

ELDORADO-LUGO-MOHAVE (ELM) SERIES CAPACITATOR PROJECT

Date: July 8, 2024
To: Eric Chiang, Project Manager, CPUC
From: Vida Strong, Aspen Project Manager
Subject: Monitoring Report #32: February thru June 2024

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)

Due to decreased level of construction activity on CPUC lands, site visits were not conducted during the months of February, March, April, May, and June of 2024. CPUC EMs continue to monitor the task-of-day and compliance notices generated by EPG to stay informed of any projected construction and compliance activities taking place on CPUC lands.

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 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 Beta (mobilizing inventory, demo-panel in MEER and rewire, salvaging platform equipment), SCE, and Siemens (capacitor inspection, C&P panel installation) crews.
2. Testing and energization activities continued for the series capacitors.
3. Construction and construction support activities occurring at Ludlow Series Capacitor and Mid-Line during the subject reporting period consisting of: Beta/Siemens demonstrating additional requirements, retesting, working on interlocks, sequences, and trips, Beta conducting recycling and clean-up activities, Hapam crews aligning and pinning pantographs, Rising Edge crews providing Siemens support, completing punch list items, installing jumpers, pantograph work, and aligning disconnects, Siemens conducting corona checks, capacitor soaking, and implementing fixes (as necessary), Southern States crews aligning disconnects, Wilson crews installing line drops, biological surveys, SWPPP inspections, and SWPPP-related BMP maintenance/repair efforts.
4. To date, activities associated with the Ludlow Series Capacitor and Mid-Line are approximately 99 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. SWPPP maintenance items/corrective actions recorded during the reporting period, including the following:
 - QSP February 14th inspections identified: Damaged perimeter BMP's (fiber wattles) at both SC2 and SC5 were uninstalled and stockpiled for removal off-site (in progress, see Photo 1), new fiber wattle BMP replacements were installed surrounding on-site stockpiled materials at SC2 and SC5, and new fiber wattle BMP replacements were installed (in specific sections) at the perimeter of SC5 (see Photos 2, and 4). Of note, multiple rainfall events occurring on site in early February resulted in delayed BMP maintenance/repair effort timelines (see Photo 3).
 - QSP June 25th inspections identified: Several perimeter wattles at both SC2 and SC5 have more severe damage (large holes) and increasing animal damage (see Photos 4 and 5) Outstanding SWPPP maintenance item/corrective actions recorded.

Currently, no BMP maintenance activities are scheduled due to the proximity of the reclamation timeline (reclamation process beginning in the coming weeks).

4. There were no reportable (>1 gallon) spills identified during the reporting period. One non-reportable spill was observed at SC5 on May 22, 2024 (see Photo 6). Corrective actions were taken, and appropriate documentation was completed.
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).
 - One active nest was observed/monitored during the reporting period on CPUC lands, consisting of the following: Common raven (within tower M69-T1, adjacent to SC5). This active nest was initially observed on April 1st, and successfully fledged as of June 9th. All avoidance buffer signage has subsequently been removed.

- One nest buffer reduction took place during the reporting period. On May 17th, the 150-ft ground buffer installed for common raven nest M69-T1 (adjacent to SC5) was temporarily reduced to 15-feet to allow for capacitor pre-energization activities, and the installation of three dampeners on nearby transmission line. Adults and nestlings were monitored by the approved Avian Monitor for the duration of the activity. No negative impacts to the nest were observed, and the default avoidance buffer of 150 feet was re-installed post-construction.
 - No nest failures due to Project activities were reported during the subject period.
 - Three nest removals were conducted during the reporting period, consisting of three house sparrow nests (all within SC5 capacitor structures). All nest removals were conducted at a time when it was safest for qualified electrical workers to do so, with monitoring support provided by the on-site biological/Avian monitor.
 - There were no project-related mortality events observed during the reporting period.
 - 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. On March 11th, a single pink funnel lily (also Small-flowered *Androstephium*, *Androstephium breviflorum*) was observed by Biological Monitors during a routine sweep in the southwest corner of SC2. This individual is technically located within the Project’s disturbance area (approximately five feet inside the perimeter fence line), but it has been determined to not be at risk due to its distance from potential areas of active construction. No additional special-status species were observed or detected during the reporting period.
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.

Table 2 – Minor Project Refinements and Temporary Extra Workspaces			
MPR/ TEWS	Date Requested	Date Issued	Description
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	▪ 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	▪ 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

Table 3 – CPUC Incidents, Project Memoranda (PM), and Non-Compliance Reports				
Incident/ PM/NCR	Regulatory Requirement	Date Issued	Location	Description
				15-minute observation of nest Lack of self-reporting by contractor when compliance items are identified

PHOTOS



Photo 1: Stockpile of damaged wattles that have been removed from both perimeter fence lines and stockpiles on-site at SC2. Removal from site is pending. Photo courtesy of site QSP, SWPPP inspection conducted on February 14th, 2024.



Photo 2: New perimeter wattle BMP replacements installed at perimeter of SC5. Photo courtesy of site QSP, SWPPP inspection conducted on February 14th, 2024.



Photo 3: Ponding water at SC2 entrance, after documented rain events occurring on February 1st, and February 4th. Post-rain event on-site inspections were conducted by the project QSP in accordance with the project's SWPPP storm reporting requirements. Photo courtesy of site QSP, SWPPP inspection conducted on February 6th, 2024.



Photo 4: Newly-installed (February) perimeter BMP replacements at the perimeter of SC5. Some minor animal damage evident. Photo courtesy of site QSP, SWPPP inspection conducted on March 27th, 2024.



Photo 5: Damaged perimeter wattle at SC5, with evident large holes and animal damage. Photo courtesy of site QSP, SWPPP inspection conducted on June 25, 2024.



Photo 6: Hose leak coming from staged manlift spilled approximately 0.25 gallons of hydraulic fluid onto soil. The spill was immediately cleaned up utilizing on-site spill kits, and contaminated soil was properly disposed of. Photo courtesy of Biological Monitor (included in Spill Report) on May 22, 2024.