

**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 Certificate of Public Convenience and Necessity Regarding the Eldorado-Lugo-Mohave Series Capacitor Project.

A.18-05-007

**SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) OPENING BRIEF
SUPPORTING ITS APPLICATION FOR A CERTIFICATE OF PUBLIC
CONVENIENCE AND NECESSITY TO CONSTRUCT THE ELDORADO-LUGO-
MOHAVE SERIES CAPACITOR PROJECT**

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LIST OF COMMONLY USED ACRONYMS AND ABBREVIATIONS

A.	Application
AACE	Association for the Advancement of Cost Engineering
AC	Alternating Current
ALJ	Administrative Law Judge
BLM	Bureau of Land Management
BOR	Bureau of Reclamation
CAISO	California Independent System Operator
Cal Advocates	Public Advocates Office at the California Public Utilities Commission
CCA	Community Choice Aggregator
CEC	California Energy Commission
CEQA	California Environmental Quality Act (Cal. Pub. Resources Code § 21000 <i>et seq.</i>)
CEQA Guidelines	Guidelines for the Implementation of the California Environmental Quality Act (Title 14, Cal. Code Regs. §15000 <i>et seq.</i>)
Commission	California Public Utilities Commission
CPCN	Certificate of Public Convenience and Necessity
CPUC	California Public Utilities Commission
CREZs	Competitive Renewable Energy Zones
CRHR	California Register of Historical Resources
CRIT	Colorado River Indian Tribes
CREZ	Competitive Renewable Energy Zone
CRMP	Cultural Resource Management Plan
D.	Decision

EDF	EDF Renewable Energy
ELM Project	Eldorado-Lugo-Mohave Series Capacitor Project
EMF	Electric and Magnetic Fields
EPRI	Electric Power Research Institute
ESP	Electric Service Provider
EO	Energy Only
FCDS	Full Capacity Deliverability Status
FERC	Federal Energy Regulatory Commission
First Solar	First Solar, Inc.
FMP	Field Management Plan
GHG	Greenhouse Gas
GIA	Generator Interconnection Agreement
GridLiance	GridLiance West
HAE	Harry Allen-Eldorado
IA	Interconnection Agreement
IEPR	Integrated Energy Policy Report (published by CEC)
IOU	Investor-Owned Utility
IRP	Integrated Resource Plan
IR	Interconnection Request
IS	Initial Study
kV	Kilovolt
LGIA	Large Generator Interconnection Agreement
LSE	Load Serving Entity

LTPP	Long-Term Procurement Plan
LADWP	Los Angeles Department of Water & Power
MW	Megawatt
MM	Mitigation Measure
MND	Mitigated Negative Declaration
MNP	Mojave National Park
MRPC	Maximum Reasonable and Prudent Cost
MVA	Megavolt Ampere
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NOP	Notice of Preparation
NPS	National Parks Service
NRHP	National Register of Historic Places
Next Era	NextEra Energy Resources, LLC
OPGW	Optical ground-wire
OPHW	Overhead ground-wire
OSHA	Occupational Safety and Health Administration
PEA	Proponent's Environmental Assessment
PHC	Prehearing Conference
PG&E	Pacific Gas & Electric Company
PPA	Power Purchase Agreement
PTC	Permit to Construct
PTO	Participating Transmission Owner

QC	Queue Cluster
RA	Resource Adequacy
RA Decision	D.19-11-016
RA Proceeding	R.16-02-007
ROW	Right-of-Way
RPS	Renewables Portfolio Standard
SDG&E	San Diego Gas & Electric
SB	California Senate Bill
SCE	Southern California Edison Company
Scoping Memo	<i>Assigned Commissioner's Scoping Memo And Ruling</i> (issued August 12, 2019 and amended (to update briefing schedule) on December 9, 2019)
SJMU	Small and Jurisdictional Utility
TCA	Transmission Control Agreement
TO	Transmission Owners
TOT	Transmission Owner Tariff
TPP	Transmission Planning Process
VEA	Valley Electric Association
WDAT	Wholesale Distribution Access Tariff
WECC	Western Electric Coordinating Council
Wild Tree	Wild Tree Foundation

RECORD CITATION FORM

Record exhibits are cited according to the following formats:

- Citations to prepared written testimony are cited as: “Exh. [ABBREVIATED OFFERING PARTY DESIGNATION]-[number] ([witness last name]), at [page(s): line(s)].”
- Citations to exhibits introduced during the December 3, 2019 evidentiary hearing are cited as: “Exh. [number]X, at [page(s): line(s)].”¹
- Citations to the *2019 Final Mitigated Negative Declaration* for the Eldorado Lugo Mohave Project are cited as: “Exh. SCE-3 (Final MND), at Vol. [number], at [page(s)].”²
- Citations to the transcript of the December 3, 2019 evidentiary hearing proceeding (as transcribed by Andrea Ross, CSR No. 7896; Jason Stacey, CSR No. 14092; and Rebekah DeRosa, CSR No. 8708) are cited as: “Transcript, Vol. [number] ([Party/witness or speaker last name]), at [page(s):line(s)].”

¹ Exhibit designations correspond to the designations assigned by Administrative Law Judge Jason Jungreis at the evidentiary hearing held December 3, 2019. The designations generally correspond to combinations consisting of abbreviated party names and numbers.

² The 2019 Final MND is available online at:
https://www.cpuc.ca.gov/environment/info/aspen/elm/fmnd/1_mnd.pdf.

SUMMARY OF RECOMMENDATIONS

Southern California Edison Company (“SCE”) respectfully requests that the California Public Utilities Commission (“CPUC” or “Commission”) grant SCE’s application for a Certificate of Public Convenience and Necessity (“CPCN”) for the Eldorado-Lugo-Mohave Series Capacitor Project (“ELM Project”) and find that the ELM Project serves the public convenience and necessity.

The California Independent System Operator (“CAISO”) approved the ELM Project as a policy-driven upgrade, the purpose of which is to integrate renewable generation by relieving deliverability constraints in several renewable zones. The ELM Project largely consists of the construction of two new series capacitors and associated equipment, and the installation of new optical ground-wire (“OPGW”) to replace the existing overhead ground-wire (“OHGW”). SCE seeks, and recommends that the CPUC approve, a CPCN for the ELM Project.

Pursuant to Rule 13.11 of the Commission’s Rules of Practice and Procedure, SCE provides the following summary of points that are further developed throughout the balance of this Opening Brief:

1. The Commission should grant a CPCN to construct, operate and maintain the ELM Project because it is needed to meet the full deliverability requirements of new renewable generation resources being developed pursuant to executed Generation Interconnection Agreements (“GIAs” or “IAs”) and to relieve an existing geographic constraint in the Desert Area in order to meet the state’s Renewables Portfolio Standard (“RPS”).
2. The Commission should find that substantial evidence from the CAISO, SCE and the generator parties demonstrates that the ELM Project is needed pursuant to California

Public Utilities Code Section 1001 *et. seq.* Further, the four factors that the Commission must consider under California Public Utilities Code Section 1002(a) weigh in favor of approving the ELM Project.

3. The Commission should certify the Mitigated Negative Declaration (“MND”) Commission staff and the Commission’s consultant prepared for the ELM Project pursuant to the California Environmental Quality Act (Cal. Pub. Res. Code §§ 21000 *et. seq.*, “CEQA”) and its implementing guidelines (Tit. 14, Cal. Code Regs. §§ 15000 *et. seq.*, “CEQA Guidelines”). The MND includes detailed analyses for each environmental impact area identified in CEQA Guidelines Appendix G, and substantial evidence supports the MND’s conclusions that the ELM Project’s potential environmental impacts would be less than significant with mitigation.
4. The Commission should find that the ELM Project enhances safety. SCE presented unchallenged evidence to demonstrate that the ELM Project would enhance safety and that SCE’s employees and contractors will be in full compliance with all applicable standards, including those required by the Occupational Safety and Health Administration, and no party presented any evidence to the contrary.
5. The Commission should find that the ELM Project is consistent with Commission policies regarding electric and magnetic field (“EMF”) reduction. SCE presented substantial evidence – in the form of a Field Management Plan, and testimony from an EMF expert – explaining how the ELM Project’s design incorporates “no-cost” and “low-cost” EMF reduction measures, consistent with CPUC policy. No party presented any contrary evidence.

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This Opening Brief is submitted by Southern California Edison Company (“SCE”) pursuant to Rule 13.11 of the Rules of Practice and Procedure of the California Public Utilities Commission and the schedule set by the Assigned Commissioner’s Scoping Memo and Ruling dated August 12, 2019 as amended by the Ruling Confirming Adjustment to Scoping Memo Schedule by Administrative Law Judge (“ALJ”) Jason Jungreis on December 9, 2019.

I.

INTRODUCTION

SCE is seeking the California Public Utilities Commission’s (“CPUC” or “Commission”) approval of the Eldorado-Lugo-Mohave Series Capacitor Project (“ELM Project”), a project that will increase the capacity of the existing Eldorado-Lugo and Lugo-Mohave 500 Kilovolt (“kV”) transmission lines in order to increase the amount of power that can be delivered from renewable

resources and is critical in helping the state meet its Renewables Portfolio Standard (“RPS”) goals.

The RPS is intended to encourage investment in the development of new renewable energy facilities to meet the electrical demands of the State of California. The RPS requires retail sellers of electricity to increase sales of electricity from renewable energy sources to 33 percent by the end of 2020.³ The state’s current policy reflects that 100 percent of retail sales of all electricity be procured from eligible renewable energy and zero-carbon resources by December 31, 2045.

To meet the state’s renewable goals, additional renewable generation must come online. The CPUC and the California Energy Commission (“CEC”) create “portfolios” that identify the type of resources that must come online (e.g. solar and wind), the attributes of those resources (e.g. percentage of renewable generation that must fully deliverable), and the locations where renewable resources are expected to develop. The CPUC and CEC provide these portfolios to the California Independent System Operator (“CAISO”), which assesses whether enough transmission capacity exists to bring these resources online as needed to meet the state’s RPS goals.

As part of its annual Transmission Planning Process (“TPP”) the California Independent System Operator (“CAISO”) determines whether transmission upgrades are necessary to integrate the renewable generation identified in the portfolios into the grid.⁴ In some cases, the CAISO determines that sufficient capacity does not exist, and therefore new or upgraded transmission facilities are needed to interconnect remote areas with high renewable generation potential to the electrical grid to enable the delivery of renewable energy resources from these areas.

³ RPS procurement requirements are 33% by end of 2020, 44% by end of 2024, 52% by the end of 2027, and 60% by end of 2030 and a state goal of 100% by end of 2045. (Cal. Pub. Util. Code § 399.33; Cal. Pub. Util. Code § 454.53.)

⁴ SCE-1 (Chacon), at 24:13-16.

The portfolio provided to the CAISO to consider in its 2012-2013 and 2013-2014 TPP required all generation to be “fully deliverable”, meaning that the generation identified in the portfolio needed the ability to achieve Full Capacity Deliverability Status (“FCDS”).⁵ Because these resources needed FCDS, the CAISO evaluated whether any transmission upgrades were necessary to make the renewable generation identified in the portfolio fully deliverable. CAISO categorizes upgrades needed to meet the state’s RPS goals as public policy driven transmission upgrades.

Upon its evaluation, the CAISO determined upgrades were needed to integrate the renewable generation identified in the 33 percent portfolios, and accordingly, approved those upgrades in its 2012-2013 and 2013-2014 Transmission Plans. The CAISO’s determination was based on the need to relieve an existing transmission capacity constraint that restricts the full deliverability of new renewable generation resources from several Competitive Renewable Energy Zones (“CREZs”) located in portions of the Desert Area.⁶

The need for the ELM Project was subsequently addressed in the CAISO’s 2019-2020 transmission planning process, whereby the CAISO determined that the existing transmission capacity is still inadequate to support the requested FCDS for the resources identified in the latest Commission-developed RPS portfolio.⁷ Accordingly, the CAISO’s 2019-2020 deliverability assessment performed as part of its transmission planning process reaffirmed the need for the ELM Project.⁸

⁵ While subsequent portfolios allow for quantities of generation to have FCDS and/or Energy Only status, those portfolios are developed with the assumption the ELM Project upgrades are in place, thus allowing for the full deliverability of renewable energy for use by retail end-use customers. (Exh. SCE-1 (Chacon), at 23:9-11).

⁶ The constrained area includes the *Mountain Pass and El Dorado* and *Riverside East and Palm Springs* CREZs, located in southeastern California and southwestern Nevada. *See* Exh. SCE-1 (Chacon), at 21:9-12; *see also* Exh. SCE-1 A11, Figure 1-2, at 1644 (showing CREZ Boundaries).

⁷ Exh. CAISO-1 (Barave), at 6:21-7:10.

⁸ *Id.*, at 8:6-8.

The ELM Project would address the current capacity constraint by installing two new 500 kV mid-line series capacitors, which would provide for an increase in capacity on the existing Eldorado-Lugo 500 kV and Lugo-Mohave 500 kV transmission lines.⁹ The scope of this work is significantly less costly and less environmentally impactful than the construction of an entirely new 500 kV transmission line, and both CAISO’s testimony and SCE’s testimony in this proceeding reconfirms the need for the ELM Project.

The Commission also recognized this need, as evidenced by the fact the state’s RPS goals and portfolios were designed on the basis that renewable generation provide FCDS. Recent policy developments, including the state’s expansion of the RPS to 60 percent by 2030 and SB 100’s direction that the CPUC “should plan for 100 percent of the total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045”¹⁰, are expected to further spur renewable generation dependent on the ELM Project. These facts, as well as other evidence in the record, demonstrate that the ELM Project is needed under Public Utilities Code Section 1001 *et. seq.* and satisfies the presumption of need under Section 399.2.5.¹¹

Substantial evidence also demonstrates that the ELM Project would provide FCDS to generators in compliance with their Generator Interconnection Agreements (“GIAs”) and would help support the state’s Resource Adequacy (“RA”) requirements.

Finally, the record also contains evidence to support findings that SCE’s preliminary construction cost estimate is reasonable and prudent under California Public Utilities Code Section 1005.5(a), the Commission performed an environmental review of the ELM Project and

⁹ A full description of the ELM Project scope is included in Exh. SCE-3 (Final MND), at Vol.1, at 4-1 – 4-64.

¹⁰ SB 100 (de Leon, 2018) §1(b).

¹¹ See Cal. Pub. Util. Code § 399.2.5 (“(a) Notwithstanding Sections 1001 to 1013, inclusive, an application of an electrical corporation for a certificate authorizing the construction of new transmission facilities is necessary to the provision of electric service if the commission finds that the new facility is necessary to facilitate achievement of the renewables portfolio standard”)

prepared an MND consistent with the requirements of the California Environmental Quality Act (Cal. Pub. Resources Code §§21000 *et seq.*, “CEQA”) and its implementing guidelines (Tit. 14, Cal. Code Regs. §§15000 *et seq.*, “CEQA Guidelines”), the ELM Project would be constructed consistent with legal and SCE-imposed safety principles, and applying “no-cost and low-cost” measures to reduce electric and magnetic field (“EMF”) impacts have been incorporated into the ELM Project consistent with CPUC policy.

For these reasons, SCE respectfully requests that the Commission find that the ELM Project is needed to support the State’s RPS goals and to provide for the necessary additional transmission capacity to allow generators to achieve FCDS. To enable SCE to construct the ELM Project, SCE respectfully requests that the Commission: a) approve a CPCN for the ELM Project; b) certify the Mitigated Negative Declaration (“MND”) as having been prepared in compliance with CEQA; c) find that the ELM Project is consistent with the CPUC’s policies related to EMF; d) find that the ELM Project enhances safety; and d) establish a maximum reasonable and prudent cost (“MRPC”) for the ELM Project consistent with SCE’s estimates provided in this proceeding.

II.

BACKGROUND FACTS AND HISTORY

The following discussion provides a summary of the reasons why the ELM Project is needed, as well as a history of events and facts related to the ELM Project.

A. The State’s RPS Mandates

In 2011, Senate Bill (“SB”) X1-2 was enacted requiring California’s electric utilities to procure 33 percent of their energy from renewable sources by 2020. In 2015, SB 350 was enacted requiring utilities to serve 50 percent of their retail load by 2030 with eligible renewable energy resources. On January 1, 2019, SB 100 became effective, which amended the RPS program to require a 60 percent RPS target by December 31, 2030. Pursuant to SB 100, the

CPUC is to plan for 100 percent of all retail sales of electricity to originate from eligible renewable energy resources and zero-carbon resources by December 31, 2045.¹² The RPS requirements apply to all Load Serving Entities (“LSEs”), including retail sellers of electricity, community choice aggregators (“CCAs”), and publicly owned electric facilities.

To meet these RPS goals, in some cases new or upgraded transmission infrastructure is needed to interconnect remote areas with high renewable generation potential to the electrical grid and enable delivery of the resources from these areas.¹³ Infrastructure planning responsibilities in California are divided among the CPUC, CEC, and the CAISO. These agencies collaborate to ensure that planning activities use common assumptions. To determine what, if any, facilities are needed, the CPUC and the CEC prepare what are called “portfolios” to be used by the CAISO in its annual Transmission Planning Process (“TPP”). The portfolios are comprised of a mix of resources, including renewable energy, and provide a projection of where the renewable resources are expected to develop to meet the State’s RPS.¹⁴

The portfolios developed by the CPUC and CEC are designed to ensure the state can meet the RPS procurement target and portfolio balance requirements while optimizing transmission resources. In developing the portfolios, the CPUC and CEC consider existing resources contracted to California utilities as well as the potential to develop renewable resources throughout California and the Western Interconnect.¹⁵ The portfolios evaluate candidate resources based on cost, performance, transmission requirements, environmental and permitting requirements, and value to California electric ratepayers.¹⁶ Once the CPUC and CEC create the RPS portfolios they are vetted via a public stakeholder process. The CPUC and CEC then jointly

¹² SB 100 (de Leon 2018) §1(b), *see also* Exh. SCE-1 (Chacon), at 15:13-21.

¹³ Exh. SCE-1 (Chacon), at 16:4-6.

¹⁴ *Id.*, at 16:9-11.

¹⁵ Exh. SCE-1 (Chacon), at 24:16-18 n.32 (RPS Calculator Home Page) (describing inputs to RPS calculator for determining how much renewable energy is needed).

¹⁶ *Id.* The RPS Calculator has since been replaced as part of the new Integrated Resource Planning (IRP) process.

submit the RPS portfolios to the CAISO for incorporation into the CAISO's TPP. The CAISO uses the forecasted need for generation and location of generation identified in the RPS portfolios in its TPP to determine whether transmission upgrades are needed to bring the renewable generation identified in the portfolios to market.¹⁷

B. The CAISO Transmission Planning Process

The CAISO's annual transmission planning process identifies and plans for the development of transmission solutions to meet the future needs of the CAISO-controlled grid.¹⁸ This annual planning process culminates in the CAISO Board of Governors approving a comprehensive transmission plan. The transmission plan identifies transmission facilities that are needed for three main purposes: reliability; public policy; and economics.¹⁹ In the planning process, the CAISO also considers and evaluates non-transmission alternatives, including conventional generation and preferred resources such as energy efficiency, demand response, renewable resources, and energy storage.²⁰ The CAISO planning process and the subsequent adoption of the transmission plan is transparent and subject to stakeholder review.²¹ The planning process is iterative; each annual study plan assumes that all transmission upgrades previously approved through earlier planning processes are developed as approved.²²

The CAISO's Long-Term Procurement Plan ("LTPP") and subsequently, the CAISO's Integrated Resource Plan ("IRP") consider all of the CPUC's electric procurement policies and programs for the purpose of ensuring that LSEs meet the state's RPS targets.²³ The CAISO identifies a project as a public policy driven transmission upgrade when the upgrades are needed to achieve federal, state or local policy requirements or directives, such as the state's RPS

¹⁷ See Exh. CAISO-3 (Millar), at 7:3 – 8:4.

¹⁸ *Id.* at 2:25-28.

¹⁹ *Id.* at 3:6-7.

²⁰ *Id.* at 3:7-10.

²¹ *Id.* at 3:20-26.

²² Exh. CAISO-3 (Millar), at 4:18-19.

²³ Exh. SCE-1 (Chacon), at 17:2-4.

goals.²⁴ The CAISO relies upon the attributes provided in the Commission's RPS portfolios to identify whether there is a need for policy-driven upgrades to relieve deliverability constraints in areas specified for generation development.²⁵ Since the 2011-2012 planning cycle, the CAISO has relied upon the CPUC and CEC developed portfolios for information regarding the location and volume of future renewable energy development.²⁶

C. **The Need for the ELM Project**

In the 2012-2013 transmission planning cycle, the CAISO determined that a policy-driven transmission solution was necessary to create additional transmission capacity to alleviate constraints in the Desert Area and to meet the state's RPS requirements.²⁷ The CAISO based this determination on the 33 percent portfolios provided by the CPUC and the CEC. The 33 percent portfolios not only identified the location and volume of renewable energy necessary to meet the RPS goals, but also identified that all generation in the portfolio must have full deliverability (FCDS)²⁸ to count towards the RPS goal.²⁹

In the 2013-2014 transmission planning process, the CAISO found that the delivery of renewable resources as fully deliverable from the Commission-developed RPS portfolios³⁰ was further limited by the Desert Area Constraint. The Desert Area Deliverability Constraint limits deliverability in a wide electrical area that covers several CREZs, which represent the geographic areas within which renewable resources have developed, are currently under development, and

²⁴ Exh. CAISO-3 (Millar), at 5:3-5.

²⁵ *Id.* at 5:22-24.

²⁶ *Id.* at 7:3-5.

²⁷ Exh. SCE-1 (Chacon), at 16:13-17.

²⁸ A generator is considered deliverable when the resource can provide energy to the system during stressed system conditions when needed.

²⁹ While subsequent portfolios allow EO resources to count towards the RPS goal, the 33 percent RPS portfolio required all generation to have FCDS to count toward the RPS goal. If the resources identified in the 33 percent portfolio were EO, they would not meet the requirements of the portfolio, and therefore would not count towards RPS. *See* Exh. CAISO-3 (Millar), at 8:12-14.

³⁰ *See id.* at 10-11.

where potential development is expected.³¹ The removal of this restraint would benefit generators interconnecting to the CAISO-controlled grid located in the renewable zones impacted.³² Because of the increased transfer capability of the transmission system, these generators would be able to achieve their requested FCDS. The removal of this restraint would also benefit generators requesting to interconnect in other areas, such as Valley Electric Association (“VEA”), GridLiance West (“GridLiance”) and San Diego Gas & Electric (“SDG&E”), all of which are a part of the CAISO-controlled grid, as well as other LSEs that are required to meet the requirements of the state’s RPS by providing electricity from renewable energy resources.

In order to alleviate the Desert Area Constraint, the CAISO identified a need to upgrade the series capacitors on the Eldorado-Lugo 500 kV transmission line and the series capacitor and terminal equipment on the Lugo-Mohave 500 kV line. These upgrades would provide the additional transmission capacity needed to relieve the transmission constraints in the Desert Area.

Because SCE has a Transmission Control Agreement (“TCA”) with the CAISO and because Section 24.6³³ of the CAISO Tariff requires SCE to make a good faith effort to seek approval for the construction of policy driven transmission projects identified by the CAISO as necessary to support the state’s RPS goals, SCE filed an application with the CPUC to construct the ELM Project to provide the additional capacity deemed necessary by the CPUC, the CEC, and the CAISO.³⁴

³¹ Exh. SCE-1 (Chacon), at 10:7-12. CREZs affected by the Desert Area Deliverability Constraint include the *Mountain Pass and El Dorado* CREZ and the *Riverside East and Palm Springs* CREZ, located in southeastern California and southwestern Nevada. See Exh. SCE-1 (Chacon), at 21:9-12; see also Exh. SCE-1 A11, Figure 1-2, at 1644 (showing CREZ Boundaries).

³² *Id.* at 14:17-20.

³³ Exh. SCE-2 (Chacon), at 24:3-13.

³⁴ *Id.* at 22:13-16.

The ELM Project is needed because the capability of SCE’s existing infrastructure (i.e., the Eldorado-Lugo, Eldorado-Mohave, and Lugo-Mohave 500 kV transmission lines) to deliver power from the Desert Area is limited by the current line characteristics, existing series capacitors, and terminal equipment and needs to be upgraded in order to provide access to the additional renewable generation in the area. Specifically, the existing series capacitors are located at the end points of both the Eldorado-Lugo and Lugo-Mohave 500 kV transmission lines and can only provide for a specified amount of impedance reduction or “compensation” to the impedance of the transmission line. The ELM Project would replace and upgrade the existing series capacitors at the endpoints and install new series capacitors at the mid-points of each of the lines. This allows for an increased amount of power flow through the existing transmission lines, relieving this deliverability constraint and providing access to additional renewable energy sources.³⁵

Finally, as described more fully below in section IV.C, the ELM Project would also provide an ancillary benefit of increasing the amount of Resource Adequacy (“RA”)³⁶ that an interconnected resource could provide, which could be used to contribute to statewide RA requirements.³⁷

³⁵ Exh. SCE-1 (Chacon), at 11:17-19.

³⁶ RA is the ability to generate and deliver electricity to load under peak conditions to ensure the safe and reliable operation of the grid. Not all generation can provide RA. Only generators that are guaranteed delivery (i.e. have FCDS) can provide RA, because the resource must always be deliverable to ensure reliability. Without FCDS, generation could be curtailed under peak load conditions, and therefore not provide RA. The CPUC, CEC, and CAISO work together to determine RA needs. The CPUC requires each LSE to provide a certain percentage of RA. This ensures that adequate resource procurement and infrastructure investment capacity is available to the CAISO when and where needed. The CPUC recently increased the system RA requirements to 3,300 MW by August 1, 2023.

³⁷ Exh. SCE-2 (Chacon), at 26:10-17.

D. Environmental Review Process

Once the CAISO informed SCE of the need to add additional capacity in the Desert Area, SCE developed a scope for the ELM Project and prepared a Proponent’s Environmental Assessment (“PEA”) that analyzed the environmental impacts associated with the construction, operation, and maintenance of the ELM Project. SCE’s PEA concluded that any potentially significant impacts associated with the construction, operation, and maintenance of the ELM Project could be reduced below significant levels with the implementation of mitigation measures. On May 2, 2018, SCE filed the PEA and Application (“A.”) 18-05-007, seeking a Permit To Construct (“PTC”) from the CPUC for the ELM Project. The Public Advocates Office at the California Public Utilities Commission (“Cal Advocates”) protested the Application, arguing that SCE should have filed for a CPCN, rather than a PTC. The CPUC agreed and ordered SCE to amend its Application. SCE submitted the Amended Application on April 19, 2019. The CPUC then performed its own independent environmental review of the ELM Project and prepared an initial study (“IS”).³⁸ Based on the analysis in the IS, the CPUC determined that all project-related environmental impacts would be less than significant or reduced to a less than significant level with the incorporation of feasible mitigation measures, and prepared an MND.³⁹

The CPUC released the Draft MND and circulated it for public comment from August 12, 2019 to September 13, 2019. The CPUC received comments from 11 parties including seven public agencies,⁴⁰ two environmental advocacy groups,⁴¹ one tribal government,⁴² and SCE. Only two commenters opposed the issuance of the MND. Wild Tree Foundation (“Wild Tree”)

³⁸ See Exh. SCE-3 (Final MND), at Vol. 1, at 1-2 – 1-3.

³⁹ *Id.* at Vol. 1, at 1-3.

⁴⁰ California Department of Transportation, Bureau of Reclamation, California Department of Water Resources, California State Lands Commission, Nevada Department of Water Resources, Nevada Division of State Lands, and Cal Advocates.

⁴¹ Natural Resources Defense Council and Wild Tree Foundation (“Wild Tree”).

⁴² The Colorado River Indian Tribes (“CRIT”).

and the Colorado River Indian Tribes (“CRIT”) recommended the CPUC either prepare an EIR and further analyze the impacts of the project or deny SCE’s Application for a CPCN. The CPUC considered all comments and provided a response. The CPUC’s responses are included in the Final MND.⁴³

E. Case-In-Chief Proceeding

After the CAISO approved the ELM Project based on the RPS portfolios provided by the CPUC and CEC, SCE filed its PTC Application for the ELM Project on May 2, 2018. On June 1, 2018, Cal Advocates protested SCE’s Application claiming that it should have instead been filed as a CPCN. On September 5, 2018, a Prehearing Conference (“PHC”) was held and further briefing was ordered. On January 9, 2019, then assigned Commissioner Michael Picker issued a Ruling determining that the ELM Project required an application for a CPCN. On April 19, 2019, SCE filed its Amended Application for a CPCN for the ELM Project. On May 20, 2019, Cal Advocates filed a Protest to the Amended Application. On July 8, 2019, Wild Tree filed a Motion for Party Status.

On July 11, 2019, a second PHC was held. At that time, the following entities appeared and were granted party status: Wild Tree; EDF Renewable Energy (“EDF”); NextEra Energy Resources, LLC (“NextEra”); GridLiance; First Solar, Inc (“First Solar”); 8Minute Solar Energy⁴⁴; and the CAISO. At the July 11, 2019 PHC, ALJ Jason Jungreis confirmed a schedule for the proceeding, and on August 12, 2019, Commissioner Genevieve Shiroma issued an *Assigned Commissioner’s Scoping Memo and Ruling* (“Scoping Memo”) that identifies the issues

⁴³ Exh. SCE-3 (Final MND), at Vol. 2, 7-56 – 7-66 (Responses to Wild Tree); *Id.* at 7-82 – 7-90 (Responses to CRIT).

⁴⁴ 8Minute Solar Energy has since been removed as a party to this proceeding pursuant to the ALJ’s ruling *Granting the Public Advocates Office Motion to Remove 8Minute Solar Energy as a Party* dated November 1, 2019.

to be addressed by the parties.⁴⁵ Pursuant to the Scoping Memo, SCE and other parties served prepared testimony regarding numerous Project-related issues, namely:

- SCE served direct testimony regarding: a) the ELM Project’s need to support the state’s RPS goals; b) the state agency planning studies that were used to approve the ELM Project; c) safety practices and safety oversight associated with the ELM Project; d) the ELM Project’s impact on the CPUC’s recent decision requiring electric system reliability procurement in R.16-02-007 (“RA proceeding”); e) the Maximum and Reasonable and Prudent Cost (MRPC) of the ELM Project; f) SCE’s compliance with statutory and procedural requirements in filing the Application; and g) the ELM Project’s compliance with CPUC policies related to the reduction of EMF effects.
- Cal Advocates served direct testimony regarding: a) whether the ELM Project is needed to meet RPS goals; b) whether the ELM Project would meet the RA need of any LSE; and c) the cost of the ELM Project.
- Wild Tree served direct testimony regarding: a) whether additional analysis of alternatives to the ELM Project was required; b) whether the ELM Project is needed to meet RPS requirements; c) whether RA requirements are best served by storage

⁴⁵ The Scoping Memo (at pp. 3-4) identifies the following seven issues to be determined in this proceeding:

Issue #1 – Does the Amended Application comply with all applicable statutory and procedural requirements?

Issue #2 – Does the proposed project serve a present or future convenience and necessity?

Issue #3 – Is there no substantial evidence that the proposed project will have a significant effect on the environment?

Issue #4 – Was the MND completed in compliance with CEQA, did the Commission review and consider the MND prior to approving the project, and does the MND reflect the Commission’s independent analysis and judgment?

Issue #5 – Is the proposed project designed in compliance with the Commission’s policies governing the mitigation of EMF effects using low-cost and no-cost measures?

Issue #6 – Does the proposed project enhance safety?

Issue #7 – What is the maximum cost of the approved project?

- rather than the ELM Project; and d) whether an increase in capacity on the Eldorado-Lugo and Lugo-Mohave transmission lines is necessary.
- The CAISO served direct testimony regarding: a) the overview of the CAISO's transmission planning process; b) the need for CAISO to provide FCDS to generators in order to achieve the state's percent RPS; c) the continued need for the ELM Project based on the CAISO policy-driven assessment; the reliance on the ELM Project by generators in the CAISO generation interconnection queue; and d) the increased capacity made accessible by the ELM Project and its impact on the state's RA goals.
 - NextEra served direct testimony regarding: a) the need for the ELM Project to support FCDS for renewable generation projects being developed by NextEra subsidiaries; and b) NextEra projects that are dependent on obtaining FCDS in order to qualify as RA capacity.
 - Con Edison served direct testimony regarding: a) the impact of the ELM Project on renewable generators receiving FCDS and the relationship of FCDS to the CPUC's RA program; and b) Con Edison's operating and development projects that are impacted by the ELM Project.
 - EDF served direct testimony regarding: a) the importance of the ELM Project to EDF's Desert Harvest Solar project; and b) the impact on generators of not achieving FCDS.
 - GridLiance served direct testimony regarding the importance of the ELM Project to GridLiance's transmission system.

Thereafter, SCE, CAISO, Cal Advocates, Wild Tree and NextEra also served rebuttal testimony, namely:

- SCE served rebuttal testimony stating its position regarding: a) the importance of the ELM Project to facilitate the import of RPS energy to meet the state's overall RPS goals; b) the satisfaction of all relevant statutory and procedural requirements in the ELM Project's consideration of alternatives; c) the Commission's recent decision in

- R.16-02-007 and how it supports the approval of the ELM Project; d) the additional capacity qualifying for system RA and how it should not exclude net qualifying capacity for battery storage for solar resources paired with batteries; and e) the McCullough Substation circuit breakers no longer being part of the ELM Project scope.
- CAISO served rebuttal testimony stating its position regarding: a) Cal Advocates' underestimation of the RA eligible capacity that will be made accessible by the ELM Project; b) Cal Advocates' incorrect claim that there is uncertainty in attributing additional net qualifying capacity benefits to the ELM Project; and c) Wild Tree's errors in assessing the need for the ELM Project.
 - Cal Advocates served rebuttal testimony regarding: a) GridLiance's position that the ELM Project will benefit the state's RPS goals; b) whether Con Edison, NextEra and SCE substantiated their claims that the ELM Project is needed to meet the state's RPS goals; c) whether the ELM Project is needed to meet the RA identified in D.19-11-016; d) the additional interconnection resources identified by the CAISO and whether they will further exacerbate the curtailment and ramping issues of electrical operations; and e) whether reasonable alternatives to the ELM Project had been adequately considered by CAISO.
 - Wild Tree served rebuttal testimony regarding: a) whether non-transmission alternatives must be more thoroughly considered; b) whether the CAISO's planning process is based on obsolete data and law; c) whether excess capacity on the Lugo-Mohave and Eldorado-Lugo transmission lines should be used for energy storage; and d) whether the ELM Project is needed to meet the state's RPS.
 - NextEra served rebuttal testimony regarding: a) the need for the ELM Project to facilitate FCDS for new renewable and storage capacity that is being developed to supply RA requirements; and b) the need for the ELM Project to meet the state's RPS requirements.

No other party served rebuttal testimony.

Following the parties' exchange of written testimony, an evidentiary hearing was held in San Francisco on December 3, 2019.⁴⁶

III.

APPLICABLE LAW GOVERNING THE COMMISSION'S CONSIDERATION OF A CPCN

California Public Utilities Code Section 1001 *et seq.* establishes the framework for consideration of a CPCN application. Before the Commission may issue a CPCN, the Commission must find that the "present or future public convenience and necessity require or will require its construction." Section 1002(a) also requires the Commission consider the following four factors: 1) community values; 2) recreational and park areas; 3) historical and aesthetic values; and 4) influence on the environment. Section 1005.5(a) states that the CPUC shall specify in the certificate a maximum cost to be determined to be reasonable and prudent for any electric line expected to cost more than \$50 million, taking into consideration the design of the project, the expected duration of the project, the expected duration of construction, an estimate of the effects of economic inflation, and any known engineering difficulties associated with the project.

As demonstrated in the remainder of this Opening Brief, in light of the statutory mandates above, substantial evidence in the record supports approval of a CPCN for the ELM Project and confirmation of SCE's suggested MRPC for the ELM Project, as well as certification of the MND. Substantial evidence demonstrates that construction of the ELM Project would provide the capability to procure additional renewable resources from critical CREZs to support the state's RPS goals. Substantial evidence also demonstrates that the ELM Project would

⁴⁶ Pursuant to ALJ's Jungreis' *Ruling Confirming Adjustment to Scoping Memo Schedule*, dated December 12, 2019, CAISO and Cal Advocates exchanged written interrogatories on December 17, 2019 due to the inability of CAISO's witness to appear at the December 3, 2019 hearing.

provide FCDS to generators in compliance with their GIAs and would help support the state's RA requirements. In addition, substantial evidence demonstrates that the CPUC prepared an MND that evaluates the impacts associated with the ELM Project in compliance with CEQA. Substantial evidence also demonstrates that the ELM Project would be constructed consistent with safety practices, and that the ELM Project design complies with the CPUC policies regarding EMF reduction.

Therefore, SCE respectfully requests that the Commission approve a CPCN authorizing construction of the ELM Project and certify the MND in compliance with CEQA. As set forth below, SCE estimates that construction of the ELM Project would cost \$239 million and this estimate incorporates costs associated with the elements set forth in Section 1005.5(a).

The following discussion elaborates on each of these points, consistent with the Scoping Memo.

IV.

CONSTRUCTION OF THE ELM PROJECT IS NECESSARY TO SERVE THE PRESENT AND FUTURE PUBLIC CONVENIENCE AND NECESSITY

Scoping Memo Issue #2⁴⁷ asks whether the ELM Project serves a “present or future convenience and necessity?” The record strongly supports both a present and future need for the ELM project to support the state's RPS goals. The ELM Project will also assist the state in procuring the RA need identified in the IRP proceeding.

⁴⁷ Regarding Scoping Memo **Issue #1** (whether the Amended Application complied with all applicable statutory and procedural requirements) SCE provided the written Opening Testimony of Mr. Thomas Diaz. Mr. Diaz' testimony contains a table detailing the statutory and procedural requirements, the authority which dictates the requirement, and references where the information is included in SCE's CPCN Application. (See SCE Exh.-1 (Diaz), at 4-5.) No Party challenged this testimony and Mr. Diaz was not called as a witness in the proceeding.

A. The ELM Project Will Facilitate Renewable Development Necessary to Meet the Commission Established RPS Goals

The ELM Project would serve the public convenience and necessity by providing the transmission capacity upgrades necessary for renewable generators located in the Desert Area to receive FCDS and deliver the renewable power necessary to meet the state's RPS goals.

The state's RPS is intended to encourage investment in the development of new utility-scale renewable energy facilities to meet the electrical demands of the State of California. The RPS requires LSEs to procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt-hours of the products sold to retail end-use customers meet a designated percentage of renewable energy for a given year.

At the time the CAISO identified the need for the ELM Project, the Commission's RPS portfolios were designed to meet a statewide 33 percent RPS goal by 2020. The CPUC required these portfolios to be "fully deliverable," meaning that the generation identified in the portfolios need the ability to achieve FCDS.⁴⁸ Based on these inputs, the CAISO conducted the 2012-2013 and 2013-2014 TPPs to determine whether the CAISO system had adequate transmission capacity to deliver, with FCDS, the renewable generation needed to meet the requirements of the 33 percent RPS portfolios.⁴⁹ The CAISO concluded that there was insufficient transmission capacity to support FCDS for the resources located in the Desert Area identified in the 33 percent RPS portfolio.⁵⁰ Therefore, the CAISO identified the need for ELM Project as a public policy-driven project, necessary to integrate the renewable resources located in the Desert Area needed to meet the State's 33 percent RPS requirement.⁵¹

The CAISO completed an updated analysis of the need for the ELM Project using the Commission-developed portfolios for the 2019-2020 TPP and found a continued need for the

⁴⁸ Exh. SCE-1 (Chacon), at 24:22 - 25:3; Exh. SCE-2 (Chacon), at 7:17 - 8:2.

⁴⁹ Exh. CAISO-1 (Barave), at 3:21 - 4:4.

⁵⁰ *Id.*, at 4:10-12.

⁵¹ Exh. CAISO-3 (Millar), at 10:8-15.

ELM Project⁵² as existing transmission capacity is inadequate to support the requested FCDS for the resources located in the Desert Area identified in the latest Commission-developed RPS portfolio.⁵³ As the entity responsible for determining system need, the CAISO's conclusions should have strong persuasive value as to whether the state needs the ELM Project to meet its clean energy goals.

There is a growing need for access to renewable generation. The state's current RPS requires parties to contract for 33 percent renewable procurement by 2020, 44 percent by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales by 2045. To reach these higher goals, additional renewables will need to come online.⁵⁴ It is prudent to plan for this anticipated development given the long lead time required for developing new transmission projects. Without the ELM Project, the Desert Area will remain a constraint to any future energy development needed to facilitate these higher levels of renewable resources.

B. SCE Is Obligated To Pursue CAISO Identified Transmission Solutions

The CAISO's TPP identifies Policy-Driven Transmission Solutions consistent with the CAISO Tariff. CAISO has found, in relevant part, that SCE's proposed ELM Project "remains necessary to integrate renewable resources necessary to meet the State's RPS goals and provide adequate transmission capability to reliably operate the grid" and will also provide other additional benefits.⁵⁵

⁵² Exh. CAISO-1 (Barave), at 8:6-8.

⁵³ *Id.*, at 6:21 - 8:8.

⁵⁴ The 2019 CEC RPS annual report found that while the large IOUs are on track to meet their 60% 2030 RPS goals, small and jurisdictional utilities ("SMJUs"), community choice aggregators ("CCAs"), and electric service providers ("ESPs") will need to procure additional renewable resources to meet the state's 60% RPS target by 2030. *See generally* Exh. WTF-4 (Freehling), at 7-8, 11.

⁵⁵ *See* Exh. CAISO-3 (Millar), at 11:18 - 12:2.

The CAISO will determine the need for, and identification of, such policy driven transmission solutions that efficiently and effectively meet applicable policies under alternative resource location and integration assumptions and scenarios while mitigating the risk of stranded investment. The CAISO will create a baseline scenario reflecting the assumptions about resource locations that are most likely to occur and one or more reasonable stress scenarios that will be compared to the baseline scenario. . . . CAISO has found, in relevant part, that SCE’s proposed ELM Project “remains necessary to integrate renewable resources necessary to meet the State’s RPS goals and provide adequate transmission capability to reliably operate the grid” and will also provide other additional benefits.⁵⁶

Once the CAISO identified the need for the ELM Project as a necessary policy-driven transmission upgrade, SCE was obligated to pursue the ELM Project’s approval and development consistent with the TCA⁵⁷ and the CAISO Tariff.⁵⁸ Executed by and among the CAISO and various Transmission Owners (“TOs”) such as SCE, the TCA provides:

The provisions of Sections 24 and 25 of the CAISO Tariff will apply to any expansion or reinforcement of the CAISO Controlled Grid affecting the transmission facilities of the Participating TOs placed under the Operational Control of the CAISO.⁵⁹

Relevant here, Section 24.6 of the CAISO Tariff provides:

The Approved Project Sponsor selected to construct the needed transmission solution of the applicable Participating TO where there is no Approved Project Sponsor, *must* make a good faith effort to obtain all approvals and property rights under applicable federal, state and local laws that are necessary to complete the construction of the required transmission solution. . . .A Participating TO in whose PTO Service Territory or footprint either terminus of the transmission solution is located shall be obligated to construct all regional transmission solutions included in the comprehensive Transmission Plan for which there is no

⁵⁶ See CAISO Tariff, at 596 – 98 (§ 24.4.6.6, Policy Driven Transmission Solutions).

⁵⁷ Exh. SCE-2 (Chacon), Appendix “1”.

⁵⁸ See *California Independent System Operator Corporation, Fifth Replacement FERC Electric Tariff (Open Access Transmission Tariff)* (Effective Sept 28, 2019) (“CAISO Tariff”) (available here: <http://www.caiso.com/Documents/Conformed-Tariff-asof-Sep28-2019.pdf>, last checked Nov. 15, 2019), at 602 (§ 24.5.1), 614 (§ 24.6).

⁵⁹ Exh. SCE-2 (Chacon), at A1-65.

Approved Project Sponsor either from the first competitive solicitation or future competitive solicitations.⁶⁰

Section 24.5.1 of the CAISO Tariff states:

If the transmission solution ... involves an upgrade or improvement to, addition on, or a replacement of a part of an existing Participating TO facility, the Participating TP *will* construct and own such upgrade, improvement, addition or replacement facilities unless a Project Sponsor and the Participating TO agree to a different arrangement.⁶¹

Because the CAISO identified the need for a transmission upgrade on SCE transmission facilities, SCE (as a Participating TO) is obligated to pursue the identified upgrades and accordingly filed an Application for a CPCN for the ELM Project.

C. The ELM Project Supports the State's Resource Adequacy Requirements

The CAISO develops the TPP in the larger context of: (1) supporting achievement of important state energy and environmental policies; (2) facilitating the transition to a cleaner, lower emission future; and (3) maintaining reliability through a resilient electric system.⁶² The TPP evaluates whether the grid is reliable by assessing whether enough fully-deliverable generating resources are located in the right areas to deliver electricity to the CAISO grid under peak load conditions.⁶³ The CAISO measures grid reliability using RA.

RA ensures that the grid operates without interruption. If there is insufficient RA on the system, the grid could fail under peak load conditions, either because there is insufficient energy to meet demand and/or there is insufficient capacity to bring available energy from generator to load. Generators can provide RA as an attribute of their generation resource, as long as the

⁶⁰ See CAISO Tariff, at 614 (§ 24.6, *Obligation to Construct Transmission Solutions*, emphasis added); Exh. SCE-2 (Chacon), at 24:4-13.

⁶¹ See CAISO Tariff, at 602 (§ 24.5.1, *Competitive Solicitation Process*, emphasis added). Exh. SCE-2 (Chacon), at 24:15-19.

⁶² Exh. CAISO-3 (Millar), at 3:1-4.

⁶³ Exh. CAISO-3 (Millar), at 6:4-7.

generator is able to deliver that resource under peak load conditions. Since deliverability is necessary to functionality of the grid, no generator can provide RA unless they also have FCDS.⁶⁴

The State's clean energy policies will require retail sellers of electricity to source more and more of their generation from renewable resources. The increase in renewable resources on the grid can impact reliability if the resources are not deliverable under peak load conditions. In D.19-11-016 (the "RA Decision"), the CPUC increased the amount of system-level RA that the state's IOUs need to procure to 3,300 MW by August 1, 2023.⁶⁵ To meet RA requirements, the entire 3,300 MW of new procurement will need FCDS.⁶⁶

The ELM Project would support the new incremental system RA that the RA Decision requires because the ELM Project will provide the additional transmission capacity necessary to provide FCDS to generation from within the Desert Area.⁶⁷ CAISO estimates that when constructed, the ELM Project will provide FCDS to 3,715 MW of generation, 3,677 of which would be eligible to provide incremental RA capacity by August 1, 2023, pursuant to the RA Decision.⁶⁸ CAISO estimates that the ELM Project would provide an additional 2,748 MW to 5,173 MW of RA capacity if all projects in the interconnection queue were to execute GIAs.⁶⁹

Although Cal Advocates acknowledged that the ELM Project would make additional RA available,⁷⁰ much of Cal Advocates' testimony focused on the ability of the ELM Project to effectively meet the system RA needs identified in the RA Decision.⁷¹ The ELM Project does

⁶⁴ Exh. SCE-1 (Chacon), at 21:19-21; Exh. CAISO-1 (Barave), at 13:12-14.

⁶⁵ D.19-11-016 (hereinafter the "RA Decision"), at 74, Conclusion of Law 9.⁶⁵ D.19-11-016 (hereinafter the "RA Decision"), at 74, Conclusion of Law 9.

⁶⁶ Exh. CAISO-4 (Millar), at 5:6-9.

⁶⁷ Exh. SCE-2 (Chacon), at 26:5-9.

⁶⁸ Exh. CAISO-4 (Millar), at 5:9-12. These MW values are based upon projects with executed GIAs that are online or could come online and provide RA once the ELM Project is constructed.

⁶⁹ *Id.*, at 5:18-20. These MW values are based on projects in the interconnection queue without executed GIAs that could come online and provide RA once the ELM Project is constructed.

⁷⁰ See Exh. Cal Adv-1 (Leon Diaz), at 15; Exh. Cal Adv-2 (Leon Diaz), at 9.

⁷¹ See Exh. Cal Adv-1 (Leon Diaz), at 8.

not attempt, as Cal Advocates argues, to effectively meet the RA need identified in the RA Decision. The CAISO identified the need for ELM Project as necessary to integrate renewable generation in support of the state’s RPS goals. As a policy-driven upgrade, the ELM Project will integrate renewable generation and relieve area deliverability constraints. An added benefit of the ELM project is the ability of generators to provide RA, as the system is designed to provide all generation identified in the 33 percent RPS portfolios with FCDS, and FCDS is a required element of RA. While the ELM Project will incidentally provide support for the state’s RA’s goals, the project was neither intended nor designed to meet a statewide RA need. Still, the ELM Project will provide RA because the project would provide the additional capacity necessary for generators in the Desert Area to achieve FCDS, a necessary prerequisite to providing RA.⁷² The provision of additional RA is an additional benefit that will accrue to the state as a result of the construction of the ELM Project, but the provision of RA is not the reason the CAISO identified ELM as a policy-driven project.

In fact, if the ELM Project is not approved, it could have a detrimental impact on the procurement of RA capacity statewide. Because FCDS is a necessary condition for qualifying to supply RA, denying the approval of the ELM Project could prevent the affected new resources, including those with executed Power Purchase Agreements (“PPAs”) that require ELM to achieve FCDS, from being eligible to supply RA.⁷³

D. The ELM Project Will Provide Generators FCDS and Comply With Generation Interconnection Agreements

The ELM Project is necessary to increase the transfer capability of the transmission system, allowing generators located in the CREZs impacted by the Desert Area Deliverability Constraint to connect to the CAISO grid as fully deliverable. The increased transfer capability

⁷² Transcript, Vol 1 (SCE/Chacon), at 13:11-20.

⁷³ Exh. NEER-2 (Rosenblum), at 8:19-21.

will allow CAISO to provide FCDS to those generators located in the Desert Area with existing interconnection agreements or pending interconnection requests.⁷⁴

As described above, the CAISO relies on the RPS portfolios to evaluate transmission needs. The portfolios require specified volumes of generation to have FCDS and/or EO.⁷⁵ Based on the amount of FCDS required, the CAISO determines whether transmission upgrades are necessary to integrate generators seeking FCDS into the grid.⁷⁶ The CPUC required all generation in the 33 percent RPS portfolios to have FCDS.⁷⁷ The CAISO also determined that the system needed additional transmission capacity to provide the FCDS identified in the CPUC's portfolios, and subsequently identified the need for the ELM Project as a public policy driven transmission upgrade needed to meet the State's renewable energy goals.

Any generator affected by the Desert Area Constraint seeking to interconnect after the need for the ELM project was identified would require the construction of the ELM Project as a prerequisite to achieving FCDS.⁷⁸ A renewable generator seeking to interconnect a generating facility submits an Interconnection Request ("IR") to the CAISO. In the IR, the generator identifies the type of deliverability requested (*i.e.* EO or FCDS). The CAISO identifies which upgrades, if any, are required for the generator to achieve the requested deliverability status. If upgrades are required for the generator to achieve their requested deliverability status, the upgrades will be identified within the interconnection study report. If the PTO and the CAISO agree to interconnect the generator, the parties enter into a GIA with the IC. The GIA defines the requirements that a generator must meet before achieving their requested deliverability status. For projects seeking FCDS, the GIA requires that all network upgrades identified within the governing interconnection study report to be necessary in support of FCDS be constructed and

⁷⁴ Exh. SCE-1 (Chacon), at 14:17 – 15:2.

⁷⁵ *Id.*, at 24:21-22.

⁷⁶ *Id.*, at 24:13-16.

⁷⁷ Exh. SCE-2 (Chacon), at 7:20 – 8:2.

⁷⁸ *See* Exh. CAISO-1 (Barave), at 11:13-15; Exh. SCE-1 (Chacon), at 22:1-4.

placed in service before FCDS will be granted.⁷⁹ Because the CAISO identified the ELM Project as necessary in support of FCDS, these generators will not receive FCDS until the ELM Project is constructed and placed in service.

Commission-approved PPAs for purposes of meeting RPS goals overwhelmingly require renewable generators to provide RA.⁸⁰ Resources must have FCDS to be eligible to be provide RA.⁸¹ Evidence in the Administrative Record (including testimony from at least one generator) shows that generation projects that provide only EO, and therefore do not qualify to provide RA, offer less value and are therefore less marketable.⁸² Resources that have FCDS have a higher value since generation can count towards both RPS and RA requirements. Renewable generators have consistently requested FCDS in the CAISO generation interconnection process.⁸³

In addition, the world of generators relying on ELM for FCDS is growing, not shrinking.⁸⁴ As of October 14, 2019, approximately 10,900 MW in the CAISO's interconnection queue depend on the ELM Project for FCDS.⁸⁵ Of this amount, 3,715 MW projects have executed a GIA with the CAISO and have maintained the GIA in good standing.⁸⁶ The ELM Project must be constructed and placed in service before FCDS will be granted to these generators. All interconnection requests in Queue Clusters ("QC") 11 and 12 requested FCDS.⁸⁷ Any interconnection requests for FCDS from the Desert Area in QC 13 will need the ELM Project to achieve that status.⁸⁸

⁷⁹ Exh. SCE-1 (Chacon), at 25:13-17.

⁸⁰ Exh. CAISO-3 (Millar), at 8:18-21; *see e.g.*, Exh. NEER-2 (Rosenblum), Attachment 2, at 26.

⁸¹ Exh. CAISO-1 (Barave), at 13:12-11.

⁸² Exh. NEER-2 (Rosenblum), at 3:12-15.

⁸³ Exh. CAISO-3 (Millar), at 8:21 - 9:2.

⁸⁴ Transcript, Vol. 1 (SCE/Chacon), at 34:16-21.

⁸⁵ Exh. CAISO-1 (Barave), at 11:2-6.

⁸⁶ *Id.* at 11:10-13.

⁸⁷ Exh. CAISO-4 (Millar), at 4:25-27.

⁸⁸ Transcript, Vol. 1 (SCE/Chacon), at 34:16-21.

If the ELM Project is not constructed, generators dependent on the ELM Project for interconnection with FCDS may be adversely impacted.⁸⁹ For example, existing projects that require the ELM Project for FCDS would not be able to achieve FCDS. Projects with a pending or executed GIA that have not been constructed may not move forward with construction because they cannot achieve FCDS without the ELM Project.⁹⁰ Finally, other projects in the queue that do not yet have an IA may reconsider entering into an IA if FCDS will not be available. Generators made investment and siting decisions based on the reasonable expectation that the ELM Project will be built.⁹¹ This expectation is reasonable as the CAISO identified the need for the construction of the need for the ELM Project to meet RPS needs in every TPP since 2013,⁹² and, per Tariff Rule §24⁹³ SCE is obligated to seek approval of the construction of the ELM Project. Generators that entered into a financial arrangement with a presumption they would receive FCDS status may be unable to satisfy their PPA or financial obligations.⁹⁴ Given these risks, generation developers may be averse to moving forward with signing IAs because FCDS would not be available.⁹⁵ As a result, the total amount of renewable generation projects coming online may be reduced.

Further, removing the ELM Project from CAISO's TPP assumptions would likely necessitate consideration of other costly transmission upgrades to replace the transmission capacity that would have been provided by the ELM Project.⁹⁶

⁸⁹ *Id.*, at 16:13-15; 23:1-8, 23:13-21; *see also*, Exh. SCE-2 (Chacon), at 20:10-13.

⁹⁰ *See generally*, Exh. NEER-2 (Rosenblum), at 8:24-10:5.

⁹¹ Transcript, Vol. 1 (SCE/Chacon), at 23:1-8.

⁹² Exh. SCE-2 (Chacon), at 20:6-13.

⁹³ Exh. SCE-2 (Chacon), at 24:3-19.

⁹⁴ Transcript, Vol. 1 (SCE/Chacon), at 23:13-21; *see also*, Exh. NEER-2 (Rosenblum), Attachment 2, at 26.

⁹⁵ Exh. SCE-2 (Chacon), at 5:4-7.

⁹⁶ *Id.*, at 20:14-19.

E. The ELM Project Has Been Designed In Consideration Of The Four Factors Set Forth In California Public Utilities Code §1002(a).

California Public Utilities Code Section 1002(a) requires the Commission consider the following four factors: (1) community values; (2) recreational and park areas; (3) historical and aesthetic values; and (4) influence on the environment. Each of these factors weigh in favor of approval of the ELM Project.

1. Community Values.

The development of renewable energy and the state's clean energy goals is a statewide priority. As discussed in detail throughout this Opening Brief, the ELM Project will facilitate meeting California's renewable and clean energy goals, providing substantial community benefits. The state's RPS mandate has increased twice since the enactment of the original goal of providing 33 percent renewables by 2020. Without the ELM Project, the inability to utilize renewable energy sources from the CREZs will continue to be a barrier to future energy development needed to facilitate the state's RPS. Prolonging the transmission constraints in these renewable zones would delay the timing of when additional renewable resources could come online and how quickly such renewables will count toward the state's RPS and clean energy goals.

In addition, the ELM Project was carefully designed to utilize the existing transmission line corridor in order to minimize impacts on nearby communities.⁹⁷ Alternatives to the ELM Project that would require the construction of a new transmission line entirely were rejected by SCE in favor of a project that would have less environmental impacts at a lower cost.

⁹⁷ See Exh. SCE-3 (Final MND), at Vol. 1, at 3-2.

2. Recreational And Park Areas.

The CPUC's MND provides a detailed analysis of potential impacts to recreational and park areas and concluded that the ELM Project would not result in a significant impact to recreational and park areas. Except for an approximate one acre of disturbance at one of the series capacitor sites, all of the ELM Project elements are to be constructed within an already disturbed utility or access road right-of-way, or within existing substations, and not within recreational areas. The ELM Project also does not include or require the construction of recreational facilities.⁹⁸ In addition, construction personnel are likely to commute from residences in nearby counties and are not anticipated to permanently relocate to the area.⁹⁹ As a result, the MND concluded that the ELM Project would not promote new growth or development that would increase the use of recreational facilities.¹⁰⁰

3. Historical And Aesthetic Values.

The ELM Project was also designed to reasonably account for historical and aesthetic values. With respect to historical values, the MND concludes that impacts to cultural resources (including historic resources) would be less than significant with mitigation.¹⁰¹ The ELM Project is not expected to directly affect any identified historic resource, and SCE would implement CPUC-approved plans, including a Cultural Resources Management Plan that would define and map all known prehistoric and historic resources eligible for the California Register of Historical Resources ("CRHR") and/or the National Register of Historic Places ("NRHP").¹⁰² Monitors would also be present during ground-disturbing activities to ensure that cultural, historical, archaeological or tribal cultural resources are appropriately avoided or treated.

⁹⁸ Exh. SCE-3 (Final MND), at Vol. 2, at 5-323.

⁹⁹ *Id.*

¹⁰⁰ *Id.*, at 5-324.

¹⁰¹ *Id.*, at Vol. 1, at 5-142.

¹⁰² *Id.*, at 5-146.

With respect to aesthetics, the MND similarly concludes that any impacts would be less than significant with mitigation. That mitigation requires SCE to: 1) use design fundamentals that reduce the visual contrast of new facilities with the characteristic landscape, including treating the surfaces of structures and new buildings so that their colors minimize visual contrast, and to prepare a CPUC-approved Project Design and Surface Treatment Plan; 2) screen construction activities from view; and 3) minimize vegetation removal and ground disturbance to reduce scars from temporary work areas and access roads.¹⁰³ The fact that any impacts to cultural and historic resources or to aesthetics would be less than significant supports approval of a CPCN for the ELM Project.

4. Influence On The Environment.

The MND confirms that construction of the ELM Project would not create any significant long-term impacts on the environment. The ELM Project would have a beneficial impact on the environment as it provides the needed capacity to access renewable resources from zones that are currently inaccessible. The enactment of California's RPS requirements, and the subsequent amendments further increasing the renewable mandates, demonstrate that the state recognizes the environmental benefits of replacing traditional sources of energy with renewable energy resources and zero-carbon resources. Because the ELM Project would further that policy focus on renewable energy by alleviating the dependence on gas-fired and GHG-emitting energy production, the public convenience and necessity supports approval of the ELM Project.

¹⁰³ *Id.*, at 5-24.

F. Substantial Evidence in the Record Demonstrates a Clear Need for the ELM Project And No Non-transmission, Transmission Or EO Alternative Could Feasibly Satisfy That Need With Fewer Environmental Impacts.

1. Substantial Evidence Demonstrates That Both Transmission and Non-Transmission Alternatives Were Considered And The ELM Project Provides The Most Appropriate Solution.

SCE's PEA evaluated several alternatives and identified the ELM Project as the environmentally preferred alternative because it best meets the project objectives while creating the fewest potential environmental impacts. The CPUC reached the same conclusion and thus issued an MND.¹⁰⁴ CEQA does not require the MND to include a detailed alternatives analysis. Therefore, CEQA requires no further alternative analysis.¹⁰⁵

Notwithstanding the issuance of an MND, Wild Tree may argue that the Garamendi principles independently prohibit the CPUC from issuing a CPCN unless and until the CPUC considers alternatives.¹⁰⁶ Wild Tree claimed in testimony that neither SCE's Application nor the CPUC's MND provide any analysis of transmission or non-transmission alternatives and as a result the CPUC cannot grant a CPCN for the ELM Project.¹⁰⁷

Yet, Wild Tree's argument fails to account for the fact that transmission and non-transmission alternatives to the ELM Project were considered in the CPUC's RPS portfolios, the CAISO's TPPs, and SCE's PEA, consistent with relevant statutory and procedural requirements, such as Public Utilities Code Section 1001 and CEQA. It is thus incorrect to imply that the ELM Project was developed without consideration of alternatives.

¹⁰⁴ To the extent that Wild Tree disagrees with the CPUC's conclusions in the MND and believes that the CPUC must prepare an EIR containing a discussion of transmission alternatives, the forum for these discussions was in the CEQA process (*i.e.* through comments on the MND) and not in this proceeding.

¹⁰⁵ See CEQA Guidelines §§ 15070-15071.

¹⁰⁶ Exh. WTF-1 (Freehling), at 3:19 – 4:8.

¹⁰⁷ *Id.*, at 3:1-6.

The CPUC considered non-transmission demand-side alternatives and other demand reduction resources in developing the RPS portfolios.¹⁰⁸ As described in SCE’s and CAISO’s testimony, the CPUC considered all viable alternatives for meeting the state’s policy goals in developing the 33 percent RPS Portfolios, including grid-connected resources, distributed resources and demand-side alternatives.¹⁰⁹ The CPUC included these alternatives in the various scenarios provided to CAISO for consideration and study in its TPP.¹¹⁰ The CPUC developed these portfolios through a transparent process with input from the public.¹¹¹

Similarly, the CAISO considered both transmission and non-transmission alternatives as part of its TPP.¹¹² As described in CAISO’s testimony, as part of the 2012-2013 and 2013-2014 TPPs, CAISO considered conventional generation and preferred resources such as energy efficiency, demand response, renewable resources, and energy storage.¹¹³ The CAISO developed its TPP scenarios using a transparent process open to public comment and stakeholder review.¹¹⁴

SCE’s PEA built upon the consideration of demand-side alternatives undertaken by the Commission and CEC in developing the RPS portfolios and the CAISO in the TPP.¹¹⁵ Specifically, the PEA evaluated two categories of alternatives to the ELM project: electrical

¹⁰⁸ Exh. SCE-2 (Chacon), at 18:3-6.

¹⁰⁹ *Id.*, at 17:8-10, 18:3-15; Exh. CAISO-3 (Millar); 3:7-10.

¹¹⁰ Exh. SCE-2 (Chacon), at 18:3-15; Exh. CAISO-4 (Millar), at 2:12-17; Exh. CAISO-1 (Barave), at 4:1 n. 2.

¹¹¹ Exh. SCE-2 (Chacon), at 18:14-15.

¹¹² *Id.*, at 18:17-19:11; Exh. CAISO-3 (Millar), at 3:7-10.

¹¹³ Exh. CAISO-3 (Millar), at 3:7-10; Exh. SCE-2 (Chacon), at 19:2 – 20:2.

¹¹⁴ *See* Exh. CAISO-3 (Millar), at 3:16 – 4:14 (commenting on three phases of TPP development and referencing public stakeholder review opportunities throughout).

¹¹⁵ Consistent with Section 15126.6(d) of the CEQA Guidelines, Section 3.15 of SCE’s PEA titled “Project Alternatives Components Description” describes alternatives that were considered in addition to the ELM Project, including several alternative locations for the mid-line series capacitors, two electrical system alternatives, and a no project alternative.¹¹⁵ Consistent with Section 15126.6(d) of the CEQA Guidelines, Section 3.15 of SCE’s PEA titled “Project Alternatives Components Description” describes alternatives that were considered in addition to the ELM Project, including several alternative locations for the mid-line series capacitors, two electrical system alternatives, and a no project alternative.

system alternatives developed in coordination with the CAISO, and alternative locations for the mid-line series capacitors. The PEA also analyzed a no project alternative.

SCE eliminated the no project alternative from further consideration because it would not meet any of the project’s objectives.¹¹⁶ SCE also eliminated both electric system alternatives from further consideration because they would not reduce environmental impacts associated with the construction of the ELM Project.¹¹⁷ SCE analyzed the alternative locations for the mid-line series capacitors in the environmental impacts analysis in Chapter 4 of the PEA and compared the impacts of the alternative locations with impacts associated with the series capacitor locations proposed as part of the ELM Project.¹¹⁸ Chapter 5 of the PEA, including Section 5.2 (“Description of Project Alternatives and Impact Analysis”) and Subsections 5.2.1 (“Electrical System, Substation Site, and Transmission Line Route Evaluation Methodology”), 5.2.2 (“Alternatives Comparison Summary”), and 5.2.3 (“Environmental Impacts”) further discuss the alternatives to the ELM Project. After review, SCE concluded that the alternative series capacitor locations would not reduce environmental impacts associated with the construction of the project and that the ELM Project best met the project objectives while resulting in the fewest environmental impacts.¹¹⁹

The record evidence shows that the CPUC, CEC, CAISO, and SCE considered alternatives in the development and selection of the ELM Project. As a result, Wild Tree’s argument that the CPUC is prohibited from issuing a CPCN for lack of consideration of alternatives should be dismissed.

¹¹⁶ See SCE’s Proponents Environmental Assessment (PEA), at 5-20.

¹¹⁷ See *id.*, at 5-20 to 5-29. The impacts of these alternatives are summarized in Chapter 5 of the PEA, “Detailed Discussion of Significant Impacts.”

¹¹⁸ See *id.* (individual resource sections of Chapter 4 (“Environmental Impact Assessment Summary”).).

¹¹⁹ Exh. SCE-2 (Chacon), at 15:11 – 16:18; *see generally*, SCE’s PEA at 2-9, 5-1, and 5-17 – 5-37.

2. Substantial Evidence Demonstrates That The FCDS The ELM Project Would Provide Is An Essential Component For Meeting the State’s RPS Goals.

The State’s renewable energy goals require all LSEs to procure a certain percentage of all generation from renewable resources. To ensure that enough renewable energy is available to meet these goals, the CPUC develops RPS portfolios that model the additional renewable energy that will need to come onto the grid to meet the state’s goals, the type of renewable generation available, and the CREZs that would supply the generation. The CPUC’s portfolios also designate how much generation must be designated as FCDS versus EO.¹²⁰ The CAISO uses these portfolios in the TPP to identify whether transmission upgrades are needed to meet the requirements of the RPS portfolios.

The Commission provided the CPUC with its 33 percent RPS portfolios for use in the 2012-2013 and 2013-2014 TPP. Critically, the CPUC indicated that to reach the state’s RPS goals, all generation identified in the 33 percent RPS portfolios must be “fully deliverable” — meaning the CAISO was required to design the transmission system to ensure that *all generation in the portfolios could achieve FCDS*.¹²¹

Based on that premise, the CAISO’s TPP evaluated whether sufficient transmission capacity existed to provide FCDS to all generation identified in the Commission-developed renewable portfolios.¹²² The CAISO concluded that there was insufficient transmission capacity on the system to support FCDS for the resources identified in the Commission’s RPS portfolios¹²³ and determined that transmission upgrades would be necessary if the CPUC was to

¹²⁰ Exh. SCE-1 (Chacon), at 24:21-22. The RPS Calculator has since been replaced as part of the new Integrated Resource Planning (IRP) process.

¹²¹ Exh. SCE-1 (Chacon), at 25:1 n.33; Exh. SCE-2 (Chacon), at 7:20-21, 8:1-2, 19-20, 9:1-4; Exh. Cal Adv-7 (CAISO Response to Interrogatory), at 3; Exh. CAISO-3 (Millar), at 8:10-11.

¹²² Exh. CAISO-3 (Millar), at 8:16 – 9:2.

¹²³ Exh. CAISO-1 (Barave), at 4:8-10.

integrate the power identified in the CPUC 33 percent RPS portfolios into the system.¹²⁴ The CAISO TPPs identified a need to increase the amount of transmission capacity available in the Desert Area, allowing for the interconnection of generation resources from the CREZs identified in the portfolio to achieve FCDS in support of the state's RPS.¹²⁵

Cal Advocates may argue that the provision of FCDS is unnecessary, that “a generator’s deliverability status is irrelevant to determining whether a generator can contribute to the states RPS goals,”¹²⁶ and that EO resources¹²⁷ are not precluded from being counted towards the states RPS goals. Yet that argument misconstrues a fundamental premise of the RPS program. While it is true that the RPS eligibility rules do not preclude EO resources from being counted for RPS so long as the resource meets the other RPS eligibility requirements, the requirement for FCDS does not come from the RPS program itself but from the *RPS portfolios* developed by the CPUC. The CPUC’s RPS portfolios *require all generators* contributing to the 33 percent RPS goal to have FCDS.

Cal Advocates’ argument that EO resources can provide power to meet the RPS portfolios does not consider that historic and current Commission-developed RPS portfolios *require* a certain percentage of renewable generation to have FCDS. In fact, until recently all renewable generation in the Commission-developed RPS portfolios for purposes of CAISO transmission planning required FCDS for new renewable generation projects.¹²⁸

¹²⁴ Exh. SCE-1 (Chacon), at 25:1-2.

¹²⁵ *See generally*, Exh. SCE-1 (Chacon), at 17.

¹²⁶ Exh. Cal Adv-1 (Leon Diaz), at 8:9-12.

¹²⁷ An EO resource is still able to produce energy but may be unable to deliver to the aggregate of load under certain conditions. In such a case, the resource may not be able to provide RA but would still provide RPS, if from a qualifying resource, or simply energy for consumption on the grid when operations allow. Furthermore, the interconnection studies performed for EO resources would not identify any Deliverability Network Upgrades (DNU) as such upgrades are only identified and proposed in support of those generation projects seeking FCDS interconnection.

¹²⁸ Exh. CAISO-4 (Millar), at 4:13-15.

More recent Commission-developed portfolios identified incremental amounts of renewable generation that could be EO, *e.g.*, not deliverable and without FCDS.¹²⁹ However, the percentage of energy that the portfolios require to have FCDS is still substantial, and therefore Cal Advocates' contention that EO resources can take the place of FCDS resources in meeting the state's RPS goals is incorrect because EO resources will not meet the objective and requirement of the portfolios submitted by the CPUC to the CAISO. Even the Commission's most recent portfolios continue to identify the need to provide for FCDS (not simply EO resources) from generation within the CREZs.¹³⁰

The 2019-2020 updated deliverability assessment demonstrates that existing transmission capacity is inadequate to support the requested FCDS for the resources identified in the latest Commission-developed RPS portfolios.¹³¹ The results of the new TPP (which builds upon previous TPPs and assumes construction of the ELM Project) document and reaffirm the need for fully deliverable renewable generation in the Desert Area.¹³²

Further, the ability to achieve FCDS is a key factor in determining the financial viability of a renewable generation project. EO resources are curtailed when other resources with FCDS come online. If a project does not have FCDS, the only product that a generator has that can count towards the RPS is the EO resource if that resource can be accommodated (*i.e.*, not curtailed). As soon as FCDS resources are available, EO resources are curtailed. Renewable generators with EO status are less likely to receive payment for their product and as a result may be less financially viable. If only EO status is available, developers may be less likely to develop renewable generation projects. The provision of FCDS is critical to incentivize enough new renewable generators to come online to meet the state's progressive renewable energy goals.

¹²⁹ Exh. CAISO-4 (Millar), at 4:15-21.

¹³⁰ Exh. SCE-1 (Chacon), at 26:4-9.

¹³¹ Exh. CAISO-1 (Barave), at 6:21 – 7:6.

¹³² Exh. CAISO-3 (Millar), 9:4-10.

CAISO reports that the generation interconnection applications it receives demonstrate that deliverability is necessary to ensure the success of a renewable generation project in most, if not all, procurement processes.¹³³ Maintaining deliverability for new renewable generation is consistent with providing certainty for generation developers.¹³⁴ PPAs approved by the CPUC for purposes of meeting RPS goals overwhelmingly require renewable generators to provide RA, which requires FCDS. Because virtually all renewable generation procured to meet California's RPS needs FCDS, and the CPUC portfolios have been developed with that expectation,¹³⁵ the majority of renewable generators request FCDS. In fact, 100 percent of the interconnection requests in Queue Cluster 11 (all cluster study requests submitted in 2018) and Queue Cluster 12 (all cluster study requests submitted 2019) requested FCDS.¹³⁶

Without the ELM Project, generators with existing IAs that require the ELM Project to achieve FCDS would be adversely impacted as they would be unable to obtain FCDS and thus would effectively be converted to EO despite requesting FCDS. This would limit the ability of these projects to provide the deliverable renewable energy required by the CPUC portfolios.¹³⁷

The construction of the ELM Project would increase the available transmission capacity in the Desert Area meaning that generators with completed or pending GIAs seeking FCDS would achieve FCDS because the ELM Project would make their generation deliverable.¹³⁸

For all these reasons, the ELM Project is necessary to provide the FCDS necessary to meet the state's RPS requirements.

¹³³ Exh. CAISO-4 (Millar), at 4:23-27.

¹³⁴ Exh. CAISO-3 (Millar), at 9:12-16.

¹³⁵ *Id.*, at 8:16 – 9:25.

¹³⁶ Exh. CAISO-4 (Millar), at 4:23-27.

¹³⁷ Exh. SCE-1 (Chacon), at 21:9-21.

¹³⁸ *Id.*, at 17:2-17.

V.

THE MND MEETS CEQA'S REQUIREMENTS AND SHOULD BE CERTIFIED

As the lead agency in this proceeding, the CPUC prepared an MND that includes detailed analyses for each environmental impact area identified in CEQA Guidelines Appendix G. The MND concluded that work associated with the ELM Project would create less than significant environmental effects with the mitigation measures set forth in the MND and agreed to by SCE.¹³⁹

As required by CEQA, the CPUC circulated the draft MND to the public for review. The CPUC received public comments on the draft MND, and in the final MND provided good-faith, reasoned responses to all timely public comments, including comments submitted by public agencies.¹⁴⁰

For these reasons and others, the MND satisfies CEQA's requirements and should be certified by the Commission.

VI.

THE ELM PROJECT COMPLIES WITH THE COMMISSION'S EMF POLICIES

The question of whether the ELM Project would be constructed in compliance with CPUC policies related to EMF has not been substantively challenged in this proceeding, and the Commission should make a finding that such compliance is evident.¹⁴¹

In 2006, the Commission determined that EMF concerns raised during permitting proceedings for electric transmission and substation facilities should be limited to an analysis of whether the utility applicant has complied with the "no-cost and low-cost" policies established

¹³⁹ Exh. SCE-3 (Final MND), at Vol. 1, at 1-2.

¹⁴⁰ *Id.*, at Vol. 2, 7-1 – 7-103; CEQA Guidelines § 15074(b).

¹⁴¹ The consideration of whether ELM's design is consistent with Commission policies regarding EMF effects responds to **Issue #5** of the Scoping Memo ("Is the proposed project designed in compliance with the Commission's policies governing the mitigation of EMF effects using low-cost and no-cost measures?").

by the Commission to address public concerns regarding EMF.¹⁴² For the ELM Project, SCE included a Field Management Plan (“FMP”) in its original application, explaining how the ELM Project design complies with the Commission’s EMF policies by incorporating “no-cost and low-cost” field reduction measures.¹⁴³

As explained in the FMP, the “no-cost and low-cost” measures SCE proposes to implement to reduce EMF associated with the ELM Project include:

- Install mid-line series capacitors in undeveloped areas;
- Place substation series capacitors away from the substation property lines;
- Utilize taller structure heights in areas with potential overhead discrepancies;
- Relocate underbuilt distribution circuits on 115 kV structures; and
- Increase conductor ground clearance.

No party to this proceeding has provided contrary evidence that might call into question the sufficiency of SCE’s proposed “no-cost and low-cost” measures for the ELM Project, or their consistency with CPUC policies related to EMF. Rather, the only evidence regarding EMF in this proceeding demonstrates that SCE incorporated the above “no-cost and low-cost” measures into the ELM Project to reduce EMF. Therefore, the Commission should find that construction of the ELM Project would be consistent with the CPUC’s EMF policies.

VII.

THE ELM PROJECT ENHANCES SAFETY

Scoping Memo Issue No. 6 asks whether the ELM Project would enhance safety. In response to this question, SCE provided written testimony regarding: 1) contractor safety oversight and project management practices for the ELM Project, sponsored by Mr. Charles Adamson¹⁴⁴; 2) safety practices maintained for the ELM Project including those required by the

¹⁴² See D.06-01-042, at Conclusion of Law No. 2.

¹⁴³ See Field Management Plan for the ELM Project attached to A.18-05-007, at Appendix F.

¹⁴⁴ Exh. SCE-1 (Chacon), at 43.

Occupational Safety and Health Administration (“OSHA”), sponsored by Mr. James Mackenzie¹⁴⁵; and 3) safety enhancements of the ELM Project, sponsored by Mr. Lamar Cunningham¹⁴⁶. No party to this proceeding has provided any contrary evidence that might call into question whether the ELM Project would enhance safety. Rather, the only evidence regarding safety in this proceeding demonstrates that the ELM Project would enhance safety and that SCE’s employees and contractors are in full compliance with all applicable standards, including those required by OSHA. Therefore, the Commission should find that construction of the ELM Project would enhance safety.

VIII.

SCE HAS PROVIDED SUFFICIENT EVIDENCE TO SUPPORT ITS COST ESTIMATES FOR THE ELM PROJECT

Scoping Memo Issue No. 7 asks, “What is the maximum cost of the approved project?” The evidence demonstrates that SCE’s cost estimate for the ELM Project is prudent and reasonable and that it is in the public’s convenience and necessity to build the ELM Project for the costs herein.

In compliance with Public Utilities Code §1005.5(a).¹⁴⁷, SCE developed estimated costs for the ELM Project and submitted those costs as part of SCE’s April 2019 CPCN Application. SCE estimated the costs for the ELM Project’s direct costs and contingency (“Construction Costs”).¹⁴⁸ As detailed in SCE’s CPCN Application, the total estimated maximum Construction Costs for the ELM Project at the time were \$250 million, in 2019 constant dollars.¹⁴⁹ In October

¹⁴⁵ *Id.*, at 46.

¹⁴⁶ *Id.*, at 55.

¹⁴⁷ See Cal. Pub. Util. Code §1005.5(a). (“Whenever the commission issues to an electrical...corporation a certificate authorizing the new construction of any addition to or extension of the corporation’s plant estimated to cost greater than fifty million dollars (\$50,000,000), the commission shall specify in the certificate a maximum cost determined to be reasonable and prudent for the facility.”).

¹⁴⁸ See SCE’s Amended Application for a CPCN Regarding the ELM Project at 12.

¹⁴⁹ *Id.*

2019, SCE was notified by the CAISO that another project, specifically the Harry Allen-Eldorado 500 kV Transmission Project (“HAE Project”), is now queued ahead of the ELM Project and that the costs associated with the McCullough circuit breaker replacement would be reallocated to the HAE Project.¹⁵⁰ Accordingly, on October 23, 2019, SCE filed Amended Opening Testimony indicating that the cost estimate for the ELM Project has been revised downward to \$239 million in 2019 constant dollars, which includes estimated direct expenditures of \$220 million and a contingency of \$19 million.

A. SCE’s Cost Estimating For The ELM Project Is Appropriate And Consistent With Industry Practice.

The method employed by SCE in developing the construction cost estimates for the ELM Project is appropriate and consistent with industry practice. As noted in Mr. Charles Adamson’s testimony, the scope of work used for these estimates is based on project engineering and project description information described in the August 2019 MND developed pursuant to CEQA.¹⁵¹ The direct total cost is a combination of estimates developed by SCE and contractor pricing provided by Beta-Siemens.¹⁵² The contractor prices cover environmental monitoring and management, four new and modified series capacitor banks in existing substations, two new midline series capacitor banks, and transmission line OPGW installation; whereas the remaining scope of the ELM Project was developed solely by SCE based on SCE’s experience in estimating and constructing similar projects.¹⁵³

¹⁵⁰ Exh. SCE-1 (Chacon), at 14:5-9.

¹⁵¹ Exh. SCE-1 (Adamson), at 34:4-7.

¹⁵² Beta-Siemens is a joint venture between Beta Engineering California LP and Siemens Industry, Inc. Beta-Siemens was awarded the contract for this scope of work through a competitive solicitation conducted by SCE.

¹⁵³ Exh. SCE-1 (Adamson), at 34:4-12.

B. SCE’s Proposed Contingency Is Reasonable, Necessary, And Consistent With Standard Industry Methods.

The purpose of a contingency is to address significant uncertainties associated with the level of scope definition of a project.¹⁵⁴ SCE’s contingency estimate for the ELM Project amounts to \$19 million, which is roughly 10 percent of the project estimate. Of this amount, a 10 percent contingency was applied to the contractor price provided by Beta-Siemens, and a 15 percent contingency was applied to the estimates developed for the remaining SCE scope. As detailed in Mr. Adamson’s testimony, SCE’s contingency was based on industry standard cost estimating information from the Association for the Advancement of Cost Engineering (“AACE”), as well as SCE’s professional judgment and experience of SCE’s engineering and construction professionals.¹⁵⁵ Based on these standards, experiences and professional judgment, SCE reasonably applied an approximate 10 percent contingency factor pursuant to the refined engineering scope and inherent uncertainties for the ELM Project.

C. SCE Requests That Its Preliminary Cost Estimates Be Set As The Reasonable And Prudent Cost for the ELM Project Under California Public Utilities Code Section 1005.5(a).

For projects estimated to cost more than \$50 million, California Public Utilities Code Section 1005.5 directs the Commission to “specify in the certificate a maximum cost determined to be reasonable and prudent for the facility.”¹⁵⁶ In establishing an estimate of cost, the Commission is required to take several factors into consideration, including:

the design of the project, the expected duration of construction, an estimate of the effects of economic inflation, and any known engineering difficulties associated with the project.¹⁵⁷

¹⁵⁴ Exh. SCE-1 (Adamson), at 37:22-23.

¹⁵⁵ *Id.* at 38.

¹⁵⁶ *See* Cal. Pub. Util. Code § 1005.5(a).

¹⁵⁷ *See id.*

SCE's testimony regarding the ELM Project costs is based on the most recent site surveys, environmental information and engineering scope available and includes reasonable estimates for materials and labor costs based on SCE's project experience.¹⁵⁸ As such, the Commission should use SCE's estimate of \$239 million as the basis for establishing its cost finding.

The estimates SCE provides may change due to unanticipated delays in starting the ELM Project or inflation, changed final design criteria, adopted mitigation measures, or changes related to equipment and raw materials (i.e., the price of steel, concrete, or other raw materials and equipment).¹⁵⁹ The legislature provides for such upward pressure on the costs of labor and materials by allowing utilities to "apply to the [C]ommission for an increase in the maximum cost specified in the certificate."¹⁶⁰ The Commission authorizes an increase if the costs have in fact increased and the project is still needed at the increased cost.¹⁶¹

Although the Commission will specify, and may modify, the cost estimate, the Federal Regulatory Commission ("FERC") will determine the amounts the utility may reflect in its transmission rates.¹⁶² Therefore, the reasonableness of costs and the associated ratemaking and revenue requirement will be under the jurisdiction of FERC. Although FERC has this responsibility, the Commission "routinely file[s] as an intervener in the proceedings at FERC."¹⁶³ Therefore, the estimate of maximum and reasonable cost specified by the Commission may be

¹⁵⁸ Exh. SCE-1 (Adamson), at 41:16-21.

¹⁵⁹ *Id.* at 41:1-9.

¹⁶⁰ See Cal. Pub. Util. Code § 1005.5(b).

¹⁶¹ See *id.*

¹⁶² See D.07-01-040 (DPV2) at 45 ("While FERC will ultimately decide how much of the costs for this project SCE may recoup in transmission rates, we have jurisdiction pursuant to Pub. Util. Code § 1005.5(a) and the responsibility to specify in the CPCN a "maximum cost determined to be reasonable and prudent for the DPV2 project."); see also SCE's CPCN Application at 16.

¹⁶³ See Resolution E-3930, *Process for Pacific Gas and Electric Company (PG&E) San Diego Gas and Electric Company (SDG&E), and Southern California Edison (SCE) to pass through rate changes for transmission cost that have been filed with and become effective at FERC*, p.4 (May 26, 2005).

adjusted under California Public Utilities Code Section 1005.5(b) if the actual costs exceed the adopted estimated maximum reasonable cost finding.¹⁶⁴

The Commission has previously recognized the need for adjustments to estimates of maximum and reasonable and prudent costs in other decisions granting CPCNs. For example, the decision adopting an estimate of the maximum and reasonable and prudent cost for the Devers-Palo Verde No. 2 Project allowed for adjustments to the estimate of MRPC via an advice letter update process.¹⁶⁵ In other instances, the Commission has questioned whether an advice letter is appropriate when the revisions are substantial in nature.¹⁶⁶ SCE requests that any granted CPCN recognize that SCE should consult with the CPUC's Energy Division on whether an advice letter, petition for modification, or other form would be appropriate when seeking to increase the maximum reasonable cost estimate.

IX.

CONCLUSION

For the foregoing reasons, SCE respectfully requests that the Commission: 1) grant SCE a CPCN authorizing SCE to construct the ELM Project; 2) certify the MND prepared by CPUC staff; 3) establish an MRPC for the ELM Project based on SCE's cost estimates as presented in

¹⁶⁴ See Cal. Pub. Util. Code § 1005.5(b)).

¹⁶⁵ See In the Matter of the Application of Southern California Edison Company (U 338-E) for a Certificate of Public Convenience and Necessity Concerning the Antelope-Pardee Project as Required by Decision 04-06-010 and as Modified by Subsequent Assigned Commissioner Ruling (A.04-12-007), *Opinion Granting A Certificate Of Public Convenience and Necessity* (D.07-03-012), March 1, 2007.

¹⁶⁶ See In the Matter of the Application of Southern California Edison Company (U 338-E) for a Certificate of Public Convenience and Necessity for the West of Devers Upgrade Project and for an Interim Decision Approving the Proposed Transaction between Southern California Edison and Morongo Transmission LLC (A.13-10-020), *Decision Granting Certificate of Public Convenience And Necessity For The West of Devers Upgrade Project and Related Matter* (D.16-08-017), August 18, 2016.

this proceeding; 4) find that the ELM Project enhances safety; and 5) find that the ELM Project complies with CPUC policies regarding EMF reduction.

Respectfully submitted,

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/s/ Tammy Jones

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Date: January 16, 2020

**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 Certificate of Public Convenience and Necessity Regarding the Eldorado-Lugo-Mohave Series Capacitor Project.

A.18-05-007

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 **SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) OPENING BRIEF SUPPORTING ITS APPLICATION FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY TO CONSTRUCT THE ELDORADO-LUGO-MOHAVE SERIES CAPACITOR PROJECT**, on all parties identified on the attached service list(s) for **A.18-05-007**. Service was effected by one or more means indicated below:

- 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 United States mail to the offices of the assigned ALJ or other addressee(s).

**ALJ Jason Jungreis
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102**

Executed this **January 16, 2020**, at Rosemead, California.

/s/ Kelly Morikawa Kwong

Kelly Morikawa Kwong
Legal Administrative Assistant
SOUTHERN CALIFORNIA EDISON COMPANY

2244 Walnut Grove Avenue
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