

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA**

In the Matter of the Application of SOUTHERN
CALIFORNIA EDISON COMPANY (U 338-E)
for a Permit to Construct Electrical Facilities:
Eldorado-Lugo-Mohave Series Capacitor Project.

Application No. 18-05-007
(Filed May 2, 2018)

**REPLY OF SOUTHERN CALIFORNIA EDISON COMPANY (U-338-E) TO THE
OFFICE OF RATEPAYER ADVOCATES RESPONSE TO SOUTHERN CALIFORNIA
EDISON'S REPLY TO THE OFFICE OF RATEPAYER ADVOCATES' PROTEST**

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Dated: **July 10, 2018**

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I.

INTRODUCTION

On June 1, 2018, the Office of Ratepayer Advocates (ORA) filed a protest against Southern California Edison’s (SCE) Application for a Permit to Construct the Eldorado Lugo Mohave Project (ELM Project). On June 11, 2018, SCE filed a reply to ORA’s Protest and on June 29, 2018, ORA filed a Motion for Leave to respond to SCE’s reply. ORA’s Motion for Leave was granted on July 3, 2018 and ORA filed its response on July 5, 2018 (ORA Response).

In this reply to ORA’s response, SCE demonstrates (1) that the raising of a small number of towers does not rise to the level of constructing “major transmission facilities” that would trigger a Certificate of Public Convenience and Necessity (CPCN); (2) that from a physical component perspective, the construction of series capacitors is more akin to the construction of substation facilities, and accordingly, should not trigger a CPCN but rather a Permit to Construct (PTC); and (3) that the replacement of overhead ground wire with optical ground wire does not

require a CPCN because optical ground wire is not a “major transmission facility” under both the language of 131-D and the CPUC’s decision in *Red Bluff*¹.

In addition, as Appendix A, SCE has attached the Declaration of Selya Arce, a registered engineer with over 25 years of experience, 13 of which have been with SCE. Ms. Arce confirms SCE’s position that series capacitors share the same components and physical likeness to that of substations.

II.

PURSUANT TO THE CPUC’S DECISION IN RED BLUFF, THE RAISING OF NINE TOWERS DOES NOT REQUIRE A CPCN.

In ORA’s Response, ORA argues that SCE makes a number of factually suspect and/or incorrect statements. In particular, ORA takes issue with 1) SCE’s reference to the “vertical relocation” of nine transmission towers; 2) SCE’s characterization of series capacitors as the “functional equivalent” of substation facilities; and 3) SCE’s assertion that the replacement of overhead ground wire with optical ground wire does not trigger a CPCN.

ORA argues that because SCE proposes to increase the height of nine towers, a CPCN should be required because the raising of towers constitutes a “major modification”². However, the test for whether a CPCN is triggered in the first instance was applied by the CPUC in its decision governing the Red Bluff Substation Project³ (Red Bluff). In Red Bluff, it was determined that (as opposed to an exemption from the CPCN requirements contained in GO 131-D) the test is whether the construction constitutes a “major transmission facility”. Increasing the height of nine towers up to ~20 feet does not trigger the need for a CPCN because it is not “major transmission facility” work.

¹ *A.10-11-012 (In the Matter of the Application of Southern California Edison Company (U338E) for a Permit to Construct Electrical Facilities: Red Bluff Substation Project).*

² ORA Response at 5.

³ *A.10-11-012 (In the Matter of the Application of Southern California Edison Company (U338E) for a Permit to Construct Electrical Facilities: Red Bluff Substation Project).*

In Red Bluff, ORA argued that the construction of two 500 kV transmission loop-in-lines (ranging between 2,500 and 3,500 feet long each) should be considered a “major” transmission line construction project necessitating a CPCN, rather than a PTC⁴. After considering the facts of that case, the CPUC held that it is necessary to review the relevant provisions of GO 131-D in the context of the overall project when determining which permit applies. In doing so, the CPUC determined that “in view of the relatively short length of the new transmission line segments and in the context of the overall project, the transmission loop-in lines are not ‘major’ facilities that require a CPCN.”⁵

In its reply to ORA’s protest, SCE was simply noting that raising nine towers⁶ is similar to, and in-fact far less in scope, than constructing the Red Bluff 500 kV loop-in lines. The environmental impacts associated with raising the heights of the nine towers would, of course, still be reviewed as part of the PTC process and ORA would have ample opportunity to comment on the environmental analysis as part of the California Environmental Quality Act (CEQA) process. However, the environmental impact analysis should not distract the CPUC from the real issue, which is that these tower modifications are not akin to the construction of major transmission facilities triggering a CPCN. Without any evidence to the contrary, and simply based on its own opinions and assertions, ORA argues that this type of minor construction should require a CPCN. SCE asserts that the CPUC should follow its own precedent and rule that the transmission tower work associated with the ELM Project is not the construction of major transmission line facilities that would trigger a CPCN.

⁴ *Id.*

⁵ *Id. at 6.*

⁶ ORA incorrectly implies that SCE may be raising the height of 59 towers, but this is clearly refuted in SCE’s Proponent’s Environmental Assessment (ELM PEA) for the ELM Project, as well as in the attached Declaration of Selya Arce. (ELM PEA at Attachments 3A and 3B; Declaration of Selya Arce.)

III.

THE WORK ASSOCIATED WITH THE ELM SERIES CAPACITORS IS AKIN TO CONSTRUCTION OF A SUBSTATION AND SHOULD NOT TRIGGER A CPCN.

The function of the series capacitors is to lower the electrical impedance of the transmission line and to improve transfer capability and system stability.⁷ Both stand-alone series capacitors and mid-line series capacitors include many functions inherent in substations including, but not limited to, providing protection for the capacitor equipment and providing for switching the equipment out of service for maintenance while the line remains in service.⁸ As proposed, they will be installed between the ends (mid-line) of the existing Eldorado-Lugo and Lugo-Mohave transmission lines to effectively provide series compensation for the long transmission lines.⁹ Although the series capacitors are installed in-line with transmission lines, the physical makeup and components used closely resemble that of a substation. For instance, the facilities are on foundations on the ground, and are surrounded by a fence.¹⁰ Additionally, for proper operation, the series capacitors require disconnect switches, by-pass switches, protection and control systems, circuit breakers and control rooms; these components are all considered substation equipment by SCE and FERC¹¹ and are maintained as substation facilities by SCE staff.

SCE recognizes that the use of the term “functional equivalent” in its reply to ORA’s protest was the wrong choice of words. However unartful, SCE was trying to demonstrate that a

⁷ See attached Declaration of Selya Arce.

⁸ *Id.*

⁹ *Id.*

¹⁰ *Id.*

¹¹ See FERC UNIFORM SYSTEM OF ACCOUNTS PRESCRIBED FOR PUBLIC UTILITIES AND LICENSEES SUBJECT TO THE PROVISIONS OF THE FEDERAL POWER ACT contained in the Code of Federal Regulation Title 18, Chapter 1, Subchapter C, Part 101: Substation Plant Equipment is identified in Plant Account 353, at page 457, <https://www.gpo.gov/fdsys/pkg/CFR-2011-title18-vol1/pdf/CFR-2011-title18-vol1-part101.pdf>. (SCE’s existing mid-line series capacitors are booked as substation assets which fall under FERC Plant Account 353.)

series capacitor more closely resembles a substation from a physical component and accounting standpoint than a transmission line and therefore a PTC is the more appropriate license covering its construction.

IV.

THE REPLACEMENT OF OVERHEAD GROUND WIRE WITH OPTICAL GROUND WIRE IS NOT THE CONSTRUCTION OF A MAJOR TRANSMISSION FACILITY AND OTHERWISE DOES NOT REQUIRE A CPCN PURSUANT TO GO 131-D.

While SCE maintains that the replacement of overhead ground wire with optical ground wire is a like-for-like replacement, this is not important for purposes of determining whether a CPCN is triggered. SCE recognizes that optical ground wire contains fiber optic cable and is slightly larger than overhead ground wire. However, the replacement of overhead ground wire with optical ground wire does not trigger a CPCN for the same reason as raising the nine towers doesn't trigger a CPCN under *Red Bluff*. Optical ground wire is not a "major transmission facility." In fact GO 131-D is silent as to telecommunication facilities. Even if the Commission were to determine that optical ground wire is a "major transmission facility," the replacement of overhead ground wire with optical ground wire does not require a CPCN under GO 131-D III.A Pursuant to GO 131-D III.A, a CPCN is not required for "the replacement of existing power line facilities or supporting structures with equivalent facilities or structures, the minor relocation of existing power line facilities, the conversion of existing overhead lines to underground, *or the placing of new or additional conductors, insulators, or their accessories on or replacement of supporting structures already built.*"¹² The replacement of overhead ground wire with optical ground wire on existing structures falls squarely within this exemption, and thus a CPCN is not required.

¹² GO 131-D Section III (A).

V.

CONCLUSION

For the reasons stated above, the ELM Project was properly filed as an application for a PTC and ORA's protest should be rejected in its entirety.

Respectfully submitted,

TAMMY JONES

/s/ Tammy Jones

By: Tammy Jones

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July 10, 2018

Appendix A

Declaration of Selya Juliano Arce

DECLARATION OF SELYA JULIANO ARCE

I, Selya Juliano Arce, declare as follows:

1. I am a registered Professional Engineer in Electrical Engineering, State of California License Number 17939, employed by the Southern California Edison Company (SCE). My business address is 2 Innovation Way, Pomona, CA 91768.
2. I have over 29 years of diverse experience in engineering and design, cost estimating, budgeting, project management, construction management, and staff supervision.
3. Since 2005, I have been employed at SCE as both a Substation Engineer and a Major Transmission & Distribution Project Manager.
4. With respect to ORA's argument that SCE intends to raise the height of the ~59 towers listed in the ELM PEA attachment 3-B, I have confirmed and declare that these structures will not be raised in height.
5. SCE considers and accounts for series capacitor installations, whether inside of a larger substation or a stand-alone mid-line installation, as substation facilities, and as such, contends that a PTC application applies to the ELM Project.
6. With respect to the statements raised by ORA's engineer Ken Lewis, SCE agrees with Mr. Lewis' statement that an electric substation is an assembly of the following major electrical equipment:
 - Electrical power transformers;
 - Bus bars
 - Circuit breakers
 - Air switches
 - Conductors and insulators
 - Instrument transformer (current and voltage);
 - Lightning arresters;

- Relays;
 - Shunt reactor banks; and
 - A control building.
7. SCE, however, disagrees with Mr. Lewis' assertion that a series capacitor bank contains only the following pieces of major electrical equipment:
- A number of individual capacitors mounted on an electrically insulated structure;
 - Air switches; and
 - A small control room
8. Rather, SCE's proposed mid-line capacitor banks include most of the same components as an electric substation, including the following:
- Bus bars;
 - Bypass switches, modified SF6 gas Circuit Breakers;
 - Air switches;
 - Conductors and insulators;
 - Instrument transformer (current);
 - Metal Oxide Varistors ;
 - Protective and control devices;
 - Reactors;
 - Station light and power as a primary power source;
 - A control building;
 - Remote Terminal Unit (RTU);
 - Telecommunications terminal equipment;
 - Station battery and charger;
 - AC and DC Panels; and
 - Emergency generator at each location as backup power source

9. SCE acknowledges that a series capacitor bank installation does not step the voltage up or down and it does not switch electric lines to reroute power. It does however provide protective devices for the capacitor equipment and line and provides for switching the capacitor station equipment out of service for maintenance while the transmission line remains in service. Stations energized at over 200 kV that do not include transformation up or down in voltage have been approved through the PTC process in the past. The most common are switching stations used for generator interconnection.¹
10. Series Capacitors share many of the same physical components with substations. The physical makeup of series capacitors is that of substation equipment. The facilities are on foundations on the ground and are surrounded by a fence. For proper functioning and operation, the series capacitors require disconnect switches, by-pass switches, protection and control systems, circuit breakers, control rooms, etc. These components are all considered substation equipment and are maintained as substation facilities by SCE's substation maintenance staff.

Executed under penalty of perjury under the laws of the State of California, on this 10th day of July, 2018, at Pomona, California.

/s/ Selya Juliano Arce

Selya Juliano Arce
Professional Engineer and Senior
Project Manager
Southern California Edison Company

¹ See e.g., CPUC Decision (D.) 11-07-055 approving SCE Application for a Permit to Construct for Sandlot Substation Project (formerly Lockhart Substation Project) (A.11-05-006) for construction of a “new 220 kilovolt (kV) Substation to loop in the existing Coolwater-Kramer No. 1 220 kV transmission line and to provide two 220 kV line positions to terminate two new 220 kV generation tie lines (gen-ties).”

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CERTIFICATE OF SERVICE

I hereby certify that, pursuant to the Commission's Rules of Practice and Procedure, I have this day served a true copy of the **REPLY OF SOUTHERN CALIFORNIA EDISON COMPANY (U 338-E) TO THE OFFICE OF RATEPAYER ADVOCATES RESPONSE TO SOUTHERN CALIFORNIA EDISON'S REPLY TO THE OFFICE OF RATEPAYER ADVOCATES' PROTEST**, on all parties identified on the attached service list(s) for **A.18-05-007**.

- Transmitting the copies via e-mail to all parties who have provided an e-mail address.
- Placing the copies in sealed envelopes and causing such envelopes to be delivered by U.S. Mail to the offices of the Commissioner(s) or other addressee(s).

**Chief ALJ Jason Jungreis
CPUC - Division of ALJs
505 Van Ness Avenue
San Francisco, CA 94102**

Executed this **July 10, 2018**, at Rosemead, California.

/s/ Angelica Gamboa

Angelica Gamboa

Legal Administrative Assistant

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