Unrecorded Oil or Gas Well. If an unrecorded oil and gas well is discovered during construction of the proposed project and the well is located within 50 feet of a construction disturbance area, the applicant shall immediately cease work within 50 feet of the well and notify the California Department of Conservation Division of Oil, Gas, and Geothermal Resources (DOGGR) Cypress District Office. Work shall not resume within 50 feet of the unrecorded well until DOGGR has determined appropriate actions to be taken and has given written notice of approval for work to resume.	During Construction and Restoration	Applicable	SDG&E will implement MM HAZ-5 as needed. If an unrecorded oil or gas well is discovered, the Project's Lead Environmental Inspector will notify the DOGGR and work will not commence until approval is given.

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HYDROLOGY AND WATER QUALITY				
MM WQ-1: Pesticide Application. If pesticides are used during construction or opera shall be applied in accordance with Federal Insecticide, Fungicide, and Rodenticide (F labels. Applicators shall be appropriately trained and shall be certified by the Californ Department of Pesticide Regulation. Prior to any use of pesticides, the type of pestici proposed for use shall be approved by the CPUC. Prior to each pesticide application t Weather Service (forecast.weather.gov) shall be consulted, and no pesticides shall be the chance of rain exceeds 70% within 24 hours of the proposed application time and Records of type and amount of pesticides used and locations of application shall be k submitted to the CPUC on a monthly basis during construction.	IFRA) ia des he National e applied if d location.	During Construction and Restoration	Applicable	SDG&E will implement this measure during NTP-4 construction activities as needed.
NOISE AND VIBRATION				
APM NOISE-1: Nighttime and Weekend Activities. Any endeavors during the constru- phase wherein nighttime and/or weekend activities are necessary (such as due to Cal transportation constraints for conductor stringing (I-5) or oversized/ overweight load outage constraints) would be limited to the extent feasible so that noise would not ex- pertinent maximum noise level limits or the hourly L50 limits when measured at the r residential property. For example, to minimize potential noise disturbances during ni- deliveries of transformers, the applicant would make every reasonable effort to mini- duration of trucking activities at the project site. This would entail pulling delivery vel- the project site, parking them overnight, and unloading/installing the item(s) during r daytime construction hours. If nighttime or weekend activities cannot be conducted to city's noise standards, SDG&E would communicate the exception to the appropriate I agency at least 24 hours in advance of conducting work that may exceed the threshol	Itrans Is or CAISO xceed the nearest ghttime mize the hicles onto normal to meet the local	During Construction and Restoration	Applicable	SDG&E will implement this measure during NTP-4 construction activities as required.
MM NV-1: Nighttime and Weekend Construction Noise Controls. Before performing construction, activities required during periods of time not allowed by local ordinance nighttime and weekends), the applicant will:		During Construction and Restoration	Applicable	SDG&E will implement this measure during NTP-4 construction activities as needed.
 Obtain authorization from the local jurisdiction where work will be performed (city as applicable) prior to initiating work at night and on weekends; 	y or county,			
 Notify occupants of the sensitive receptors properties located within 230 feet of the minimum of one week prior to the potential activities and their anticipated duration 				
• Ensure that noise levels will not exceed exterior noise standards of 55 A-weighted (dBA) at the property boundary during the period of 6:00 p.m. to 10 p.m. and 45 d between 10 p.m. and 7 a.m.;				
• Minimize the duration of trucking activities at work sites to less than 30 minutes, w	when			
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APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM	1)	TIMING	APPLICABILITY TO NTP-4	STATUS
 feasible; Monitor noise levels during a cumulative period of more than 30 minutes in any he and maximum noise levels (L_{max}) at the nearest residential property boundary duri period when nighttime or weekend construction is performed; Report noise levels (hourly L₅₀ and L_{max}) measured at the nearest residential proper local jurisdiction (city or county, as applicable) and the CPUC within one week. Noi measurements shall be conducted and reported in compliance with the City of Sar Capistrano and City of San Clemente requirements, as applicable; and If nighttime or weekend activities cannot be conducted to meet the local ordinance noise standards, the applicant will implement additional mitigation measures, such – Reducing trucking activities to shorter periods of time; Using low noise electrical equipment; Installing portable noise barriers surrounding the work sites; or Offering potentially affected residents an alternative place to stay overnight or 	our (L ₅₀) ing the erty to the ise level n Juan ee exterior h as:			
weekend, as necessary. MM NV-2: Low-Noise Substation Equipment and Noise Barriers. The applicant will e San Juan Capistrano Substation's operational noise levels will not exceed 45 dBA at th boundary during the period of 10 p.m. to 7 a.m. This will be achieved by ensuring that substation layout provides sufficient setback between the project facilities and closes residential receptors, use of low-noise substation equipment, or installation of noise the perimeter of the substation. The 230-/138-kV and 138-/12-kV transformers will b at a minimum distance of 100 feet from the nearest residential property. The applicant conduct a noise survey at the closest receptors to the substation once the substation operational to confirm that sufficient measures have been implemented to reduce no to 45 dBA at the property boundary. The applicant will submit the noise survey result CPUC.	he property it the final st barriers in he located nt will is fully bise levels	During Operation	Not Applicable	NTP-4 activities are located west of the SJC Substation and do not include the operation of substation equipment.
 MM NV-3: Construction Vibration Control Measures. The applicant will implement the following measures to reduce construction vibration at substations, transmission line distribution lines, and staging areas located within 100 feet of residential and other vis sensitive receptors: Route heavily loaded trucks away from residential streets, if possible. Select street fewest homes if no alternatives are available; Operate earth-moving equipment on construction sites as far away from residential 	is, ibration- ts with the	During Construction and Restoration	Applicable	Complete. The Construction Noise and Vibration Control Plan was approved by the CPUC on 10/5/2017. The Construction Noise and Vibration Control Plan will be implemented during construction and restoration.
South Orange County Reliability Enhancement Project NTP-4 Request October 2018 Page 29 of 37	Applicable Constructi Applicable		sure to be Imple Operation Construction Sta	mented During tus Pending/Ongoing tus Complete/Approved

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 other vibration-sensitive receptors as possible; Phase earth-moving and ground-impacting operations so as not to occur in the same time period; Avoid nighttime activities; Avoid the use of vibratory rollers near noise- and vibration-sensitive areas; Conduct pre-construction notifications for sensitive receptors located within 100 feet of construction activities within 30 days prior to construction; Develop a construction vibration mitigation and monitoring plan during final project design to be reviewed and approved by the CPUC; and Implement a compliance monitoring program during construction to ensure implementation of vibration control measures. 			SDG&E sent pre-construction notification letters to sensitive receptors, residents and property owners within 100 feet of the NTP-4 work area on 09/13/2018.
MM NV-4: Corona Noise Reduction during Wet Weather Conditions. The applicant will ensure that the incremental increase in ambient noise levels from the proposed 230-kV transmission line corona noise levels will not exceed FTA Cumulative Noise Levels Allowed by Criteria (Figure 4.11-1) at the closest sensitive receptor during nighttime operations (10 p.m. to 7 a.m.). To verify compliance with this measure, the applicant will measure ambient noise levels before the proposed project's 230-kV line operations and the operational noise levels at sensitive residential receptors located within 45 feet of the 230-kV line segments. Operational noise levels will be measured during three rain events during the first two rainy seasons when the 230-kV line is operating. Reports shall provide noise measurements in Ldn and indicate the existing ambient noise levels and weather conditions during measurements. The applicant will submit measurement results to the CPUC annually. If the reports determine that the corona noise levels exceed FTA Cumulative Noise Levels Allowed by Criteria at sensitive residential receptors located within 45 feet, the applicant will implement the use of additional insulation equipment and additional technological solutions and will repeat the measuring of operational noise levels at sensitive residential receptors located within 45 feet or located within 45 feet of the 230-kV line segments during three rain events during the subsequent two rainy seasons, until the FTA Cumulative Noise Levels Allowed by Criteria at sensitive residential noise levels at levels at levels and weather seasons, until the FTA Cumulative Noise Levels Allowed by Criteria threshold is no longer exceeded during rain events.	During Operation	Not Applicable	NTP-4 does not include the installation of 230-KV transmission structures.
MM NV-5 : Noise Control Plan. Prior to the start of construction, the applicant shall prepare a Noise Control Plan for the construction and restoration of the proposed project. The applicant shall submit the Noise Control Plan to the CPUC at least 30 days prior to the start of construction for review and approval. The Noise Control Plan shall include measures that the applicant shall employ during construction and restoration of the proposed project to keep	Pre-construction, during Construction, and Restoration	Applicable	Complete . The Construction Noise and Vibration Control Plan was approved by the CPUC on 10/05/2017. SDG&E will implement the Plan as required during construction.

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generated noise levels below the Severe Impact range shown in Figure 4.11-1 (FTA 2006) of this EIR at the nearest sensitive receptors to each project construction location, in order to avoid significant impacts from temporary ambient noise increases. The Noise Control Plan shall include measures such as the following:			
• Install and maintain an absorptive noise control barrier in the perimeter of the San Juan Capistrano Substation construction site.			
• Limit heavy equipment activity adjacent to residences or other sensitive receptors to the shortest possible period required to complete the work activity.			
• Ensure that proper mufflers, intake silencers, and other noise reduction equipment are in place and in good working condition.			
Maintain construction equipment according to manufacturer recommendations.			
Minimize construction equipment idling.			
 Noise from back-up alarms (alarms that signal vehicle travel in reverse) in construction vehicles and equipment shall be reduced by providing a layout of construction sites that minimizes the need for back-up alarms and using flagmen to minimize time needed to back up vehicles. 			
• When possible, use construction equipment specifically designed for low noise emissions (i.e., equipment that is powered by electric or natural gas engines instead of diesel or gasoline reciprocating engines). Electric engines have been reported to have lower noise levels than internal combustion engines.			
Where practical, locate stationary equipment such as compressors, generators, and welding machines away from sensitive receptors or behind barriers. The Noise Control Plan shall detail the frequency, location, and methodology for noise monitoring prior to and during various construction and restoration activities to ensure that generated noise levels do not exceed the Severe Impact range shown in Figure 4.11-1 of this EIR. The Noise Control Plan shall detail the actions and procedures that the applicant shall implement to mitigate impacts in the event that monitoring detects that noise levels have exceeded the Severe Impact range shown in Figure 4.11-1 of this EIR. Noise level measurements shall be conducted in compliance with the City of San Juan Capistrano, City of San Clemente, and Orange County requirements.			
The Noise Control Plan shall designate a Construction Relations Officer that is readily available to answer questions or respond to complaints during any hours or days that construction or restoration is occurring. The applicant shall send pre-construction notifications to sensitive receptors located within 100 feet of construction activities at least 30 days prior construction. The notification shall include a phone number for the public to contact the Construction Relations Officer. Additionally, each construction site shall include clearly visible signs with a			

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APPLICABILITY APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM) TIMING TO NTP-4 **STATUS** phone number for the public to contact the Construction Relations Officer. The applicant shall submit on a monthly basis to the CPUC a summary report of the complaints submitted to the Construction Relations Officer. The summary report shall include detail on how each complaint was responded to, if and when the complaint was resolved, and contact information for the member of the public that submitted the complaint. PUBLIC SERVICES Applicable APM PS-1: Recreational Facility Access. Construction within existing public parks would not Pre-construction, There is a public and private park located completely restrict access through the parks. Where necessary, SDG&E would create temporary west of the SJC Substation that will be during foot and bicycle paths along with appropriate advanced notice and signage to direct and allow Construction, impacted by NTP-4 work activities. As for the pedestrian and bicycle access through each affected park. and Restoration such, SDG&E will implement APM PS-1 during NTP-4 construction activities as needed. APM PS-2: Repair Damage to Public Facilities. All recreational facilities that are physically Applicable There is a public and private park located During impacted during construction activities would be returned to an approximate pre-construction Restoration west of the SJC Substation that will be state, allowing for SDG&E operation and maintenance activities, following the completion of the impacted by NTP-4 work activities. proposed project. SDG&E would make replacements of any public damaged or removed SDG&E will restore impacted public and equipment, facilities, and infrastructure, in a timely manner. private facilities as necessary at the completion of NTP-4 construction work within the public and private park. . APM PS-3: Roadway Repair. SDG&E Contract Administrators oversee all aspects of construction During Applicable SDG&E will document (e.g., photograph and would ensure that contractors repair any damage caused by construction activities. Restoration and/or video) pre-construction roadway Contract Administrators would also work with the customers and/or local agency to ensure conditions along Camino Capistrano (and repairs are sufficient and consistent with pre-construction conditions. Contractors working for other impacted City streets) and make SDG&E typically photograph and/or video document pre-construction conditions. At the any repairs caused by construction after completion of construction activities, this documentation is used to ensure that any damage completion of construction of NTP-4 that is caused by construction work is repaired. work activities. Documentation of the pre-construction conditions of the roadways will be made available to the CPUC upon request. MM PS-1: Water Efficiency Plan. The applicant will make reasonable attempts to reduce overall 60 days prior to Applicable **Complete**. The Water Efficiency Plan was water use and will reduce potable water use by at least 20 percent during drought conditions, as Construction, approved by the CPUC on 10/03/2017. declared by the State of California. The applicant will be required to research reclaimed water during SDG&E will implement the Water sources and acquire reclaimed water to the greatest extent practicable. The applicant will Construction, Efficiency Plan as required during prepare and submit a Water Efficiency Plan to the California Public Utilities Commission (CPUC) and Restoration construction.

ATTACHMENT B: MMCRP REQUIREMENTS TRACKING TABLE

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for review and approval at least 60 days prior to construction. The Water Efficiency Plan will detail the applicant's water efficiency measures, including the use of reclaimed water, palliatives, alternative construction methods, or other measures proposed by the applicant. The Water Efficiency Plan will detail the applicant's attempts to secure reclaimed water. In the event that a sufficient supply of reclaimed water cannot be reasonably obtained, the applicant will provide a well-documented justification for any use of potable water to be used for construction activities. If, at any time during construction, the State Water Resources Control Board (SWRCB) rescinds their Emergency Regulations (Resolution No. 2014-0038) due to a cessation of drought conditions in the state, the applicant will need to revise their Water Efficiency Plan to remain in compliance with future adopted SWRCB regulations regarding water use during drought conditions.			
APM TR-1: Avoid Traffic Near Schools. Construction generated traffic associated with the San Juan Capistrano Substation and construction of the 138-kV getaways (new underground cable packages and new Pole Nos. 1a through 7a) would avoid the start and ending time for the Saddleback Valley Christian School and the Serra Catholic High School. Workers would arrive at construction sites by 7:30 AM and would not leave prior to 3:30 PM.	During Construction and Restoration	Applicable	Start times for schools near the NTP-4 work area are 7:45 AM and 8:30 AM and end times are 2:20 PM and 3:00 PM. During days when nearby schools are in session, workers will be directed to avoid arriving or leaving the site from the north along Camino Capistrano between the following hours of 7:30 AM – 8:45 AM and 2:00 PM – 3:30 PM. In the event that construction activities will require extended delivery windows during the start and ending time for the schools, SDG&E will notify the CPUC prior to the delivery and will document reasons why the exception is required.
APM TR-2: Avoid SR-74 Traffic. Construction generated traffic associated with the San Juan Capistrano Substation and construction of the 138-kV getaways (new underground cable packages and new pole Nos. 1a through 7a) would avoid the SR-74 off ramp from I-5. Avoidance of the SR-74 and I-5 interchange would ensure that construction generated traffic would not exacerbate existing conditions on the stretch of road between the intersections of SR-74 and Rancho Viejo Road and SR-74 and Del Obispo.	During Construction and Restoration	Applicable	Construction generated traffic will be directed to avoid the SR-74 off ramp from I-5 when traveling to or from the future SJC Substation and construction of the 138-kV getaways.

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APM TR-3: Emergency Access. SDG&E would coordinate with local emergency response agencies during all construction within existing roadways. Coordination with local emergency response agencies (such as Orange County Sheriff's Department and Orange County Fire Authority) would ensure that impacts to emergency access are less than significant.	During Construction and Restoration	Applicable	SDG&E will coordinate with local emergency response agencies throughout construction.
APM TR-4: Off Peak Deliveries. Deliveries would be scheduled during off-peak traffic periods to reduce trips during the most congested periods of the day.	During Construction and Restoration	Applicable	When feasible, deliveries arriving to the site via large trucks (defined as trucks with a gross vehicle weight rating of more than 10,000 pounds) would be scheduled to arrive and leave the site to avoid peak traffic times of 7:00 AM- 9:00 AM and 5:00 PM – 7:00 PM. Certain construction activities may require extended delivery windows (e.g. emergency events and concrete pours). In the event that construction activities will require extended delivery windows during peak traffic times, SDG&E will notify the CPUC prior to the delivery and will document the reasons why the exception is required.
APM TR-5: Material Removal, City Streets . For any underground work along city streets, materials would be removed from work areas on a daily basis to minimize traffic impacts.	During Construction and Restoration	Applicable	SDG&E will implement this measure during Project construction.
APM TR-6: Helicopter Use. When helicopters are in use for construction activities, designated fly yards would be kept clear of all other construction activity. If helicopters are used during construction of the proposed project, existing helicopter landing areas would be used wherever feasible. Helicopter landing areas along the existing ROW would be located away from residences and other land uses (generally at least one mile from sensitive noise receptors).	During Construction and Restoration	Not Applicable	NTP-4 does not include helicopter use.
APM TR-7: Traffic Control Plans. Contractors working for SDG&E would develop specific traffic control plans immediately prior to the start of construction that adhere to the Standard Traffic Control Procedure from the authority having jurisdiction (federal, state, county, city, or municipality) of the roadway being impacted. The traffic control plans would be created for the various construction phases of the San Juan Capistrano Substation, underground transmission and underground distribution segments leaving the San Juan Capistrano Substation, and overhead transmission.	Pre-construction, during Construction, and Restoration	Applicable	NTP-4 activities will require traffic control work within the City of San Juan Capistrano's ROW. As such, a Traffic Control Plan/Encroachment Permit would be submitted and appropriate permits would be acquired prior to commencement of the subject work.

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APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM)	TIMING	APPLICABILITY TO NTP-4	STATUS
The approved traffic control plans would describe lane closures and other methods for reducing adverse construction-related traffic impacts and require SDG&E to coordinate in advance with emergency service providers to avoid restricting movements of emergency vehicles, to ensure that emergency vehicle access is maintained and that impacts to traffic flow are minimized. All traffic control plans would be developed, reviewed and approved by the authority having jurisdiction of the specific roadway being impacted. The traffic control plans would include vehicular and non-vehicular traffic and would be communicated to the public at least 48 hours in advance of the traffic control measures being installed in the roadway or as required by the traffic control permit.			
MM TR-2 ^(a) : Helicopter Safety Plan and External-Load Training Program. Prior to start of construction, SDG&E must submit a Helicopter Safety Plan and External-Load Training Program prepared by qualified personnel to the CPUC. All workers that shall be present when helicopters are in use for construction of the project shall be trained regarding helicopter external loads. A sign-in sheet recording the names and dates of all individuals trained shall be maintained by SDG&E. Helicopter Safety Plan and Worker Environmental Awareness training shall include the following, at minimum:	Pre-construction, during Construction, and Restoration	Not Applicable	NTP-4 does not include the use of helicopters.
• An overview of the general steps taken by the certified Rotorcraft External-Load Operators before starting operations, including a survey of the flight area; the typical ground worker instructions from certified Rotorcraft External-Load Operators; the ramp inspection checklist (14 CFR 133 Ramp Inspection Job Aid) and examples of typical causes of unsatisfactory ramp inspections; and the equipment typically required for Class A, B, C, and D loads as specified in 14 CFR 133;			
• A summary of the contents of the FAA-approved Rotorcraft Load Combination Flight Manuals applicable to external-load operations planned for the project including maximum loads (internal and external) and load types and general performance capabilities, under approved operating procedures and limitations, for each type of helicopter to be used;			
• Detailed instruction regarding the proper methods of loading, rigging, or attaching external loads and examples of improper rigging and resultant accidents and incidents; and			
Detailed information about planned helicopter construction techniques.			
A safety brief, plan of operations, and refresher helicopter external-load operations training shall occur at the start of all days during which helicopter external-load operations are planned to occur. The planned flight paths, landing areas, and timing and types of helicopter construction activities for the day shall be presented. At minimum, the refresher training shall			

South Orange County Reliability Enhancement Project NTP-4 Request Measure Not Applicable to NTP-4 Applicable to NTP-4 – Measure to be Implemented During Construction/Restoration/Operation Applicable to NTP-4 – Pre-Construction Status Pending/Ongoing Applicable to NTP-4 – Pre-Construction Status Complete/Approved

APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM)	TIMING	APPLICABILITY TO NTP-4	STATUS
include examples load types and maximum loads (internal and external) for each type of helicopter to be used that day and a demonstration of proper external-load attaching and restraining means for all types of attaching and retraining devices that may be used.			
No SDG&E personnel or contractor, including helicopter pilots and crewmembers, shall work in proximity to or be involved with helicopter external-load operations unless they receive the initial training and attend the daily safety brief and refresher training. Signatures of all personnel and contractors that attend the daily safety brief and refresher training shall be collected and clear indication on the worker (e.g., sticker on the hardhat color-coded by training day) shall be visible to indicate that the worker, pilot, or crewperson is approved to work in proximity to or otherwise be involved with helicopter external-load operations for the day.			
MM TR-3: Notification and Monitoring of Helicopter Use. SDG&E will notify the Long Beach Flight Standards District Office at least one week in advance of all days during which helicopter operations are planned to occur or as required by the Flight Standards District Office. In addition, SDG&E will notify all residents, businesses, and owners of property within 0.25 miles of planned helicopter flight paths and landing areas along the Project alignment at least one week in advance of all days during which helicopter operations are planned to occur.	During Construction and Restoration	Not Applicable	NTP-4 does not include the use of helicopters.
In compliance with 14 CFR Part 133, the loading and unloading of all helicopter external loads shall be monitored by lineman (non-apprentice) certified by SDG&E to rig and inspect helicopter external loads.			
All accidents or incidents reported to the National Transportation and Safety Board (NTSB) or FAA shall, at the same time of reporting, be reported to the CPUC. Near misses involving helicopters that had the potential to result in an accident or incident as defined by NTSB but do not require NTSB notification, shall be recorded by SDG&E and immediately reported to the applicant's safety coordinator and the CPUC.			
MM TR-4: City of San Juan Capistrano and City San Clemente Traffic Engineer and Parks and Recreation Review. Prior to commencing work within city boundaries of San Juan Capistrano and San Clemente, the applicant shall submit a draft Traffic Control Plan (APM TR-7) for the project to the City of San Juan Capistrano and City of San Clemente traffic engineers and Parks and Recreation departments for their review. A Draft Traffic Control Plan shall be submitted according to the timeframe established by the authority having jurisdiction of the roadway or trail being impacted. The applicant shall incorporate any recommendations from this review related to bikeway, sidewalk, and unpaved trail facilities into a final Traffic Control Plan prior to com. The applicant shall provide a copy of the final Traffic control plan to the City of San Juan Capistrano, the City of San Clemente and the CPUC prior to commencing work.	Pre-construction, during Construction, and Restoration	Applicable	Ongoing . Draft Traffic Control Plans were provided to the City of San Juan Capistrano on 10/5/2017 for all work associated with the Project and the City of San Juan Capistrano. SDG&E will acquire the appropriate traffic control plan/encroachment permits prior to the commencement of NTP-4 activities requiring traffic control.

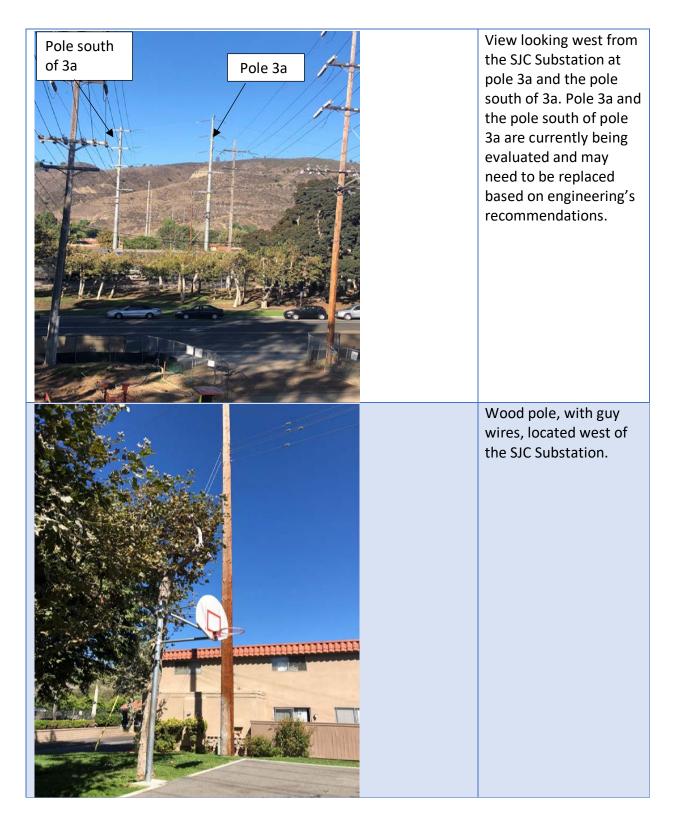
South Orange County Reliability Enhancement Project	Measure Not Applicable to NTP-4
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APPLICANT PROPOSED MEASURE (APM) OR MITIGATION MEASURE (MM)	TIMING	APPLICABILITY TO NTP-4	STATUS
 MM TR-5: Content Requirements of the Traffic Control Plan. The applicant shall include and implement the following restrictions within their Traffic Control Plan (APM TR-7): Lane closures along Vista Montana shall only be implemented to avoid the start and ending time for the San Juan Hills High School. Lane closures along Vista Montana shall not be allowed during the periods of 6:30 to 8:00 AM and 2:00 to 3:30 PM on days when San Juan Hills High School is in session. Construction-generated traffic associated with the project shall avoid the start and ending time for San Juan Hills High School. Workers shall avoid traveling along Vista Montana during the periods of 6:30 to 8:00 AM and 2:00 to 3:30 PM on days that San Juan Hills High School is in session. 	Pre-construction and during Construction	Not Applicable	NTP-4 activities will not affect Vista Montana or occur within the vicinity of San Juan Hills High School.
Additionally, a final traffic control plan shall be provided to the CPUC for approval prior to the start of construction.			

South Orange County Reliability Enhancement Project	Measure Not Applicable to NTP-4
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ATTACHMENT C NTP-4 Site Photographs

SOCRE NTP-4 Site Photographs



SOCRE NTP-4 Site Photographs

