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ELDORADO-LUGO-MOHAVE (ELM) SERIES CAPACITATOR PROJECT

Date: January 31, 2025
To: Eric Chiang, Project Manager, CPUC
From: Vida Strong, Aspen Project Manager
Subject: Monitoring Report #34: October, November, and December 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 October, November, and December 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	▪ 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	▪ 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	▪ 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	▪ 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 SCE, Siemens (capacitor testing, remove capacitor phases A, B, C, Platforms 1 and 2, rewiring of control panel and TDC rack (MEER building), install of capacitor jumper wire all phases/all platforms), and Rising Edge (mobilizing inventory and equipment, demo-panel in MEER, demo and install of new fiber columns/platforms, demo old conduit, remove MOV's all phases and all platforms, remove old/install new reactor support beams, setting of new reactors A, B, and C, Platform 2, removal of spark gap houses, install of Megger cables, ductor all primary connections, remove 1272 Jumpers, building and install of 2156 Jumpers for all platforms and AAC 2000 Jumpers, pulling of new fiber optic cable for fiber columns, demo of existing Bus, supports, and insulators, fit/fabricate/install of new IPS 5" Bus, install of new CT's, remove and replace back cabinets, and fabrication and welding of new SCH80 IPS) 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 consisted of: ASCO crews installing Sun Shield, Beta/Gothic crews removing fencing (see Photo 1), conducting site restoration and reclamation activities (see Photos 2 and 3), and providing water support/dust suppression, routine biological surveys, and SWPPP inspections.
4. To date, activities associated with the Ludlow Series Capacitor and Mid-Line are 100 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 October 1st inspections identified multiple damaged perimeter wattles at both SC2 and SC5, consisting of large holes and tears, spilling out of straw material, and/or sand accumulation exceeding the 50% burial limit, and overall loss of functionality as effective BMPs. This observation was recorded by the QSP as a Compliance Checklist Deficiency for this week's inspection and recommended the replacement or removal of the ineffective BMP's (see Photos 4 and 5). Additionally, October 1st inspections identified damaged stockpile coverings (ripped geo-tex fabric, exposing stockpiled soil) at SC2. Outstanding SWPPP maintenance item/corrective actions recorded.

        - Subsequent QSP October 22nd and October 31st inspections noted both outstanding SWPPP BMP deficiencies mentioned above (perimeter wattles at SC2/SC5, and stockpile coverings at SC2) as resolved, with the initiation of site reclamation work (which included the removal and/or replacement of damaged perimeter wattles, and the spreading/removal of stockpiled material) (see Photos 6 and 7).

    - There were no reportable (>1 gallon) spills identified during the reporting period.

4. 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).

    - No active nests were reporting during the subject period.

    - No nest failures due to Project activities were reported during the subject period.

    - Two nest removals were conducted during the reporting period. Two nests that were previously observed, located in wracks/components of SC2 (one Great Horned Owl nest, and one Common Raven nest) were removed on December 18th. Notification of intent to remove these two inactive

nests was provided to CPUC and BLM on December 12th. Avian biological monitors on site conducted 1-hour observation periods of both nests, and after no activity, both nests were physically removed by qualified electrical workers (adhering to all safety protocols and procedures). These nest removals were conducted in consultation with the lead Avian Biologist for the project, and in accordance with protocols outlined in the Nesting Bird Management Plan.

- 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.

5. No special-status species were observed or detected during the reporting period.
6. 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	▪ 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 15-minute observation of nest ▪ Lack of self-reporting by contractor when compliance items are identified

PHOTOS

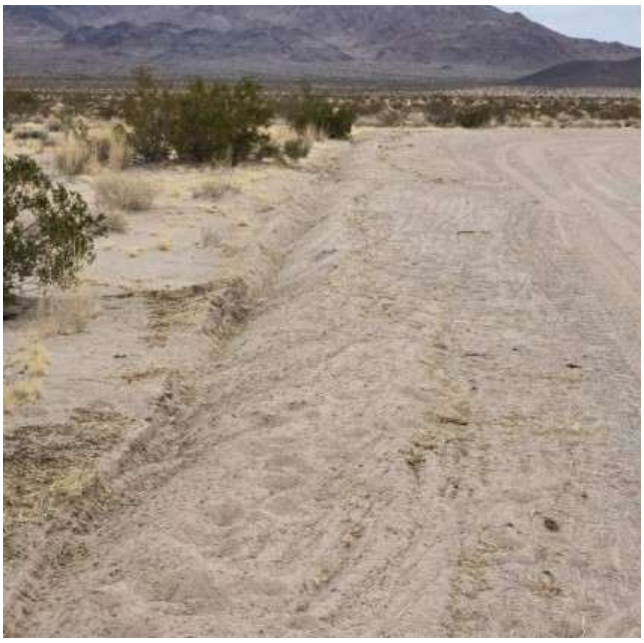

Photo 1: Post-reclamation activity at SC5, with removal of desert tortoise fencing and perimeter BMP's. Photo curtesy of the December 12, 2024 QSP SWPPP inspection.

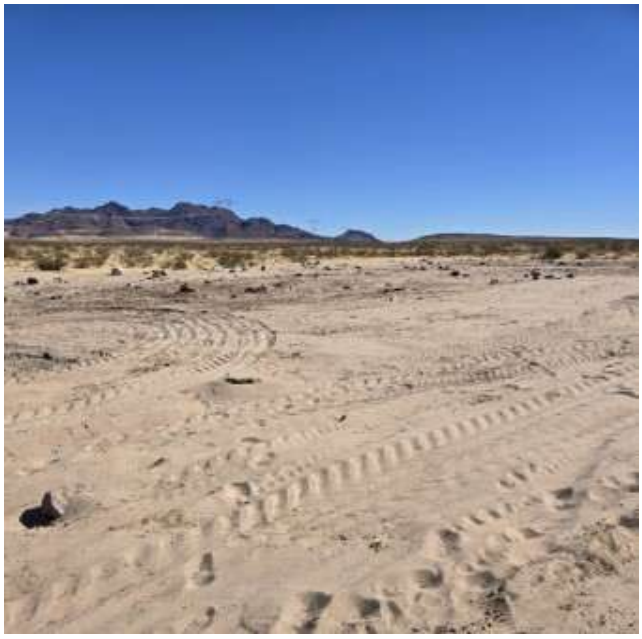

Photo 2: Post-reclamation activity at SC5, previous lay-down yard shown after removal of staged containers/stockpiled materials. Photo curtesy of the November 7, 2024 QSP SWPPP inspection.

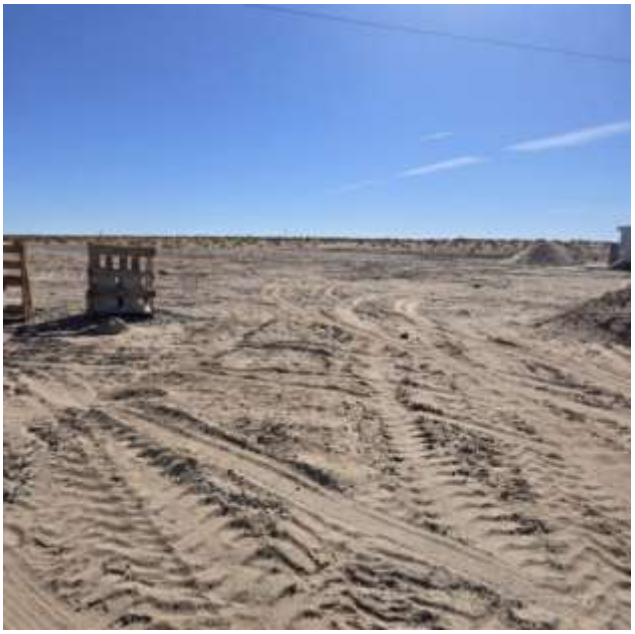

Photo 3: Post-reclamation activity at SC2, previous lay-down yard shown after removal of staged containers/stockpiled materials Photo curtesy of the November 14, 2024 QSP SWPPP inspection.

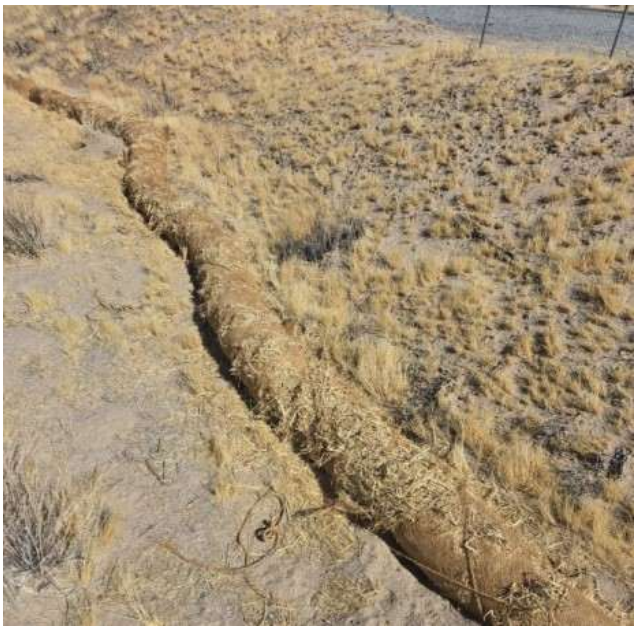

Photo 4: Damage to perimeter wattles at SC5, with a splits in the burlap covering, spill out of straw material, and loss of functionality as a BMP. Photo curtesy of the October 1, 2024 QSP SWPPP inspection.

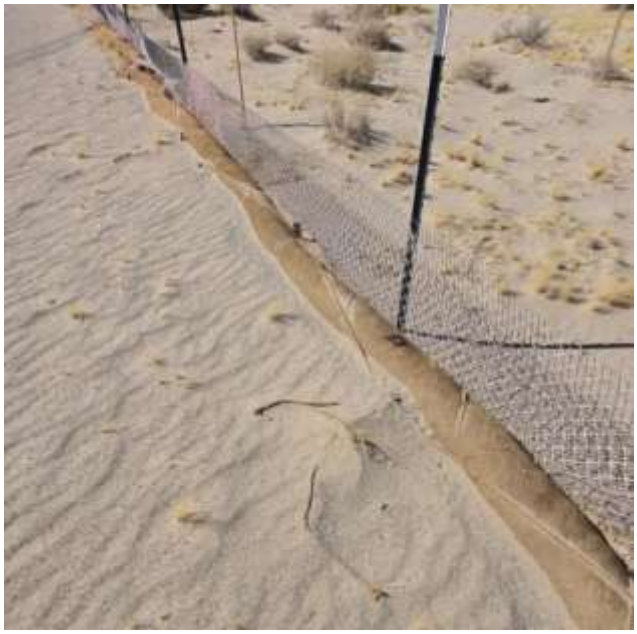

Photo 5: Significant sand accumulation/build-up, exceeding the 50% burial limit at perimeter wattles at SC5. Photo curtesy of the October 1, 2024 QSP SWPPP inspection.

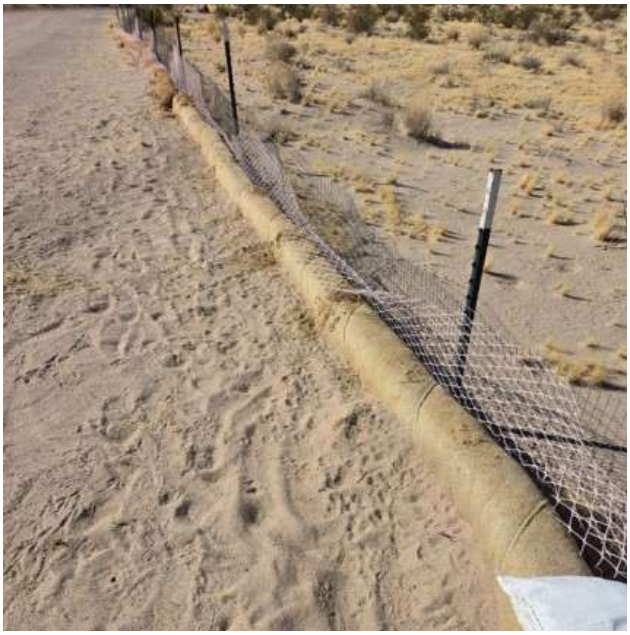

Photo 6: Replacement of deficient/damaged perimeter wattles with new/refurbished, temporary wattles at SC5 during reclamation. Photo curtesy of the October 22, 2024 QSP SWPPP inspection.

Photo 7: Removal of damaged stockpile coverings and spreading of stockpiled material during reclamation work at SC2. Photo curtesy of the October 31, 2024 QSP SWPPP inspection.