

Decision 18-06-009 June 21, 2018

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Southern California Edison
Company (U-338-E) For Recovery of Aliso
Canyon Utility-Owned Energy Storage Costs

Application 17-03-020

**DECISION GRANTING COST RECOVERY FOR UTILITY-OWNED ENERGY
STORAGE PROJECTS PURSUANT TO RESOLUTION E-4791**

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DECISION GRANTING COST RECOVERY FOR UTILITY-OWNED ENERGY STORAGE PROJECTS PURSUANT TO RESOLUTION E-4791

Summary

The Commission grants the application of Southern California Edison Company (SCE) for authority to recover costs for solicitation, site assessment, and construction of four utility-owned energy storage systems in accordance with the terms of this decision. The energy storage systems were procured pursuant to Commission Resolution E-4791 to alleviate reliability concerns in the Los Angeles Basin during the summer and winter of 2016-17 due to the moratorium on gas injections into the Aliso Canyon Natural Gas Storage Facility (Aliso Canyon). In response to Resolution E-4791, SCE procured two energy storage systems from Tesla Motors sited adjacent to the Mira Loma substation in Ontario, California and two energy storage systems from General Electric for Enhanced Gas Turbines located at SCE's Peaker Generating Stations in Norwalk, California (Center Peaker), and Rancho Cucamonga, California.

The Commission concludes that the four energy storage projects procured by SCE satisfy Resolution E-4791 requirements, and, in particular, provide for enhanced system reliability in the Los Angeles Basin. This Commission finds that the Projects' costs as presented by SCE are reasonable and thus grants cost recovery in accordance with the provisions of this decision. In particular, the Commission grants authority for SCE to implement the Aliso Canyon Energy Storage Balancing Account to record the Projects' actual costs. The Commission concludes that the energy storage systems approved herein will benefit customers by providing for enhanced system reliability and safety.

In our review of SCE's application, we have considered the objections presented by the Office of Ratepayer Advocates and The Utility Reform

Network opposing certain aspects of SCE's showing. We conclude, however, that SCE has met its burden of proof to justify project approval and cost recovery, as set forth in this decision.

This proceeding is closed.

1. Background

In response to Governor Brown's January 6, 2016 proclamation of a state of emergency in Los Angeles County due to the Aliso Canyon Natural Gas Storage Facility (Aliso Canyon) well failure, which occurred in the third quarter of 2015, and subsequent moratorium imposed on gas injections into the Aliso Canyon facility, the Commission issued Resolution E-4791.¹ Resolution E-4791 authorized Southern California Edison Company (SCE) to hold a solicitation (the Aliso Canyon Energy Storage (ACES) Request for Offers (RFO), and seek Commission approval and obtain cost recovery treatment, for any contracts resulting from the ACES RFO through a Tier 3 Advice Letter.² The Resolution also directed SCE to file an application for a reasonableness review for procurement of any utility-owned energy storage facilities developed pursuant to the Resolution.

¹ *Resolution Authorizing Expedited Procurement of Storage Resources to Ensure Electric Reliability in the Los Angeles Basin due to Limited Operations of the Aliso Canyon Storage Facility*), issued May 31, 2016. As noted in Resolution E-4791, due to its critical role to help meet peak electrical demands during summer months and peak-gas-usage winter months, Aliso Canyon's limited operational capabilities placed Southern California Gas Company (SoCalGas) at risk of not being able to meet the gas supply needs of electric generators (including SCE) and retail customers in the Greater Los Angeles area.

² On August 15, 2016, SCE submitted Tier 3 Advice Letters seeking approval of the third-party contracts that resulted from its ACES RFO. The Commission approved those contracts in Resolution E-4804 on September 15, 2016.

As noted in Resolution E-4791, because procurement to alleviate reliability risks associated with the Aliso Canyon moratorium will benefit all customers connected to the grid, the costs of contracts resulting from energy storage solicitations mandated by the Resolution are to be borne by all such customers. Resolution E-4791 thus directed that cost recovery relating to any contracts resulting from the ACES solicitation be implemented through the Cost Allocation Mechanism (CAM), as adopted by the Commission in Decision (D.) 15-11-041 and applicable to in-front-of-the-meter (IFOM) energy storage.

Resolution E-4791 specified that in order to qualify for approval, the procured energy storage must:

- be price-competitive with previous energy storage solicitations, adjusted for different contract terms and expedited delivery dates;
- be interconnected in a location that helps to alleviate electric reliability concerns associated with the partial shutdown of the Aliso Canyon Gas Storage Facility;
- qualify for Resource Adequacy (RA) credit;
- be located south of Path 26, in SCE's service territory, in front of the meter (IFOM);
- be operational by December 31, 2016; and
- be limited to a contract term of 10 years or less.

On March 30, 2017, SCE filed Application (A.) 17-03-020 for authority to recover costs associated with the solicitation, site assessment, and construction of four IFOM SCE-owned energy storage projects (Projects). SCE procured two of the projects through its ACES Design, Build and Transfer Request for Proposals (DBT RFP) from Tesla Motors, Inc. (Tesla Projects), and conducted bilateral negotiations with General Electric-Current (GE) that resulted in procurement of two other projects (GE Projects). SCE asserts that in seeking cost

recovery of the projects in the instant application, it has complied with the requirements of Resolution E-4791 identified earlier in this section.

The Tesla Projects (i.e., Mira Loma Battery Energy Storage System A & B) are sited adjacent to SCE's Mira Loma substation in Ontario, California, south of Path 26. The GE Projects are located south of Path 26, and they are integrated into SCE's Peaker Generating Stations in Norwalk, California (Center Peaker) and Rancho Cucamonga, California (Grapeland Peaker). The Tesla and GE Projects all became operational on December 30, 2016.

1.1. Procedural Background

On March 30, 2017, SCE filed its Application and concurrently served its Direct Testimony (Ex. SCE-01). The Office of Ratepayer Advocates (ORA) protested SCE's Application on May 10, 2017. SCE replied to ORA's protest on May 22, 2017. The assigned Administrative Law Judge (ALJ) convened a prehearing conference (PHC) on May 31, 2017 to determine parties and discuss the scope, schedule, and other procedural matters. Organizations granted party status before the PHC include SCE, Alliance for Retail Energy Markets and Direct Access Customer Coalition (Jointly), ORA and The Utility Reform Network (TURN). SoCalGas requested and received party status at the PHC.

Pursuant to California Public Utilities Code Section 1711, the Commission conducted public outreach to "seek the participation of those who are likely to be affected, including those who are likely to benefit from, and those who are potentially subject to a decision in this proceeding."³ The Commission issued

³ Specifically, the Commission contacted the Secretary for Environmental Protection; South Coast Air Quality Management District; California State Association of Counties; League of California Cities; California Association of Councils of Government; California County Planning Directors Association; Cal Chamber; Porter Ranch Neighborhood Council; Save

Footnote continued on next page

Resolution ALJ 176-3396 on April 27, 2017, preliminarily categorizing the proceeding as ratesetting, with hearings needed. Assigned Commissioner Carla J. Peterman issued a Scoping Ruling on June 30, 2017, confirming the preliminary categorization.

Pursuant to the Scoping Ruling, ORA filed a Motion Requesting Evidentiary Hearings (Motion) on September 15, 2017 asserting that there were areas of disputed facts. SCE filed a response to the Motion on September 22, 2017, arguing that ORA's request for hearings was based merely on legal arguments. No other party filed a motion for hearings nor responded to ORA's request. The assigned ALJ granted ORA's motion for hearings by ruling dated September 28, 2017. The scope of hearings was limited to disputed factual issues as noted in ORA's Motion.

ORA served its Direct Testimony (Ex. ORA-01) on August 15, 2017 and SCE served Rebuttal testimony (Ex. SCE-02) on September 12, 2017. Evidentiary hearings were held on October 12, 2017 in San Francisco, California. SCE, ORA and TURN filed concurrent opening briefs on November 3, 2017. ORA, SCE and SoCalGas filed concurrent reply briefs on November 30, 2017. The proceeding was submitted upon the filing of reply briefs.

Porter Ranch Mission; County of Los Angeles Board of Supervisors; South Coast Air Quality Management District; City of Los Angeles City Council Members; Chatsworth Chamber of Commerce; Chatsworth Neighborhood Council; Governor's Office of Emergency Services, Division of Oil, Gas and Geothermal Resources; Office of Environmental Health Hazard Assessment; State Water Resources Control Board, Division of Occupational Safety and Health; Environmental Protection Agency; and the Los Angeles Regional Water Quality Control Board.

2. Parties' Positions

2.1. Position of SCE

SCE seeks to recover costs associated with the solicitation, site assessment and construction of the Tesla and GE Projects, asking the Commission to find that:

1. The Tesla Projects and GE Projects, as described in its application, were procured to ensure system reliability for the benefit of all customers consistent with: (a) Resolution E-4791 for energy storage resources to mitigate an outage risk associated with partial shutdown of the Aliso Canyon storage facility; and (b) the Energy Storage Procurement Framework in D.13-10-040;
2. Forecast capital expenditures and forecast Operations and Maintenance (O&M) expenses (from project initiation through 2020) for the Tesla Projects and GE Projects are reasonable;
3. \$1.1 million in costs for development expense associated with the ACES RFP (including \$551,000 costs with unsuccessful sites) are reasonable; and
4. The Tesla Projects and GE Projects count towards satisfying the outstanding portion of SCE's energy storage targets, as authorized by Resolution E-4791 and consistent with D.13-10-040, and qualify for "Local Capacity Requirements" (LCR) credits pursuant to D.13-02-015 and D.14-03-004.

SCE also seeks Commission authorizations for cost recovery, including authority:

1. To establish the Aliso Canyon Energy Storage Balancing Account (ACESBA) to record Tesla Projects and GE Projects development O&M expenses and capital-related revenue requirements (including an initial entry for the transfer of SCE-owned ACES-related recorded activity in the Aliso Canyon Catastrophic Event Memorandum Account (CEMA). These costs will be transferred to the New System Generation Balancing Account (NSGBA) to be recovered from all

benefitting customers using CAM using the net cost calculations as SCE proposes;

2. To include in New System Generation (NSG) rates the estimated annual costs for the Tesla Projects and GE Projects commencing January 1 of each year, until remaining project costs are included in SCE's 2021 test year GRC;
3. To limit reasonableness review of the Tesla Projects and GE Projects expenses to ensuring all recorded ACESBA entries for the Projects are stated correctly and are consistent with Commission decisions;
4. To recover recorded ACESBA activity in the NSGBA; and
5. To recover all costs incurred in the development of viable sites for locating utility-owned storage from all benefiting customers, including unsuccessful site labor costs.

2.2. Position of ORA

ORA limits its concerns to the GE Projects. ORA contends that SCE failed to establish, by a preponderance of evidence or otherwise, that the GE Projects are consistent with the authority and conditions for which the Commission granted SCE the opportunity to solicit utility-owned energy storage projects under Resolution E-4791. ORA thus recommends that the Commission deny recovery of SCE's capital costs⁴ and \$0.9 million in forecast O&M expense for the two GE Projects, arguing that they provide minimal-to-no reliability benefits and otherwise do not meet the objectives of Resolution E-4791.

ORA also recommends denial of SCE's request for cost recovery of \$551,000 in costs associated with the development of unsuccessful project location sites arguing that such recovery is prohibited based on language in

⁴ SCE was granted leave to file certain capital cost data deemed confidential under seal.

D.07-12-052.⁵ ORA argues that Resolution E-4791 did not expressly authorize recovery of costs for unsuccessful sites. ORA contends that prohibition on cost recovery for unsuccessful sites is a safeguard that the Commission adopted to facilitate a competitive market.

2.3. Position of TURN

TURN takes no position on the substantive merits of SCE's proposed Projects, but disputes certain aspects of SCE's ratemaking proposals related to the Projects. TURN also submits that any finding of cost reasonableness in this proceeding should be made with the explicit caveat that the Commission may later determine that some or all of these costs should be recovered from SoCalGas and its shareholders, rather than from SCE customers. Finally, TURN opposes SCE's proposal for the ACESBA. TURN argues that SCE described how the proposed balancing account would work, but did not address why the Commission should adopt that ratemaking mechanism rather than have the utility continue to record costs in its Aliso Canyon CEMA.

3. Discussion and Analysis

3.1. Reasonableness of the Tesla Projects

3.1.1. Positions of Parties

SCE contends that its procurement process for the Tesla projects was fair and reasonable and that the costs associated therewith are cost competitive with previous energy storage facilities. SCE asserts that the Tesla Projects satisfy the requirements of Resolution E-4791 to expeditiously bring energy storage online that is interconnected in a location to alleviate reliability concerns, qualifies for

⁵ Opinion Adopting PG&E, SCE and SDG&E's Long-Term Procurement Plans.

RA credit, is located IFOM south of Path 26, is operational by December 31, 2016, and has a contract term of 10 years or less. In addition to meeting the requirements of Resolution E-4791, SCE also asserts that the projects simultaneously support the Assembly Bill (AB) 2514 guiding principles of Energy Storage: greenhouse gas (GHG) reduction, the integration of renewable energy, and grid optimization.

SCE launched its solicitation pursuant to Resolution E-4791 in two components. The first component involved solicitation through the ACES Request for Offer (RFO). As discussed earlier, SCE sought approval of the resulting series of ACES RFO third-party contracts for energy storage through Tier 3 Advice Letters, filed on August 15, 2016, and approved by the Commission in Resolution E-4804 on September 15, 2016.

SCE concurrently launched a turnkey “Design, Build, and Transfer Request for Proposals” (DBT RFP) for utility-owned storage projects, which resulted in the Tesla Projects. Under this solicitation, SCE provided project sites located on land it owned or controlled near existing substations or generating facilities, and required that the seller be responsible for designing, constructing, commissioning, testing, and completing the project with a commercial operation deadline no later than December 31, 2016. SCE received 18 proposals representing a total of 305 MW. In executing the Tesla Projects contract, SCE retained the services of an Independent Evaluator (IE) and advised its CAM group, which includes stakeholders like ORA, the Commission’s Energy Division, TURN, and Sierra Club.

Pursuant to Commission requirements, SCE utilized a least-cost, best fit (LCBF) analysis for valuation of the offers. Specifically, SCE evaluated the solicited DBT RFP offers based on a net present value (NPV) analysis of benefits

versus costs. SCE multiplied each offer's forecasted quantity of resource benefits (i.e., RA capacity, electrical energy, and ancillary services) by the respective market price forecast to determine the value of benefits. SCE then calculated the costs required to realize this market value. SCE used these elements to assess the competitiveness of each offer. SCE's benchmark for assessing each offer's competitiveness was the NPV per energy storage kilowatt-month over the length of the system's useful life. In addition to these quantitative benefits and costs, SCE also considered qualitative characteristics of the bids in final project selection.

As a result of this process, SCE selected and commissioned two projects from Tesla that are adjacent to the Mira Loma Substation in Ontario, California, which is south of Path 26. Each Tesla Project can provide 10 MW of RA, 10MW of spinning reserve (without burning gas), and 10 MW of non-spinning reserve. Each Tesla Project can also use its capacity to store electricity whenever there is excess electricity on the grid.

For the Tesla Projects, SCE's forecast total cost of capital expenditures for deployment was submitted on the record confidentially under seal. SCE also forecast \$1.1 million in pre-deployment O&M⁶ and \$4.5 million for post-commissioning O&M for the period 2017 through 2020. The capital cost forecasts incorporate recorded amounts through the end of 2016 and forecasts for additional capital expenditures in 2017.

Neither ORA nor TURN presented any express opposition to SCE's showing as to the reasonableness of the Tesla Projects.

⁶ Pre-deployment O&M activities are related to the RFP process, siting, and the interconnection feasibility study.

3.1.2. Discussion

Based upon our review of the record, we find the Tesla Projects are compliant with the requirements of Resolution E-4791 and that the resulting costs of the Tesla projects are reasonable. No party has contested these facts. We therefore approve SCE's costs associated with the Tesla Projects as requested by SCE without modification. We separately address the ratemaking issues relating to Tesla Projects cost recovery in Section 3.7 below.

3.2. Reasonableness of the GE Projects

3.2.1. Parties' Positions

3.2.1.1. Position of SCE

SCE seeks a Commission finding that the bilaterally negotiated GE Projects presented for approval in its application are compliant with the requirements of Resolution E-4791 and that the related costs are reasonable and warrant recovery. SCE states, in particular, that the GE Projects meet Resolution E-4791 requirements. Specifically, SCE asserts that the GE Projects are sited at locations that help alleviate electricity reliability concerns, are situated south of Path 26, are located in front of the meter, qualify for RA and have an operational date of December 30, 2016.

SCE held its DBT RFP while simultaneously negotiating bilaterally with GE to develop and perform Enhanced Gas Turbine ("EGT" or "Peaker Enhancement") upgrades on one or more SCE Peaker Generating Stations, which included integrated energy storage features for the EGTs. SCE states that GE first approached SCE with its proposal shortly before the Commission issued Resolution E-4791.

SCE contends that the bilaterally negotiated contracts are reasonable because it could not have procured the EGTs through the DBT RFP for the

following reasons: (1) GE owned the proprietary EGT technology, and (2) given the expedited procurement deadline and the development timeline for the EGTs, the competitive solicitation process did not provide sufficient time to procure the GE Projects. SCE asserts, however, that it evaluated the GE proposal based on a robust valuation and economic analysis utilizing forecasts for energy prices and ancillary services.⁷ Pursuant to Commission requirements, SCE utilized a LCBF analysis for valuation, which considers all revenue streams or benefit streams and/or cost streams.⁸

Based on its evaluation, SCE concluded that the EGT technology offered by GE could help ensure electric reliability pursuant to Resolution E-4791 and help meet energy storage targets outlined in D.13-10-040. SCE performed a NPV benefit-cost ratio analysis for the EGTs, showing them to be the most cost competitive of its energy storage procurement projects. Based on a sensitivity analysis to determine the optimum number of peaker plants to upgrade, SCE concluded that upgrading two peaker plants provided the greatest NPV benefit to customers.

SCE explains that the GE EGT technology is a unique proprietary product that integrates battery storage seamlessly and directly in tandem with operation of the GE-manufactured LM 6000 Gas Turbine. The EGT upgrades increase the operational flexibility of SCE's peaker fleet, and the EGT technology can enable the provision of 50 MW of spinning reserve ancillary services without fuel consumption. When dispatched for spinning reserves, the gas turbine is offline and the batteries provide a power source to the bulk power grid. SCE argues

⁷ Hearing Testimony at 32:10-33:6.

⁸ Hearing Testimony at 31:14-23.

that as California decreases its dependence on fossil fuels to realize important and ambitious energy and climate goals, the development and rapid deployment of innovative solutions is necessary to ensure continued system reliability. In this regard, SCE points to the EGT technology as a prime example of such operational flexibility and innovation.

SCE thus awarded GE two projects on July 26, 2016, at the Center Peaker and Grapeland Peaker utilizing the EGT enhancements. The EGT integration included a 10 MW/4.3 Megawatt-hour (MWh) battery storage system at each location. Each EGT installation adds 1.075 MW of incremental RA capacity.⁹

For the GE Projects, SCE submitted forecast total costs for capital expenditures on a confidential basis under seal. SCE entered into two turn-key contracts with GE for engineering, procurement, and construction services for these installations. SCE forecast \$4.345 million for owner's engineering services during construction, grid interconnection analysis, IT connectivity review and design, telemetry interconnection, and other work. SCE also forecast \$0.90 million for post-commissioning O&M expense through December 31, 2020. SCE did not incur any pre-deployment O&M costs for these GE Projects.

3.2.1.2. Position of ORA

ORA opposes SCE's request for cost recovery of capital expenditures and O&M expenses for the GE Projects. ORA argues that although Resolution E-4791 calls for procurement of energy storage projects to meet specific reliability risks due to the moratorium on injections into Aliso Canyon, the GE

⁹ The 1.075 MW of RA capacity is based on 4 hours of continuous dispatch of the 4.3 MWh battery (i.e., 4.3 MWh/4 hours).

Projects provide minimal-to-no reliability benefits under the specific gas shortage conditions for which the Resolution grants authority.

ORA asserts that SCE's interpretation of Resolution E-4791 compliance would allow for cost recovery for any project that provided any degree of reliability benefit, no matter how small. ORA argues that SCE's interpretation is at odds with the objective of the Resolution to alleviate specific electric reliability concerns associated with the partial shutdown of Aliso Canyon by bringing energy storage online before December 31, 2016.

ORA also asserts that SCE failed to adhere to Resolution E-4791's requirements calling for "an expedited competitive solicitation." ORA argues that while SCE is allowed to procure utility-owned "build and transfer" projects, the Resolution contains no language exempting utility-owned projects from competitive solicitations.

ORA further contends that SCE did not adhere to the Commission's order to hold a "one round" solicitation. Resolution E-4791 states that "SCE shall conduct the Aliso Canyon Energy Storage Solicitation as a 'one round' competitive solicitation allowing bidders to submit pricing at the offer deadline."¹⁰ ORA argues that SCE held two rounds of procurement: the first to competitively procure third-party and utility-owned energy storage resources and the second a noncompetitive bilateral agreement with GE to upgrade its Center and Grapeland Peakers. ORA claims that SCE could have procured resources through a competitive solicitation and that bilaterally procured, utility-owned energy storage was not the only option available to SCE.

¹⁰ Resolution E-4791 at 5.

D.07-12-052 identified categories under which a competitive solicitation process for utility-owned generation may be found infeasible, including preferred resources and reliability. ORA argues that the GE Projects are not within the narrow exception defined in D.07-12-052, as applied to energy storage resources in D.13-10-040.¹¹ ORA also notes that the Tesla Projects were competitively solicited and made operational by the target date. Therefore, because bilaterally procured, utility-owned energy storage was not the only option available, ORA disputes SCE's assertion that the GE Projects could not have achieved Resolution E-4791's target operational date.

ORA also argues that SCE failed to address, in the application or through testimony, the operational limitations of each GE Project as a resource to promote reliability. If the stored energy has been spent or reserved to provide spinning reserves or ancillary services, ORA argues, then the storage device would not be able to dispatch RA capacity. In such a situation, ORA argues, the EGT system would be an unreliable RA resource. ORA contends that the GE Projects only contribute minimal reliability benefits to resources that already have the capability to provide reliability benefits. SCE's Center Peaker and Grapeland Peaker already provided 98 MW of reliability services without the GE Projects.

ORA further argues that the procurement of the GE Projects is not cost competitive with other storage procurements, as required by E-4791. ORA is critical of SCE's NPV analysis, claiming it does not produce an accurate apples-to-apples comparison to determine whether the GE projects are competitive with previous solicitations for energy storage resources required by

¹¹ D.13-10-040 at 52.

Resolution E-4791. ORA argues that the resources compared by SCE are pure battery energy storage resources, whereas the GE Projects are battery enhancements to Peakers. SCE includes the revenue from both the Peaker and the GE Projects in its comparison to the other pure energy storage resources. ORA thus claims that the NPV analysis is not verifiable.

As such, ORA argues that the GE Projects are far from the most price-competitive energy resources procured by SCE as ORA states that they are five times more expensive than the Tesla projects based on cost per MWh of storage capacity. ORA further claims that SCE's NPV comparison is made to a substantial number of the contracts that the Commission has yet to approve. Since the Commission has made no determination as to whether these yet to be approved contracts are cost-effective, they cannot be relied upon for the purpose of showing that the GE Projects are price-competitive.

Finally, ORA characterizes the GE Projects as essentially upgrades to SCE's Peakers intended to access additional and more lucrative revenue streams (primarily spinning reserve), rather than providing concrete reliability services. ORA claims that ancillary services provide only limited or no additional reliability benefits and does not address the forced interruption of electrical service, which is the principal issue the Commission sought to address by mandating procurement of storage in Resolution E-4791.

3.2.2. Discussion

We conclude that SCE complied with Resolution E-4791 requirements with respect to procurement of the GE Projects, including the mandate for IFOM energy storage resources interconnected to the California Independent System Operator (CAISO) grid South of Path 26 to alleviate reliability issues. We thus conclude that the GE Projects qualify for cost recovery pursuant to Resolution

E-4791. We separately address the ratemaking issues relating to GE Projects cost recovery in Section 3.7 below. We have considered ORA's arguments opposing cost recovery for the GE projects, but find them unpersuasive.

We find that the GE Projects provide incremental RA of 1.075 MW, independent of the Peakers. The EGTs further provide significant, non-RA reliability benefits, including ancillary and grid support services like spinning reserves, enabling the gas turbine to operate in standby-mode without using fuel. The GE Projects each add the capability to provide immediate response to load demands with 10 MW of instantaneous energy while the gas turbine is starting-up. The batteries provide instant energy and ancillary services while the generators begin the quick-start process.

We find SCE's presentation convincing regarding the value and economic benefits of the GE Projects. SCE forecast both energy prices and ancillary services and a Price Competitive Benchmark, as presented in Chapter IX of Ex. SCE-01C. SCE presented the results of its valuation analysis in Table IV-10 of SCE-01C. In Ex.SCE-02C, SCE provided a comparison of the NPV of its GE Projects with that of other energy storage contracts.¹² A benefit-to-cost ratio of 1.0 indicates that a resource option has a positive economic value for customers. The EGTs have a positive benefit-cost ratio and the highest NPV of any of SCE's storage solicitations. SCE compared the present value of contract costs with

¹² We deny ORA's request to disregard SCE's Rebuttal Testimony (Ex. SCE-02 and SCE02C). ORA claims that SCE improperly supplemented its showing through Rebuttal Testimony to argue the GE Projects are price-competitive. We conclude, however, that SCE's Rebuttal Testimony addressed claimed infirmities of ORA's arguments. The Rebuttal Testimony was served in September 2017. ORA thus had sufficient opportunity in advance of the October 2017 hearings to prepare cross-examination of SCE's witness sponsoring the Rebuttal Testimony.

resource benefits. For each GE Project integration, SCE calculated the forecast quantity of RA capacity, electrical energy and ancillary services using a combination of models, and multiplied these quantities by the respective market price forecasts to derive the value of benefits for each resource.¹³

The GE Projects are thus the most cost-competitive energy storage resources on a NPV basis. SCE concluded that the most appropriate path was to upgrade two of the five peakers.¹⁴ Based on our review, we thus conclude that the EGTs are competitive with other energy storage projects procured through solicitation, comply with Resolution E-4791, and warrant cost recovery.

We disagree with ORA's claim that the ancillary services from the GE Projects are not useful and provide minimal reliability benefit in addressing the reliability needs resulting from the Aliso Canyon constraints. ORA argues that if natural gas is not available, spinning reserve yields no value because the Peakers will be unable to operate. Yet ORA does not take into account the flexibility that the GE Projects provide to the grid. A gas curtailment would not affect the GE Projects' abilities to bid into the spinning reserve market. The GE Projects qualify for 1.075 MW of RA, and are also dispatchable, by providing up to 10 MW of battery energy to the bulk power grid without gas supply. This additional flexibility helps to promote the reliable operation of the electrical grid.

We are not persuaded by ORA's claim that the GE Projects offer minimal value because the Center and Grapeland Peakers independently provide 98 MW

¹³ SCE employed the most current RA counting rules when calculating the qualifying RA capacity value for each offer, as referenced in D.14-06-050, Appendix B. Since the EGT is an enhancement to a current combustion turbine, the net value of the EGT enhancement is calculated as the net value of the EGT less the value of the standard combustion turbine.

¹⁴ See Ex. SCE-02C at 4-9.

of reliability services. The GE Projects augment the existing capabilities at the Center and Grapeland Peakers and increase system reliability by adding additional spinning reserve and frequency regulation capacity to the grid. Spinning reserves offers an operating reserve to meet system demand if a system contingency occurs, such as a generator or transmission outage, gas curtailment or unforeseen system swings. Ancillary services, including spinning reserves and frequency regulation, are reliability services. To reliably operate the electrical system, CAISO requires resources to provide both energy and/or ancillary services. RA and ancillary services are inextricably linked due to market operations, and spinning reserve is essential for reliable grid operations.

In particular, the GE Projects make available 50 MW of additional ancillary services in the form of spinning reserve capability without burning natural gas, thus contributing to reduction in GHG emissions. The GE Projects provide flexibility to CAISO with resources that instantaneously respond to needs in the electric system. The addition of the batteries allows for flexibility that is unavailable with gas-only Peakers.

Spinning reserve requires a resource to be online and able to immediately and automatically respond to frequency deviations. Although Resolution E-4791 required that the units qualify for RA, it did not specify that the units must be fully deliverable and receive RA value for their full capacity. SCE will only be able to claim RA credit for the incremental 1.075 MW of deliverable RA capacity; however, this RA capacity meets the requirements of Resolution E-4791.

We recognize that the EGTs can provide a larger MW quantity (50 MW) for ancillary services, and only 1.075 MWs of RA. That does not mean, however, that something other than RA would be provided if the resource is dispatched for ancillary services. RA capacity must be integrated into, and dispatched

through, the wholesale market. RA capacity can provide any wholesale energy market product – day ahead, real time, ancillary services, etc. The difference in capacity between RA and ancillary services for the GE Projects is due to: 1) the Commission counting rules for RA, which require dispatch in a full four-hour block, and 2) the GE Projects add incremental RA deliverability to the existing gas plants without additional substation upgrades.

We disagree with ORA's claim that RA must be exhausted before the complete dispatch of ancillary services. The same procedure cited by ORA in support of its position calls for CAISO to dispatch Non-Spinning and Spinning Reserve resources, including contingent only, to the extent possible while maintaining required Contingency Reserves. When the Contingency Reserves are depleted, CAISO moves to staged emergencies, with a Stage 3 declared where available spinning reserves is less than 50% of the Contingency Reserves. This procedure illustrates the importance of spinning reserves to the grid operator, as a reduction to just under fifty percent of reserves triggers the highest state of emergency for CAISO. RA and ancillary services are both essential for grid operation and reliable service in providing flexibility to address emergency conditions.

ORA also takes issue with the GE Projects because their benefits are dependent upon integration with the Peakers. The fact that the GE Projects' benefits are dependent upon integration with the Peakers does not negate the reliability benefits involved. Moreover, Resolution E-4791 does not prohibit such projects as qualifying to satisfy reliability requirements. Utility-owned storage projects are not limited solely to installation of batteries at substations.

Finally, we have considered ORA's arguments opposing approval because SCE did not undertake a competitive solicitation for the GE Projects. In this

regard, D.13-10-040 provides that “[i]f a competitive solicitation for a PSA [Purchase Sale Agreement] contract to build the utility owned project is not appropriate, the IOU [Investor-Owned Utility] should explain in its application why this is the case and propose with [sic] an Engineering, Procurement, and Construction (EPC) straight utility build project approach, or other approach, depending on the circumstances. The IOU may request relief from the competitive solicitation process under the reliability exception if ‘the only means of developing new resources in sufficient time is via [a utility-owned project].’”¹⁵

We conclude that SCE meets the “reliability” exception identified in both D.07-12-052 and in D.13-10-040 in the case of the GE Projects. The GE Projects installed at the SCE-owned Peakers were only available from GE, and the operational deadline in the Resolution precluded a competitive solicitation in this case. If SCE had attempted to procure the GE Projects through a competitive solicitation, it would not have been able to achieve Resolution E-4791’s target operational date for these projects. GE was uniquely situated to design and build the proposed Projects as the designer and manufacturer of SCE’s Peakers. GE’s energy storage technology is a proprietary system that fully integrates with the GE Peakers’ gas turbine control system. The unique technological features of the EGT enhancements distinguish them from the Tesla Project, such that the relative timing constraints involved were not comparable.

¹⁵ D.13-10-040 at 7.

3.3. Cost Recovery for Unsuccessful Sites

3.3.1. Parties' Positions

SCE's request for cost recovery includes \$551,000 relating to unsuccessful sites pursued during the RFP process. The costs incurred for unsuccessful sites include incremental labor and non-labor costs to identify sites and their applicability for development of an energy storage system.

SCE explains that it had to conduct advance work to rapidly procure projects that would be operational by the expedited deadline set by the Resolution. SCE undertook such advance work to meet the time-sensitive requirement of the Resolution. SCE argues that fairness dictates the Commission should grant SCE cost recovery for its work relating to such unsuccessful sites.

ORA opposes SCE's request to recover the \$551,000 of costs for unsuccessful site selections arguing that it conflicts with the Commission's policy prohibiting such cost recovery. ORA references D.07-12-052, in which the Commission stated: "We prohibit IOUs [Investor-Owned Utilities] from recouping from ratepayers any bid development costs associated with losing PSA [Purchase Sales Agreements] or EPC [Engineering Procurement Construction] bids, in the event that any such costs are incurred."¹⁶ ORA contends that the prohibition is part of a larger procurement scheme that would facilitate a competitive market as dictated by D.07-12-052. Further, D.13-10-040 adopted the competitive solicitation process of D.07-12-052 with its enumerated safeguards, including a prohibition on unsuccessful bids.

¹⁶ D.07-12-052 at 286.

SCE responds that the Resolution did not expressly prohibit recovery of such costs. SCE claims that ORA conflates the general requirement (absent exceptions) of a competitive process for utility-owned storage solicitations with the unique circumstances of the ACES RFP. SCE does not claim that the RFP process that begot the Tesla Projects was exempt from competitive solicitation requirements. SCE contends the unique circumstances and expedited time pressure on the procurement supports an authorization for recovery of its costs for the unsuccessful sites.

SCE argues that it is not clear that the Commission intended to include the prohibition on recovering unsuccessful bid costs in adopting the D.07-12-052 “competitive process” in D.13-10-040. Further, SCE contends, D.07-12-052 recognized the evolving landscape for utility owned projects, finding that the treatment of such projects may change and resource-specific policy goals would be identified within the appropriate proceedings, holding that the decision did not prejudice those proceedings.

SCE claims that it is not clear whether the prohibitions adopted in D.07-12-052 and D.13-10-040 apply to storage procured pursuant to Resolution E-4791. Even assuming prohibition applies, SCE argues that a deviation is appropriate under the unique circumstances here. SCE argues that it should not absorb costs incurred identifying potential sites to expedite procurement that will benefit its customers and alleviate system reliability concerns relating to the unavailability of Aliso Canyon.

3.3.2. Discussion

We authorize SCE to recover the costs of the unsuccessful projects associated with compliance with Resolution E-4791. Resolution E-4791 neither expressly authorizes nor prohibits the recovery of such costs. In the interest of

fairness, however, we conclude that SCE should be permitted to recover the costs for its good faith efforts undertaken to serve ratepayers' interests even though the results were unsuccessful. It is not necessary to resolve all of the parties' disagreements as to their interpretation of D.07-12-052 and D.13-10-040 precedents and applicability in order to conclude that we have discretion here to independently assess the merits of SCE's request to recover the costs of unsuccessful sites.

Based on the record here, we conclude that SCE promptly initiated efforts to procure projects that would be operational by the expedited deadline set by Resolution E-4791. It was necessary for SCE to undertake such advance work to meet the temporal requirement of the Resolution. We thus authorize SCE to recover all costs incurred in the development of viable sites for locating utility-owned storage from all benefiting customers, including unsuccessful site costs. Approval of unsuccessful site costs herein should not be construed to be precedent for future procurement or a move away from the provisions adopted in D.17-12-052 and D.13-10-040. Rather, the Commission has considered the unique and extraordinary circumstances associated with bringing the Projects online pursuant to Resolution E-4791 and has determined that in this case, it is prudent to allow cost recovery for unsuccessful sites.

3.4. Consistency with Energy Storage and LCR Legal Frameworks

3.4.1. Position of SCE

SCE asserts that the Tesla Projects totaling 20 MW and the GE Projects totaling 20 MW, count towards satisfying the outstanding portion of its energy storage targets, as authorized by the Resolution and consistent with D.13-10-040. AB 2514 (Stats. 2010, ch. 469) required the Commission to determine appropriate

targets, if any, for each Load Serving Entity to procure viable and cost-effective energy storage systems. Rulemaking (R.) 10-12-007, opened to implement AB 2514, culminated in D.13-10-040, which the Commission adopted on October 17, 2013.

D.13-10-040 requires the three large IOUs to procure 1,325 MW of energy storage capacity by 2020. SCE's share of the 1,325 MW goal is 580 MW, divided into biennial procurement targets in 2014, 2016, 2018, and 2020. D.13-10-040 also authorized the IOUs to own up to fifty percent of their MW targets – for SCE, 290 MW. The Projects' capacity will keep SCE within the allowed 290 MW utility ownership limit; SCE asserts it is entitled to LCR credit.

No other party contested SCE's assertions regarding consistency of the Tesla and GE Projects with the Commission's Energy Storage and LCR legal frameworks.

3.4.2. Discussion

We concur with SCE that the Tesla and GE Projects are consistent with the Energy Storage Procurement framework requirements of D.13-10-040 and satisfy a portion of SCE's energy storage targets pursuant to that decision. Resolution E-4791 also provides that if the utility-owned energy storage resources SCE procures South of Path 26 qualify for LCR credit pursuant to D.13-02-015 and D.14-03-004, SCE will be granted LCR credits consistent with its remaining authorization from D.15-11-041.¹⁷

SCE has not provided any analysis in this proceeding to determine whether additional LCR procurement is necessary. However, to the extent that

SCE continues to have an outstanding minimum LCR procurement obligation of 169.4 MW of preferred resources or energy storage located in the Western Los Angeles Basin under D.15-11-041, we concur that the Tesla and GE Projects, which are energy storage located South of Path 26, satisfy those LCR credit requirements.

3.5. Safety Considerations

As an element of its showing in this proceeding, SCE commented on safety considerations relating to its deployment of energy storage systems generally. As SCE notes, battery-based storage systems entail certain safety risks, and in particular, are prone to overcharging and over-discharging making them susceptible to “thermal runaway,”¹⁸ which can harm equipment connecting the device to the grid. SCE notes that it implemented voltage and safety monitoring controls as well as fault deflection mechanisms at both the battery cell and system level. SCE also notes that both Rule 21 and its Wholesale Distribution Access Tariff require technical review by SCE engineers and an Electrical Inspection Release from the local authority verifying that the work on the customer’s side of the meter meets the requirements of the National Electric Code and all local codes and ordinances. SCE also notes that pursuant to D.16-01-032, it has participated in a working group on energy storage safety inspections, and attached to its application the energy storage safety inspection checklist created by that working group.

¹⁷ In D.16-05-053, the Commission’s order denying rehearing of D.15-11-041 as modified, the Commission permitted SCE to file a petition for modification of D.13-02-015 and D.14-03-004 if it determined that additional procurement is not necessary.

¹⁸ SCE defines “thermal runaway” as a potential safety risk arising from rapid, uncontrolled increase the temperature that cannot be halted by stopping or disconnecting the system.

Based on SCE's representations, we find no safety issues that would preclude approval of SCE's application, as ordered in this decision.

3.6. Permitting Issues Relating to SCE's Proposed Storage Projects

SCE asserts that the Tesla and GE Projects are (a) governed by Commission General Order (GO) 131-D, Chapter III.C;¹⁹ (b) do not require any additional Commission certificates or permits in order to be developed and brought online and (c) do not require any analysis pursuant to the California Environmental Quality Act (CEQA). SCE also indicates that it sent a letter to the Commission dated August 24, 2016, stating that SCE intended to continue to develop these projects under the assumption that no additional Commission certification or environmental analysis was required. As of the date of its application filing, SCE indicates the Commission had not responded to this letter.

We conclude that SCE is correct that no Commission certificate or CEQA analysis is required in connection with its implementation of the Tesla and GE Projects pursuant to GO 131-C. SCE also reported on its meetings with the applicable local jurisdictional authorities regarding the Tesla and GE Projects, and noted compliance with such local jurisdictional practices and requirements.

¹⁹ GO 131-C Section III.C states, in part: The construction of electric distribution (under 50 kV) line facilities, or substations with a high side voltage under 50 kV, or substation modification projects which increase the voltage of an existing substation to the voltage for which the substation has been previously rated within the existing substation boundaries, does not require the issuance of a CPCN or permit by this Commission nor discretionary permits or approvals by local governments.

3.7. Project Cost Recovery Process

3.7.1. Parties' Positions

SCE seeks Commission approval for cost recovery of Tesla and GE Project costs using the CAM. In Resolution E-4791, the Commission specified that the CAM, as adopted in D.15-11-041, shall apply to any contracts resulting from the ACES solicitation.

The Commission first adopted the CAM in D.06-07-029 and later refined it in D.11-05-005, as a mechanism for allocating net capacity costs to all benefitting customers. In this manner, capacity and energy are “unbundled,” and the rights to the capacity are allocated to all load-serving entities (LSEs) in the utilities’ service territory to be used towards each LSE’s RA requirements. Customers receiving the benefit of this additional capacity pay only the “net costs” of the capacity through a “wires” charge, determined as a net of the total cost of the contract minus the energy revenues associated with dispatch of the resource.

To determine the proxy net revenues for the Tesla Projects, SCE proposes to utilize the same methodology as set forth in the Joint Memorandum of Understanding of the joint parties as adopted in D.15-11-041, described as follows:²⁰

The “net capacity cost” for energy storage CAM resources under the proposed methodology is calculated as follows: The costs resulting from charging each battery in the lowest-priced hours of a 24-hour period are netted against the revenues resulting from discharging that battery during the highest-priced hours in the same 24-hour period to determine the net revenue received from the resource. That proxy for the net revenue is then

²⁰ The Joint Memorandum of Understanding was included in the March 27, 2015 motion filed jointly by SCE, Alliance for Retail Energy Markets, and Direct Access Customer Coalition in A.14-11-012.

credited back to the contract cost to calculate the net capacity cost of the resource to be recovered through the New System Generation Charge from all delivery service customers.

For the GE Projects, SCE proposes an alternate CAM cost recovery approach. The existing CAM does not explicitly include recognition of the value of spinning reserves services. For the GE Projects, however, their financial justification stems mainly from spinning revenues. Therefore, SCE proposes to use a modified CAM above-market true-up calculation to ensure that all financial benefits of the GE Projects, such as spin revenues, are recognized. In this manner, forecasted net costs used for setting prospective rates will be the same as those used in the Energy Resource Recovery Account (ERRA) forecast, and the true-up, which will be calculated using actual costs and market revenues. The GE Projects' actual costs and benefits will thereby be allocated to all benefitting customers through the CAM true-up. CAM participants will be required to pay for their prorated share of any above-market costs.

SCE also proposes to establish the ACESBA to record actual Tesla Projects and GE Projects revenue requirements. SCE proposes to include Project costs in rates through the ACESBA effective January 1 of each year, until the Projects' revenue requirements are included in its 2021 GRC, with true-ups to actual recorded costs. SCE also proposes that the reasonableness review of future Project expenses be limited to ensuring all recorded ACESBA entries related to the Projects are state correctly and are consistent with Commission decisions.

On May 10, 2016, SCE sent a letter to the Commission's Executive Director informing him that SCE activated its CEMA to record and track costs incurred to mitigate electric reliability issues that could occur in summer and winter months stemming from natural gas curtailments caused by the moratorium on injections into Aliso Canyon. Included therein are the costs incurred for the Tesla and GE

Projects. SCE excluded all costs of Tesla and GE Projects from its 2017 ERRRA Forecast (adopted in D.16-12-054). In 2016, SCE recorded \$878,993 of pre-deployment O&M project non-labor costs in the Aliso Canyon CEMA. Commencing January 1, 2017, and up until a decision is issued in this proceeding, SCE states its intention is to continue recording actual O&M expenses and capital-related revenue requirements for the UOS Projects in the Aliso Canyon CEMA.

Pursuant to its balancing account proposal, SCE would record on a monthly basis the incremental O&M expenses, payroll taxes and capital revenue requirements (i.e., depreciation, return on rate base, property taxes and incomes taxes) in the ACESBA associated with the activities as approved by the Commission for the Projects. The ACESBA would separately account for and record the revenue requirements for the Projects.

The total cost of the Projects would be transferred from the ACESBA to the NSGBA. Additionally, SCE would record in the NSDBA the (1) proxy net revenues for the Tesla projects using the above-described methodology based on D.15-11-041, and (2) actual net revenues from the CAISO market for the GE Projects in the NSGBA to complete the net cost calculation. To ensure customers only pay actual Project revenue requirements, SCE would transfer the December 31st recorded ACESBA balance to the NSGBA at each year-end. Any difference between the revenue requirements in rates and actual recorded revenue would be trued up in the NSGBA.

With regard to collecting capital and O&M expenditures that exceed the forecast provided in this Application, SCE does not seek to recover amounts above the presently forecasted amount without a later opportunity for the Commission to perform a reasonableness review. If the actual capital costs later

exceed the forecasted expenditure, SCE proposes to file a Tier 3 advice letter for recovery of the costs that exceed the forecast, subject to an after-the-fact reasonableness review of the costs above the forecasted amounts. Likewise, any actual O&M costs that exceed the forecast would be subject to review in SCE's annual ERRA application.

TURN opposes both of SCE's ratemaking proposals. TURN argues that rate recovery must be limited to "reasonable" costs rather than "actual" costs, and that all costs must be deemed reasonable to warrant rate recovery. TURN argues that SCE should not be allowed to recover actual costs to the extent they exceed the amounts found reasonable here, absent a showing and determination that such amounts are reasonable.

TURN proposes that a single review and determination of reasonableness of the costs be conducted as the basis for rate recovery. TURN presents two alternative ratemaking approaches:

- (1) adopt an authorized revenue requirement based on the recorded and forecasted costs found reasonable, and limit SCE's rate recovery for the project to that authorized amount, without opportunity for future adjustment if recorded costs exceed authorized amounts.

Or

- (2) adopt an authorized revenue requirement based on recorded and forecasted costs found reasonable. If the final recorded actual costs exceed the amounts authorized here, SCE may seek rate recovery of the above-authorized amounts in a future General Rate Case or other appropriate proceeding. To the extent the Commission accepts that showing of reasonableness, it could permit rate recovery of the above-authorized amounts at that time.

TURN also opposes SCE's proposal for the ACESBA. TURN argues that although SCE described how the balancing account would work, it did not

address the merits of adopting that ratemaking mechanism over having the utility continue to record costs in its Aliso Canyon CEMA. While SCE contended that the balancing account would provide transparency of costs, ease of audit and preventing an authorized cap from being exceeded. TURN argues, however, that there is no explanation of why a balancing account would be superior to the existing Aliso Canyon CEMA for purposes of providing cost transparency or ease of audit.

TURN also argues that any finding of cost reasonableness in this proceeding should come with the caveat that the Commission may later determine that some or all of these costs should be recovered from SoCalGas and its shareholders, rather than from SCE customers. TURN thus requests that the Commission require that costs for projects procured pursuant to Resolution E-4791 be separately tracked so that the Commission may, at a later date, assign cost responsibility for the Projects to SoCalGas, if the Commission determines it is warranted to do so.

TURN does not propose that the Commission make a final determination now as to the ultimate cost responsibility for these projects (between SCE and SoCalGas) nor is TURN proposing a delay in SCE's ability to recover the costs found reasonable and in compliance with Resolution E-4791. TURN merely seeks Commission identification of the storage project-related costs as candidates for a cost-responsibility discussion and determination in a future proceeding, thereby hopefully avoiding future dispute as to whether such costs are appropriately included in that future proceeding.

ORA claims that SCE's proposed ratemaking would enable recovery of costs in excess of the amounts determined to be reasonable here, without having to demonstrate the reasonableness of the final amount of costs to be recovered in

rates (for O&M expenses), or by relying on an advice letter to establish reasonableness (for capital expenditures).

In response to TURN and ORA's concerns, SCE states that it does not anticipate actual capital expenditures or O&M costs will exceed forecasted costs set forth in its Application. If, however, actual capital expenditures or O&M costs do exceed amounts authorized, SCE agrees it must submit the above-authorized amounts for a reasonableness review in a future GRC or other appropriate proceeding.

SCE argues that the ACESBA would be consistent with TURN's proposal to track costs in the event the Commission considers SoCalGas' responsibility for such costs in a future proceeding. SCE also claims to already be tracking costs it incurs as a result of the operational constraints at the Aliso Canyon Storage facility in this manner, in compliance with D.16-08-024. Finally, SCE argues that TURN's proposal to continue to use the CEMA in lieu of establishing the new ACESBA to account for the Tesla and GE Project-related revenue requirements is unreasonable and not a proper use of CEMA.

3.7.2. Discussion

We authorize SCE to recover its costs for the Tesla and GE Projects in the following manner. SCE is authorized to establish the ACESBA as a separate balancing account to record the Tesla and GE Projects' development O&M expenses and capital-related revenue requirements in accordance with the recurring accounting entries as SCE has proposed. SCE shall include an initial entry for the transfer of SCE-owned ACES-related activity recorded in the Aliso Canyon CEMA until remaining cost recovery can be transitioned to SCE's GRC base rates in its 2021 GRC.

We agree with SCE that utilizing the CEMA to continue tracking ACES-related costs would be outside the scope of what CEMA was intended to include. The Aliso Canyon CEMA was created to capture unforeseen costs incurred as a result of the moratorium not already captured in other SCE balancing accounts. As noted by SCE, a stand-alone ACES balancing account ensures SCE will record and recover only Tesla and GE Project-related revenue requirements through the account. The ACES balancing account will provide transparency, ease of audit and recovery of the costs found reasonable in this proceeding. We shall also require, however, that if actual capital expenditures or O&M costs of the Projects exceed the amounts found reasonable, as authorized herein, SCE shall identify and submit the excess above-authorized amounts for reasonableness review in a future GRC or other appropriate proceeding and obtain subsequent Commission approval to recover those additional amounts in rates.

We authorize SCE to include in NSG rates the estimated annual costs for the Tesla and GE Projects for the period January 1, 2018 continuing through January 1, 2020 to be recovered from all benefitting customers under CAM using the net cost calculations as SCE has proposed. We authorize SCE to recover recorded ACES balancing account activity in the NSGBA.

We make no final determination in this proceeding as to what share, if any of the Tesla and/or GE Projects costs may be ultimately found to be the responsibility of SoCalGas' shareholders. We defer to a possible future proceeding, if the Commission chooses to open a rulemaking or investigation, the issue of whether, or to what degree, SoCalGas shareholders may bear some share of such cost responsibility. We find no reason, however, to postpone SCE's cost recovery process for the Tesla and GE Projects' costs pending the

outcome of such determinations, if any, and we find that the balancing accounts adopted herein sufficiently allow for tracking of such costs. In the event that such a future proceeding finds that such a cost responsibility should apply to SoCalGas, we shall direct that the appropriate credits be applied to SCE's customers to reflect any such costs that would have already been recovered from them.

4. Comments on Proposed Decision

The proposed decision of ALJ Semcer in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. The Commission received opening comments on May 10, 2018 from SCE, ORA and TURN. SCE and SoCalGas timely filed reply comments on May 15, 2018. Upon review of opening and reply comments, the Commission makes no substantive revisions to this decision. Minor revisions to improve clarity and/or to address typographical errors have been made throughout the decision.

TURN argues in opening comments that Finding of Fact #8 should be modified to remove the word "possible" in reference to a future proceeding that will explore cost responsibility for the events regarding the Aliso Canyon natural gas well failure. It is outside the scope of this proceeding to determine the scope of a future investigation regarding Aliso Canyon. This decision will not bind the actions of a future Commission. Finding of Fact #8 remains unchanged.

ORA argues in opening comments that, in approving costs associated with the unsuccessful sites, the Commission has improperly deviated from D.07-12-052 and D.13-10-040 and did not provide the parties sufficient notice

and an opportunity to be heard, as required by Public Utilities Code Section 1708. ORA's arguments fail for several reasons.

First, nothing in D.07-12-052 or D.13-10-040 precludes SCE's recovery of costs actually incurred for unsuccessful site development under the circumstances of this case. Nor does the current decision "rescind, alter, or amend" D.07-12-052 or D.13-10-040, as those terms are used in Public Utility Code Section 1708.

In D.07-12-052, the Commission implemented the IOUs' Long-Term Procurement Plans (LTPP), and, as part of an expansive decision, generally prohibited IOUs from recovering from ratepayers any "bid development costs" associated with losing "Purchase Sales Agreements" or "Engineering Procurement Construction" bids.²¹

D.13-10-040 resulted from R.10-12-007, in which the Commission enacted the provisions of AB 2514 (Stats. 2010, ch. 469). In D.13-10-040, the Commission implemented an Energy Storage Procurement Framework and Design Program ("Storage Framework") to guide IOU energy storage procurement. In so doing, the Commission stated that "an IOU proposing utility-owned storage in any grid domain shall pursue a competitive process consistent with LTPP processes outlined in D.07-12-052."²²

However, neither decision above even purports to establish an absolute prohibition on the recovery of costs actually expended pursuant to a Commission resolution ordering expedited energy storage procurement. Both

²¹ D.07-12-052 at 207, 286, and 297.

²² D.13-10-040 at 52. It is worth noting that the current decision does not involve a straightforward instance of an "an IOU proposing utility-owned storage," since SCE was responding to Commission mandate in Resolution E-4791.

D.07-12-052²³ and D.13-10-040²⁴ contain language acknowledging exceptions to the general procurement rules they announce. Moreover, the energy procurement at issue did not originate with either the LTPP of D.07-12-052 or the Storage Framework of D.13-10-040. Instead, Resolution E-4791 required SCE to obtain storage on an expedited basis in response to the Governor's Emergency Proclamation to mitigate the effects of the moratorium on gas injections at the Aliso Canyon Gas Storage Facility.

In sum, neither the language nor the intent of D.07-12-052 and D.13-10-040 preclude cost recovery to SCE under the circumstances of this case, where SCE was tasked at the end of May 2016 by Resolution E-4791 to solicit, procure, and interconnect energy storage to the grid on an expedited basis for the coming summer and winter. Just as those decisions do not proscribe SCE's cost recovery here, this decision does not establish precedent or formal Commission policy for recovery in future procurement cases.

Second, ORA argues that the "notice" and "opportunity to be heard" requirements of Public Utilities Code Section 1708 were not followed in this case, leading to a deprivation of the parties' due process rights. As discussed, this decision does not "rescind, alter, or amend" D.07-12-052 or D.13-10-040, which developed their own frameworks for the energy storage programs they were

²³ "The Commission recognizes that there are additional factors associated with utility ownership of renewable and other loading order or non-conventional resources that have not been fully vetted in this proceeding. The appropriate treatment of UOG [utility-owned renewable generation] for accomplishing resource-specific policy goals will be identified within the appropriate proceedings, and the treatment of utility ownership of conventional generation in this LTPP decision does not prejudice those proceedings in any manner." D.07-12-052 at 197, n. 233.

²⁴ "We shall allow the IOU to procure utility-owned energy storage systems either through the Storage Framework or as authorized in other Commission proceedings." D.13-10-040 at 52.

enacting. SCE's procurement in this case was in response to Resolution E-4791 and the unexpected inoperability of Aliso Canyon, not to the general provisions of D.07-12-052 or D.13-10-040.

Moreover, ORA has been afforded more than ample notice and the opportunity to address the issue of cost recovery associated with unsuccessful sites. The issue of unsuccessful site cost recovery was raised throughout SCE's initial application and included in the scope of this proceeding (*See Scoping Memo at pp 3-4*). Indeed, ORA even argued that the issue of cost recovery for unsuccessful sites *should* be within the scope of the proceeding.²⁵ And, of course, ORA argued against unsuccessful site cost recovery in all of its briefs and prepared testimony. ORA, and all parties, had sufficient notice and an opportunity to be heard.

We conclude that SCE promptly initiated efforts to procure energy storage that would be operational by the expedited deadline set by Resolution E-4791, which required SCE to conduct an expedited solicitation and "take all reasonable steps to expedite the interconnection processes to allow a utility-owned or a third-party owned storage resource to connect to the grid."²⁶ We also conclude that, in this instance, with the temporal requirements of Resolution E-4791, SCE's cost recovery for the development of viable sites for locating utility-owned storage, including unsuccessful site costs, is reasonable.

²⁵ "ORA has identified the following issues that should be considered in the scope of this proceeding:" "Whether SCE's request to recover expenses of \$1.1 million to conduct the ACES RFP (including costs associated with unsuccessful sites), is reasonable." ORA Protest at 1-2.

²⁶ Resolution E-4791 at 1.

5. Assignment of Proceeding

Carla J. Peterman is the assigned Commissioner and Melissa K. Semcer is the assigned ALJ in this proceeding.

Findings of Fact

1. Pursuant to Resolution E-4791, SCE was directed to execute an expedited competitive solicitation to procure energy storage to mitigate reliability concerns in the Los Angeles Basin during the summer and winter of 2016-17 due to the moratorium on gas injections into the Aliso Canyon Natural Gas Storage Facility.

2. Resolution E-4791 established a reliability-based need for in-front-of-the-meter energy storage, authorized SCE to solicit proposals for turnkey project development of design-build-and-transfer projects located at the utility's substations or on utility-owned-or-operated sites, and directed SCE to recover those costs from all benefitting customers through the CAM.

3. The Tesla Projects and GE energy storage systems located at its Center Peaker and Grapeland Peaker were built in accordance with the Resolution E-4791 requirements.

4. The Tesla and GE Projects meet reliability needs, as identified in Resolution E-4791, for the benefit of all customers in SCE's distribution service area.

5. The Tesla and GE Projects are consistent with the parameters of Resolution E-4791 for energy storage resources to mitigate an outage risk associated with the partial shutdown of the Aliso Canyon Natural Gas Storage Facility.

6. The Tesla and GE Projects are consistent with the Energy Storage Procurement Framework adopted in D.13-10-040.

7. SCE's forecast total cost of capital expenditures for construction (filed under seal), and the \$4.5 million in forecast O&M expense for the Tesla Projects (from project initiation through 2020) are reasonable.

8. SCE's forecast total cost of capital expenditures for construction (filed under seal), and \$0.9 in forecast O&M expense for the GE Projects (from project initiation through 2020) are reasonable.

9. SCE's expenses of \$1.1 million to conduct the ACES RFP (including costs of \$551,000 associated with unsuccessful sites) are reasonable.

10. The Tesla Projects can provide 20 MW of RA, 20 MW of spinning reserve (without burning gas), and 20 MW of non-spinning reserve.

11. The GE Projects provide utility customers with an incremental resource RA benefit of 1.075 MW independent of the Peakers and provide significant, non-RA, reliability benefits. Each EGT adds the capability to provide immediate response to load demands with 10 MW of instantaneous energy and can provide 50 MW of ancillary services.

12. SCE could not have used a competitive solicitation for the GE Projects because the GE Projects installed in the SCE-owned Peakers used a unique proprietary technology only available from GE, and the expedited operational deadline imposed in Resolution E-4791 precluded a competitive solicitation given the development timeline for those projects.

13. No safety issues have been identified that would preclude approval of the application on the terms ordered in this decision.

14. The Tesla Projects, totaling 20 MW, and the GE Projects, totaling 20 MW, count towards satisfying a portion of SCE's energy storage targets, as authorized by Resolution E-4791 and consistent with D.13-10-040.

15. To the extent that SCE continues to have a minimum LCR requirement in the West Los Angeles Basin, the Tesla and GE Projects may satisfy those requirements.

16. The adopted ratemaking procedures set forth in the ordering paragraphs of this decision to implement cost recovery of the Tesla and GE energy storage project costs, and utilizing the CAM, offer a just and reasonable means of cost recovery in accordance with ratepayer interests.

17. ORA's opening and reply briefs contain confidential information as deemed by Commission orders and decisions.

18. All matters of A.17-03-020 are resolved by this decision.

Conclusions of Law

1. SCE should be authorized to recover the costs of the Tesla and GE Projects identified in its application in accordance with the ordering paragraphs of this decision.

2. SCE should be authorized to establish the ACESBA to record its actual costs for Tesla and GE Project development O&M expenses and capital-related revenue requirements until remaining cost recovery can be transitioned to SCE's base rates beginning in SCE's 2021 GRC. The authorized entries should include an initial entry for the transfer of SCE-owned ACES-related recorded activity in the Aliso Canyon CEMA.

3. SCE should be authorized to recover costs using the CAM because the storage projects were procured to ensure system reliability and benefit all customers.

4. To determine the proxy net revenues for cost recovery of the Tesla projects, SCE should be authorized to utilize the methodology as described in the Joint Memorandum of Understanding adopted in D.15-11-041.

5. For cost recovery of the GE EGT Projects, SCE should be authorized to use a modified CAM above-market true-up calculation to ensure that all financial benefits of the EGTs, such as spinning reserve revenues, are recognized. In this manner, forecasted net costs used for setting prospective rates will be the same as those used in the Energy Resource Recovery Account forecast.

6. The Tesla Projects totaling 20 MW and the GE Projects totaling 20 MW, should count towards satisfying a portion of SCE's energy storage targets, as authorized by Resolution E-4791 and consistent with D.13-10-040, and to the extent a need is identified, should qualify for LCR credits pursuant to D.13-02-015 and D.14-03-004.

7. No Commission-issued certificate or CEQA analysis is required in connection with SCE's implementation of the Tesla and GE Projects pursuant to GO 131-C.

8. No final determination should be made in this proceeding as to what share, if any of the Tesla and/or GE Projects costs may be ultimately found to be the responsibility of SoCalGas shareholders. Such determinations should be deferred to a possible future proceeding regarding whether, or to what degree, SoCalGas shareholders may bear such cost responsibility. Pending the results of such future proceeding, SCE electric ratepayers should receive proper credit for any share of costs they have paid that is later determined to be the responsibility of SoCalGas.

9. The Rebuttal Testimony (Ex. SCE-02 and SCE-02C) submitted by Skeins is procedurally appropriate, should be received into evidence, and be given due evidentiary weight.

10. Redacted information in ORA's opening and reply briefs (confidential versions) should be deemed confidential.

11. A.17-03-020 should be closed.

O R D E R

IT IS ORDERED that:

1. Southern California Edison Company is granted authority to recover the recorded and forecast costs of the Tesla Projects and General Electric Projects, as set forth in its application, in accordance with the ordering paragraphs of this decision.

2. Southern California Edison Company shall file a Tier 2 advice letter within 20 days of the effective date of this decision to implement the authorizations granted and directed in the ordering paragraphs of this decision.

3. Southern California Edison Company (SCE) is authorized to include in its New System Generation (NSG) rates the approved costs for the Tesla and General Electric Projects covering the period beginning effective January 1 of 2018, and continuing until the Tesla and General Electric Projects are included in SCE's 2021 General Rate Case Test Year. Such NSG rates shall be recovered from all benefitting customers using the Cost Allocation Mechanism using the net cost calculations set forth in Ordering Paragraphs 6 and 7.

4. Southern California Edison Company (SCE) is authorized to establish the Aliso Canyon Energy Storage Balancing Account (ACESBA) to record the Tesla and General Electric Projects' actual revenue requirements. The ACESBA will separately account for and record the revenue requirements for the Tesla Projects and the General Electric Projects. SCE must include an initial entry to transfer SCE-owned Aliso Canyon Energy Storage-related recorded activity in the Aliso Canyon Catastrophic Event Memorandum Account. The ACESBA

shall be used until the remaining cost recovery can be transitioned to SCE's General Rate Case base rates in SCE's 2021 General Rate Case.

5. Beginning with the implementation of this decision, and continuing on a monthly basis thereafter, Southern California Edison (SCE) is authorized to record Tesla and General Electric (GE) Project cost entries into the Aliso Canyon Energy Storage Balancing Account (ACESBA) as follows:

- a. An initial transfer of the SCE-owned Aliso Canyon Energy Storage-related recorded activity in the Aliso Canyon Catastrophic Event Memo Account (debit);
- b. Actual incremental Operations and Maintenance costs (debit), calculated on recorded expenses;
- c. Applicable labor loadings (debit) based on General Rate Case authorized rates;
- d. Capital-related revenue requirements (debit), calculated on actual rate base amounts and using the most recent adopted return on rate base; and
- e. The total cost of the Tesla Projects and GE Projects, will be transferred from the ACESBA to the New System Generation Balancing Account (NSGBA). Additionally, proxy net revenues for the Tesla Projects, and actual California Independent System Operator revenues for the GE Projects, will be recorded in the NSGBA.

6. Recorded Aliso Canyon Energy Storage balancing account cost activity shall be recovered through the New System Generation Balancing Account.

7. In order to determine the proxy net revenues of the Tesla Projects, Southern California Edison shall use the methodology as described in the Joint Memorandum of Understanding of the joint parties, as adopted in Decision 15-11-041.

8. To determine cost recovery for the General Electric Enhanced Gas Turbine Projects, Southern California Edison Company shall use a modified Cost

Adjustment Mechanism above-market true-up calculation to ensure that all financial benefits of the Enhanced Gas Turbines, such as spinning reserve revenues, are recognized. In this manner, forecast net costs used for setting prospective rates will be the same as those used in the Energy Resource Recovery Account forecast, and the true-up, which will be calculated using actual costs and market.

9. Subsequent reasonableness review of the Tesla and General Electric Projects' expenses shall be limited to ensuring that all recorded balancing account entries related to the Tesla and General Electric Projects are stated correctly and are consistent with Commission decisions.

10. Southern California Edison Company shall recover all costs incurred in the development of viable sites for locating utility-owned storage systems from all benefiting customers, including unsuccessful site labor and non-labor costs.

11. If the actual capital expenditures or operating and maintenance expenses of the Tesla and General Electric Projects approved in this decision exceed the amounts authorized in this decision, Southern California Edison Company shall submit the above-authorized amounts for a reasonableness review in a future General Rate Case or other appropriate proceeding and obtain Commission approval to recover those amounts in rates.

12. The confidential versions of the opening and reply briefs of the Office of Ratepayer Advocates are filed under seal for three years after the date of this order. During this three-year period, the documents shall remain under seal and confidential, and not be made accessible or disclosed to anyone other than Commission staff or on the further order or ruling of the Commission, assigned Commissioner, the assigned Administrative Law Judge (ALJ), the Law and Motion Judge, the Chief Judge, or the Assistant Chief ALJ, or as ordered by a

court of competent jurisdiction. If Southern California Edison Company (SCE) believes it is necessary for any of this information to remain under seal longer than three years, SCE, or if applicable, the Office of Ratepayer Advocates shall file a motion stating the justification of further withholding the information from public inspection. Such motion shall be filed at least 30 days before expiration of today's limited protective order.

13. Application 17-03-020 is closed.

This order is effective today.

Dated June 21, 2018, at San Francisco, California.

MICHAEL PICKER

President

CARLA J. PETERMAN

LIANE M. RANDOLPH

MARTHA GUZMAN ACEVES

CLIFFORD RECHTSCHAFFEN

Commissioners