

ELDORADO-LUGO-MOHAVE (ELM) SERIES CAPACITATOR PROJECT

Date: July 13, 2021
To: Eric Chiang, Project Manager, CPUC
From: Vida Strong, Aspen Project Manager
Subject: Monitoring Report #5: May 1 to June 30, 2021

Introduction

This report provides a summary of the construction and compliance activities associated with Southern California Edison's (SCE) El Dorado-Lugo-Mohave (ELM) Series Capacitor Project (Project). Although the following list includes Project-wide components, this report is limited to construction and compliance activities under the jurisdiction of the California Public Utilities Commission (CPUC), which includes non-federal California lands. Overall project components include:

- **Series Capacitors:**
 - Construction of two new 500 kV mid-line series capacitors (i.e., the proposed Newberry Springs Series and Ludlow Series Capacitors) and associated equipment.
 - Installation of two communication paths between the series capacitor sites, which includes approximately two miles of overhead and two miles of underground alignments.
 - Providing station light and power to the proposed series capacitors by extending and/or rerouting existing lines to create approximately two miles of overhead and 700 feet of underground 12 kV distribution circuits.
- **Repeater Facilities:**
 - Construction of three new fiberoptic repeater facilities (Barstow, Kelbaker, and Lanfair) within the Lugo-Mohave right-of-way (ROW).
 - Installation of distribution lines for light and power at the three proposed fiberoptic repeater sites.
- **Overhead Clearance Discrepancies:**
 - Relocation, replacement, or modification of existing transmission, subtransmission, and distribution facilities at approximately 12 locations along the Eldorado-Lugo, Eldorado-Mohave, and Lugo-Mohave 500 kV transmission lines to address 14 of the overhead clearance discrepancies.
 - Tower modifications would include raising nine towers up to approximately 18.5-feet by inserting new lattice steel sections in tower bodies.
 - Performing minor grading at two locations along the Lugo-Mohave 500 kV transmission line to address two of the overhead discrepancies.
- **Optical Ground Wire (OPGW):**
 - Installation of approximately 232 miles of OPGW which include approximately 59 miles on the Eldorado-Mohave transmission line, approximately 173 miles on the Lugo-Mohave transmission line, and approximately three miles of underground telecommunications facilities in the vicinity of the Mohave Substation.

- Modifications and strengthening of the ground wire peak of existing suspension towers where OPGW splices would occur (some of these towers would also require minor modifications to the steel in the tower body).
- Substation Upgrades:
 - Lugo Substation: Modifications to the existing series capacitors, installation of new terminating equipment, removal of two existing tubular steel poles (TSPs), and installation of two new TSPs on the Eldorado-Lugo and Lugo-Mohave 500 kV transmission lines.
 - Eldorado Substation: Modifications on the existing series capacitors and upgrades to the terminal equipment on the Eldorado-Lugo 500 kV transmission line.
 - Mohave Substation: Replacement of existing series capacitors on the Lugo-Mohave 500 kV transmission line and installation of new terminal equipment on the Eldorado-Mohave and Lugo-Mohave 500 kV transmission lines.
 - Telecommunications Facilities: Installation of approximately 2,000 feet of underground telecommunications facilities within the existing Lugo, Eldorado, and Mohave Substations.
- Cathodic Protection (if necessary)
 - Installation of approximately 60 miles of Southern California Gas Company’s (SoCalGas) natural gas pipelines parallel to SCE’s Lugo-Mohave 500 kV transmission line and on other pipelines as needed.

CPUC Environmental Monitors (EMs)

CPUC LEM, Jamie Miner, was onsite on May 11 and 25 and June 7, 2021. CPUC EM, Elliot D’Antin was onsite on May 18, 2021.

CPUC Notices to Proceed (NTPs)

Table 1 summarizes the NTPs issued for the Project by the CPUC, to date. Additional requests for NTP(s) are anticipated in May/June 2021.

Table 1 - CPUC Notices to Proceed			
NTP	Date Requested	Date Issued	Description
NTP #1	09-22-2020	12-14-2020	<ul style="list-style-type: none"> ▪ Modifications at the Lugo Substation Mid-Line Series Capacitor Construction at Ludlow Series Capacitor 5 Distribution and Telecommunications Construction for Mid-Line series Capacitors and the Barstow Repeater Staging Yard construction at the Ludlow Series Capacitor Yard
NTP #2	03-23-2021	04-01-2021	<ul style="list-style-type: none"> ▪ Tower raise modifications on the Lugo-Mohave and Eldorado-Lugo transmission lines (two locations) Establishment of Helicopter Landing Zone 184 Development of the Coolwater Staging Yard
NTP #3	04-29-2021	05-13-2021	<ul style="list-style-type: none"> ▪ Installation of OPGW fiber optic line along the Lugo-Mojave transmission line from Structure M165-T4 (near California/Nevada border) to Structure M68-T2 (near Ludlow Series Capacitor) Modifications to strengthen overhead structures with new OPGW splice structures Development of the Fenner Staging Yard and Ludlow Alternative Staging Yard

Table 1 - CPUC Notices to Proceed			
NTP	Date Requested	Date Issued	Description
NTP #4	05-28-2021	06-08-2021	<ul style="list-style-type: none"> ▪ Installation of OPGW fiber optic line along the Lugo-Mohave transmission line from Structure M66-T3 (west end) to Lugo Substation (east end) ▪ Modifications to strengthen overhead structures with new OPGW splice structures ▪ Development of the Arrow Lake Road Staging Yard and Bear Valley Staging Yard

Construction & Compliance

A summary of construction and compliance activities is provided below by NTP. Allowed construction activities under each NTP is summarized in Table 1 above.

- **NTP #1.** To date, all pre-compliance materials associated with NTP #1 have been approved by CPUC. Construction activities associated with NTP #1 began on January 4, 2021 and continued throughout the reporting period.
- **NTP #2.** To date, all pre-compliance materials associated with NTP #2 have been approved by CPUC. Construction activities associated with NTP #2 began on June 7, 2021 and continued throughout the reporting period.
- **NTP #3.** To date, all pre-compliance materials associated with NTP #3 have been approved by CPUC. Construction activities associated with NTP #3 began on May 19, 2021 and continued throughout the reporting period.
- **NTP #4.** To date, all pre-compliance materials associated with NTP #4 have been approved by CPUC; however, construction activities associated with NTP #4 have yet to commence.

Summary of All Construction Activity

Construction activities associated with NTP #1 that were conducted during the reporting period include:

1. For the currently approved Lugo Substation, distribution, and telecommunications components, construction activities are being performed by SCE crews. Currently approved components associated with construction of the Ludlow Series Capacitor and adjacent materials yard are being performed by Beta-Siemens.
2. Construction activities that occurred at the Lugo Substation during the reporting period included staging equipment, trenching and backfilling, pouring concrete, installing conduit, installing ground and conductor wire, and installing bus supports and circuit breaker pedestals (see Photos 1 and 2).
3. Construction activities that occurred at the Ludlow Series Capacitor during the reporting period included material deliveries, maintaining BMPs and desert tortoise fencing, grading, soil compaction, riprap installation, pit excavation, drilling foundations, constructing and removing concrete forms, and pouring concrete (see Photo 3).
4. To date, activities associated with the Lugo Substation and Ludlow Series Capacitor and Mid-Line are approximately 46 percent and 20 percent complete, respectively.

Construction activities associated with NTP #2 that were conducted during the reporting period include:

1. The currently approved tower modifications are being performed by AMPJACK crews.
2. Construction activities that occurred along the Lugo-Mohave transmission line included tower modifications at Structure M22-T4 (see Photo 4).

Construction activities associated with NTP #3 that were conducted during the reporting period include:

1. For the currently approved structure modifications and OPGW installation, construction activities are being performed by American Power crews.
2. Construction activities that occurred along the Lugo-Mohave transmission line included elevation and sag surveying, mobilizing materials and equipment, BMP installations at Structures M68-T4 and M78-T4, tower modifications at Structure M68-T4, and OPGW installation at Structures M69-T1 through M69-T3 and M78-T4 (see Photo 5).

Environmental Compliance

1. There was one Incident Report and one Non-Compliance Report issued by the CPUC during the reporting period.
 - **Incident Report.** On June 14, 2021, the CPUC LEM issued a Level 1 Incident Report related to SCE providing insufficient data for helicopter flight track review. MM T-3 requires a GPS-data system be installed in each aircraft conducting project activities. The system shall identify all project-approved flight paths and areas where overflights are restricted, including nesting bird buffers. Further, the system is required to automatically record and preserve flight data to identify the aircraft's flight path so that this data can be verified for compliance. The MMCRP requires regular meetings between the CPUC, SCE, and the contractor to review these flight tracks. A flight track review meeting was conducted on June 14, 2021. During that meeting, the data presented by SCE's contractor was determined to be insufficient and was not provided in a manner that could be used by the CPUC to adequately verify compliance. For example, flight tracks were not recorded or made available for helicopter activities that were performed throughout the day on June 1, 2021. Additionally, several nest buffer incursions were identified; however, specific details, such as species, current nest status, and flight duration, of those incursions were not provided.
 - **Non-Compliance Report (NCR).** On June 16, 2021, the CPUC LEM issued NCR #1 for failure to comply with various project requirements. NCR #1 included the following:
 - Operating a helicopter conducting OPGW activities without the required GPS tracking device.
 - Removing the buffers for golden eagle nests without notification or documentation.
 - Unreported mortality event of a red-tailed hawk.
 - Non-notification of a nest buffer reduction at red-tailed hawk nest ID 202.
 - Late reporting of a Level 1 Incident of a helicopter nest buffer incursion at red-tailed hawk nest.
 - Multiple helicopter nest buffer incursions over the period of 5/17/21 to 6/6/21.
 - Inadequate daily flight track review by contractor.
 - Inappropriate inactive nest determination based on a 15-minute observation of stick Nest ID 263.
 - Lack of self-reporting by the contractor with respect to multiple project requirements.

NCR #1 included several required corrective actions, including:

- Immediately reestablish all golden eagle buffers until adequate data is provided to the CPUC and USFWS documenting updated survey results. Removal of these buffers can only occur once the data has been reviewed by the CPUC and USFWS.
- Weekly compliance status calls with the contractor, SCE, and Aspen will occur to discuss current compliance status, upcoming construction activities, and a review of nesting bird activity on the project.
- SCE shall provide all helicopter data collected to date, along with historical nest buffer data. Future helicopter data shall be presented in the format required in NCR 001.
- Provide responses to previously requested information (requested on June 14) relating to multiple nest buffer incursions. For each helicopter incursion, provide current nest status, species, buffer distance at the time of incursion, time the incursion occurred, closest distance the helicopter was to the nest, and the duration the helicopter operated inside the buffer. Also provide any self-reported Incident Reports issued for these incursions.
- Daily helicopter flight track reviews on days when helicopters are in operation will be required until further notice.

SCE implemented a project stand down for all helicopter-related activities on June 17, 2021 and provided a response to NCR #1 on July 2, 2021. The stand down is currently in effect and the NCR #1 response is under review by the CPUC.

2. There were six Level 1 and one Level 3 SCE self-reported incidents documented during the reporting period.

- On May 13 and May 15, 2021, a Level 1 Incident was documented when a project helicopter was recorded crossing into the nest buffer of Nest ID 225 near Structure 151-T3 (originally identified by CPUC LEM; see NCR #1 above).
- On May 14, 2021, a Level 1 Incident was documented when a project helicopter entered the active nest buffer for Nest ID 225 near Structure 151-T3 while removing fiber guards (originally identified by CPUC LEM; see NCR #1 above).
- On May 15, 2021, a Level 1 Incident was documented due to improper protocols associated with an active red-tailed hawk nest buffer reduction at Structure M162-T1. SCE failed to provide notification to the CPUC prior to work occurring within the reduced buffer (originally identified by CPUC LEM; see NCR #1 above).
- On June 4, 2021, the SCE Biological Monitor documented a Level 1 Incident when a project helicopter made a precautionary landing within a large, open ephemeral wash approximately 2,060 feet south of Structure M79-T1 (see Photo 6). The landing area was outside of approved project limits. After the helicopter was approved for takeoff again, the SCE Biological Monitor inspected the area and reported no observed impacts to biological resources, no spills, or no other contamination. The CPUC Project Manager was immediately notified of this event by SCE.
- On June 23, 2021, SCE issued a Level 1 Incident for failure to properly report golden eagle nest updates to the CPUC (originally identified by CPUC LEM; see NCR #1 above).
- On June 28, 2021, a Level 1 Incident was documented when the contractor crews were exiting the Ludlow Series Capacitor site and traveling along the main access road to a crane that was stuck in the sand in the 87-Mile without an SCE Biological Monitor present. Neither SCE's Lead Environmental Monitor nor Lead Authorized Biologist were notified of this activity.

- On June 29, 2021, SCE documented a Level 3 Incident to accompany the entire NCR issued by the CPUC (see NCR #1 above).
3. On June 28, while confirming biologists' approvals specific to the ELM Project, the CPUC LEM discovered that recommendations for nest buffer reductions were being completed by biologists who were not approved as Avian Biologists or Lead Avian Biologists; therefore, the process outlined by the Nesting Bird Management Plan (NBMP) was not being followed. Notification was sent to SCE regarding that Avian Monitors are not considered approved to make these determinations, and that if there were any current reduced buffers recommended by persons not qualified and approved as Avian Biologists, those would be immediately considered null and void. The LEM also requested that SCE identify the Lead Avian Biologist (as described in the NBMP) for the Project.
 4. There were no SWPPP maintenance items or corrective actions recorded during the reporting period. To date, there are no open SWPPP maintenance items or corrective actions.
 5. There were no reportable (>1 gallon) and one non-reportable (<1 gallon) spills identified during the reporting period. The non-reportable spill occurred at the Ludlow Series Capacitor site on June 2, 2021 and consisted of a small amount of ground staining from a minor hydraulic oil leak. According to SCE, the contaminated material was properly removed from the site.
 6. To date, there are 16 active buffers on unconfirmed golden eagle nests (nest status needs to be verified) either located within or with buffers that overlap work areas under CPUC oversight. If required, nest management, including establishment of buffers and the removal of inactive non-special-status bird species' nests, is being implemented per the requirements of the project Nesting Bird Management Plan (NBMP). There were no nest removals reported within work areas under CPUC oversight during the reporting period.
 7. Special-status species observed during the reporting period included desert tortoise, loggerhead shrike, and prairie falcon.
 8. On June 16, 2021, SCE submitted copies of email messages identifying approvals from the County of San Bernardino for work over Memorial Day and extended hours.

Minor Project Refinements (MPRs) and Temporary Extra Workspaces (TEWS)

Table 2 summarizes the CPUC MPRs and TEWS issued since the start of construction.

Table 2 – Minor Project Refinements (MPRs) and Temporary Extra Workspaces (TEWS)				
MPR/TEWS	Date Requested	Date Issued	Location	Description
TEMPORARY EXTRA WORKSPACE (TEWS)				
TEWS #001	05-10-2021	05-10-2021	Lugo-Mohave	Use of existing access road between Structures M162-T1 and M163-T1 and M164-T1 and M164-T2

CPUC Incident Reports, Project Memoranda (PMs) and Non-Compliance Reports (NCRs)

Table 3 summarizes the CPUC Project Memorandum and Incident Reports issued since the start of construction.

Table 3 – CPUC Incidents, Project Memoranda (PM), and Non-Compliance Reports				
Incident/ PM/NCR	Regulatory Requirement	Date Issued	Location	Description
INCIDENT REPORTS				
Level 1 Incident	MM CR-5	02-04-21	Ludlow Series Capacitor	<ul style="list-style-type: none"> On February 3, 2021, the CPUC EM documented no monitors present in an area where monitoring is required.
Level 1 Incident	APM AIR-02	04-07-21	Ludlow Series Capacitor	<ul style="list-style-type: none"> Between March 30 and April 6, 2021, a non-compliant piece of heavy equipment was utilized.
Level 1 Incident	MM BR-10	04-08-21	Project-wide	<ul style="list-style-type: none"> Data associated with golden eagle surveys and potential nesting sites was not provided to the CPUC within the required timeframe.
Level 1 Incident	MM T-3 Helicopter Use Plan MMCRP	06-14-21	Project-wide	<ul style="list-style-type: none"> Providing insufficient data for helicopter flight tracks review
PROJECT MEMORANDUMS				
PM 001	ITP 8.8 MM BR-1	03-08-21	Ludlow Series Capacitor Lugo Substation	<ul style="list-style-type: none"> On March 5, 2021, the CPUC EM observed project activities that had occurred prior to the installation of required desert tortoise exclusionary fencing. Several records identified of monitors commencing activities onsite prior to CPUC concurring with agency approvals.
NON-COMPLIANCE REPORTS				
NCR 001	MM T-3 MM BR-10 NBMP MMCRP Helicopter Use Plan	06-16-21	Various	<ul style="list-style-type: none"> Operating a helicopter without the required GPS tracking device Removing buffers for golden eagle nests without notification or documentation Unreported mortality event of red-tailed hawk Non-notification of nest buffer reduction at red-tailed hawk nest Late reporting of Level 1 incident of helicopter nest buffer incursion Multiple nest buffer incursions over the period of 5/17/21 to 6/6/21 Inadequate daily flight track review by contractor Inappropriate inactive nest determination based on 15-minute observation of nest Lack of self-reporting by contractor when compliance items are identified

PROJECT PHOTOGRAPHS



Photo 1: Trenching work at Lugo Substation. May 7, 2021. Photo courtesy of SCE.



Photo 2: Conduit and wire installation at Lugo Substation. May 10, 2021. Photo courtesy of SCE.



Photo 3: Forming concrete pads at the Ludlow Series Capacitor. May 18, 2021.



Photo 4: Modifications at Structure M22-T4. June 10, 2021. Photo courtesy of SCE.



Photo 5: OPGW installation work at Structure M78-T4. June 14, 2021. Photo courtesy of SCE.



Photo 6: Precautionary helicopter landing near Structure M79-T1. June 4, 2021. Photo courtesy of SCE.