

## **ELDORADO-LUGO-MOHAVE (ELM) SERIES CAPACITATOR PROJECT**

**Date:** May 12, 2023  
**To:** Eric Chiang, Project Manager, CPUC  
**From:** Vida Strong, Aspen Project Manager  
**Subject:** Monitoring Report #22: March & April 2023

### **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 EMs, Nikolai Starzak and/or Eleanor Baker, were onsite March 6, 13, 14, 21, 30; April 5, 10, 19, and 27.

**CPUC Notices to Proceed (NTPs)**

Table 1 summarizes the NTPs issued for the Project by the CPUC, to date. No additional NTPs are required.

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

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

## 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 have been completed.
- **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 have been completed with the exception of site restoration and salvage plant maintenance.
- **NTP #4.** To date, all pre-compliance materials associated with NTP #4 have been approved by CPUC. Construction activities associated with NTP #4 began on September 30, 2021 and have been completed with the exception of site restoration and salvage plant maintenance.

### 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 occurring at Lugo Substation and Barstow Repeater are expected to resume Summer 2023.
3. Construction activities occurring at Ludlow Series Capacitor and Mid-Line during the subject reporting period included remobilization, modifying B/A phase pantograph conduit, installing yard wiring and yard lights, installing pantograph junction box, fiber column installation, punch list modifications, and commencement of site finish grading.
4. To date, activities associated with the Ludlow Series Capacitor and Mid-Line are approximately 92 percent complete.

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

1. To date, activities associated with the tower raise modifications along the Lugo-Mojave transmission line are 100% complete.

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

1. To date, activities associated with the 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) are 100% complete. Site restoration and salvaged plant maintenance are on-going.

Construction activities associated with NTP #4 that were conducted during the reporting period include:

1. To date, activities associated with the OPGW fiber optic line along the Lugo-Mohave transmission line from Structure M66 T3 (west end) to Lugo Substation (east end) are 100% complete. Site restoration and salvaged plant maintenance are on-going.

### **Environmental Compliance**

1. There were no Incident Reports, Project Memoranda, or Non-Compliance Reports issued by the CPUC during the reporting period.
2. There were no self-reported Level 1 incidents documented during the reporting period.
3. There were two SWPPP maintenance items or corrective actions recorded during the reporting period. On April 5 and 12, the SWPP monitor noted sand build up along wattles due to high winds. Corrective actions were immediately taken.
4. There were no reportable (>1 gallon) spills identified during the reporting period.
5. Avian activities during the subject reporting period are summarized below. If required, nest management, including establishment of buffers and the removal of inactive non-special-status bird species' nests, was implemented per the requirements of the project Nesting Bird Management Plan (NBMP).
  - There was one nest removal reported within work areas under CPUC oversight during the reporting period. On April 6, a Say's phoebe was observed carrying nesting material to a shelf underneath a rack on the A Phase (east) capacitor platform at SC5 Ludlow. The bird was observed returning to the same location repeatedly, carrying nesting material. By viewing the nest through a spotting scope, the biologist was able to determine that the nest was still in building stage with no eggs or chicks present. In consultation with the Lead Avian Biologist, it was determined that the nesting materials should be removed. A Barnard electrician photographed the nesting materials to confirm that no eggs or chicks were present prior to removal. Nest materials were dispersed on site.
  - There were four active nest buffers in CPUC jurisdiction during the reporting period including three common ravens (M30-T4, Eldorado-Lugo Bus, and M68-T4) and a red-tailed hawk (M69-T1). This buffer was reduced after identification on April 17 to 120 feet. Buffer signs are currently in use.
  - To date, there are 17 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.

6. Special-status species observed or detected during the reporting period included pink funnel lily, western patchnose snake, chuckwalla, American white pelican, yellow-headed blackbird, vermilion flycatcher, black-headed grosbeak, loggerhead shrike, prairie falcon, northern harrier, ferruginous hawk, and Swainson’s hawk, with no nearby nests detected. No project-related mortality events occurred in CPUC jurisdiction.
7. On June 16, 2021, SCE submitted copies of email messages identifying approvals from the County of San Bernardino for work 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. No MPRs or TEWS were submitted for approval during the subject reporting period.

Table 2 – Minor Project Refinements and Temporary Extra Workspaces			
MPR/TEWS	Date Requested	Date Issued	Description
MINOR PROJECT REFINEMENTS (MPRs)			
1	08-26-2021	09-08-2021	Additional work areas.
2	09-24-2021	09-30-2021	Work areas, walking paths, water sources.
3	10-11-2021	10-21-2021	Additional work areas.
4	10-13-2021	10-21-2021	Additional work areas, distribution line modification.
5	10-13-2021	10-15-2021	Potable water source, additional work areas.
6	12-21-2021	01-11-2022	Induction fencing.
7	01-20-2022	01-26-2022	Additional water source.
TEMPORARY EXTRA WORKSPACES (TEWS)			
1	05-10-2021	05-10-2021	▪ 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. No Incident Reports, PMs, or NCRs were issued during the subject reporting period.

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	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	Between March 30 and April 6, 2021, a non-compliant piece of heavy equipment was utilized.

<b>Table 3 – CPUC Incidents, Project Memoranda (PM), and Non-Compliance Reports</b>				
<b>Incident/ PM/NCR</b>	<b>Regulatory Requirement</b>	<b>Date Issued</b>	<b>Location</b>	<b>Description</b>
Level 1 Incident	MM BR-10	04-08-21	Project-wide	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	Providing insufficient data for helicopter flight tracks review
<b>PROJECT MEMORANDUMS</b>				
PM 001	ITP 8.8 MM BR-1	03-08-21	Ludlow Series Capacitor  Lugo Substation	<ul style="list-style-type: none"> <li>▪ On March 5, 2021, the CPUC EM observed project activities that had occurred prior to the installation of required desert tortoise exclusionary fencing.</li> <li>Several records identified of monitors commencing activities onsite prior to CPUC concurring with agency approvals.</li> </ul>
<b>NON-COMPLIANCE REPORTS</b>				
NCR 001	MM T-3 MM BR-10 NBMP MMCRP Helicopter Use Plan	06-16-21	Various	<ul style="list-style-type: none"> <li>▪ Operating a helicopter without the required GPS tracking device</li> <li>Removing buffers for golden eagle nests without notification or documentation</li> <li>Unreported mortality event of red-tailed hawk</li> <li>Non-notification of nest buffer reduction at red-tailed hawk nest</li> <li>Late reporting of Level 1 incident of helicopter nest buffer incursion</li> <li>Multiple nest buffer incursions over the period of 5/17/21 to 6/6/21</li> <li>Inadequate daily flight track review by contractor</li> <li>Inappropriate inactive nest determination based on 15-minute observation of nest</li> <li>Lack of self-reporting by contractor when compliance items are identified</li> </ul>

## PROJECT PHOTOGRAPHS



**Photo 1:** Bringing site to final grade, SC5 (April 27, 2023).



**Photo 2:** Bringing site to final grade, SC5 (April 27, 2023).



**Photo 3:** Buried wattles at SC5 (April 5, 2023; photo taken by SWPPP Monitor Michael Authument).



**Photo 4:** Red-tailed hawk nest buffer signage, SC5 (April 27, 2023).