

ELDORADO-LUGO-MOHAVE (ELM) SERIES CAPACITATOR PROJECT

Date: August 24, 2022
To: Eric Chiang, Project Manager, CPUC
From: Vida Strong, Aspen Project Manager
Subject: Monitoring Report #14: March-July 2022

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 EM, Nikolai Starzak was onsite March 1, 10, 24, and 28; April 4, 13, 21, 26, and 28; May 4, 9, 10, 23, 31; June 6, 14, 30; and July 5, 13, 18, and 28.

CPUC Notices to Proceed (NTPs)

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

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. Construction activities associated with NTP #4 began on September 30, 2021 and continued throughout the reporting period.

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. No construction activities excluding mobilization occurred at Lugo Substation or Barstow Repeater during the subject reporting period (see Photo 1, 2, and 3). Work will resume late-summer 2022.
3. Construction activities that occurred along the Ludlow Mid-Line Series Capacitor distribution alignment included the following (see Photo 4, 5, 6, and 7):
 - Site grading.
 - Conduit excavation and trenching, installation of 500 kV disconnect switches, MEER electrical installation, installation of MEER landing stoops, installation of reactor, MOVs, bus and conductor, and installation of ground grid.
 - Installation of bollards and fence posts.

- Installation and raising of capacitor platforms and grating, capacitor equipment, MEER HVAC installation, install/land/terminate/inspect ATS/DSW cables, installation of above ground conduit and termination cable, installation of batteries and equipment, installation of battery chargers, install disconnect switches, and installation of C&P panels.
 - Distribution line/transformer excavation, conduit excavation and trenching.
 - Assembly and installation of ABB bypass switch, ABB demonstration and testing, installation of conductor tie-in and pantograph trapeze, installation of bracket grounds.
4. To date, activities associated with the Ludlow Series Capacitor and Mid-Line are approximately 86 percent complete.

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. No construction activities occurred along the Lugo-Mohave transmission line during the subject reporting period. Work will resume October 2022.
3. To date, activities associated with the tower raise modifications along the Lugo-Mojave transmission line are approximately 80% complete.

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

1. Wire stringing occurred along the Lugo-Mohave transmission line (see Photo 8).
2. No construction activities occurred at the Fenner Staging Yard and Ludlow Alternative Staging Yard during the subject reporting period.
3. To date, activities associated with the OPGW fiber optic line along the Lugo-Mojave transmission line are approximately 100% complete.

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

1. Wire stringing occurred along the Lugo-Mohave transmission line.
2. No construction activities occurred at the Bear Valley Staging Yard during the subject reporting period.

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 two level one self-reported incidents documented during the reporting period.
 - On May 20, a level one incident was reported when an Intercon security vehicle drove on an unapproved access road to leave SC5 on the railroad easement at speeds excess 15 mph
 - On June 1, a level one incident was reported when an Intercon security vehicle drove on an unapproved access road outside SC5 at M68-T2 for one mile; "NO ELM ACCESS" signage was up and the active Biological Monitor swept the area afterwards and found no environmental impacts.
3. 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.

4. There was one reportable (>1 gallon) spill identified during the reporting period. On April 19, a broken hydraulic hose spray was identified and contaminated soil was collected and the spill was cleaned.
5. Avian activities during the subject reporting period included the following. 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 were no nest removals reported within work areas under CPUC oversight during the reporting period.
 - Active nests were observed for the following species: Say's phoebe (4), active red-tailed hawk (2), common raven (5), house finch (1), and cactus wren (2).
 - 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.
6. Special-status species observed or detected during the reporting period included Mojave fringe-toed lizard, chuckwalla, western patchnose snake, desert tortoise, Vaux's swift, yellow-headed blackbird, loggerhead shrike, burrowing owl, peregrine falcon, prairie falcon, Swainson's hawk, and golden eagle.
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.
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
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: Routine maintenance at Lugo Substation, SC4 (March 10, 2022).



Photo 2: Construction mobilization at Lugo Substation (March 25, 2022).



Photo 3: Finished work on Barstow Repeater (July 5, 2022).



Photo 4: Conduit material staging at Ludlow Midline, SC5 (March 10, 2022).



Photo 5: Capacitor installation at Ludlow Midline (April 13, 2022).



Photo 6: MEER progress at Ludlow Midline (June 14, 2022).



Photo 7: Dust control and escorting at Ludlow Midline (July 13, 2022).



Photo 8: Wire pulling at Ludlow Midline and M69-T1 (May 5, 2022).