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August 15, 2016

**ADVICE 3454-E
(U 338-E)**

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA
ENERGY DIVISION

SUBJECT: Submission of Santa Paula 1 Contract for Expedited Review
and Approval by September 15, 2016

I. INTRODUCTION

A. Purpose of the Advice Letter

Southern California Edison Company (“SCE”) submits this Advice Letter pursuant to California Public Utilities Commission (“Commission” or “CPUC”) Resolution E-4791 (“Aliso Canyon Resolution” or “Resolution”) seeking approval of an Energy Storage (“ES”) contract for Resource Adequacy capacity (“RA”) (the “Santa Paula 1 Contract”) between SCE and Western Grid Development LLC (“Seller” or “Western Grid”), procured as a result of SCE’s Aliso Canyon Energy Storage Request For Offers.

The following table summarizes the Santa Paula 1 Contract:

Seller	Technology Type	Size (MW)	Initial Delivery Date	Term of Agreement (Years)
Western Grid Development LLC	Lithium Ion	5	12/31/2016	3

Given the expedited timeframe for resources to come online as provided in the Aliso Canyon Resolution, and in light of the fact that SCE has consulted with its Cost Allocation Mechanism (“CAM”) Group, Independent Evaluator, and the Energy Division regarding the Santa Paula 1 project, SCE requests that the Commission shorten the protest period for this Advice Letter to four (4) calendar days, issue a draft resolution approving the Santa Paula 1 Contract by no later than September 5, 2016, shorten the comment period on the draft resolution to five (5) calendar days, and issue a final resolution containing findings in the form requested in this Advice Letter by **September 15, 2016**.

Expedited consideration of this Advice Letter is consistent with Rule 1.3 of General Order (“GO”) 96-B, which provides that in “in a specific instance, and for good cause, the Director of an appropriate Industry Division may shorten the protest and reply period [for an advice letter] under the General Rules.” The expedited schedule for approval of this Advice Letter is appropriate to ensure that the Santa Paula 1 project can be operational by December 31, 2016, as required by the Resolution. Expedited approval is the only way to meet the objective of the Resolution and Governor Brown’s Emergency Proclamation to “take all actions necessary to ensure the continued reliability” as a result of the Aliso Canyon emergency, including an “expedited competitive solicitation to procure energy storage” that can be operational by December 31, 2016 to “help mitigate an outage risk in the coming months due to limited availability of gas supplies from Aliso Canyon.”¹ Expedited disposition of this Advice Letter is also consistent with what was requested, and granted, for a similar advice letter filed by San Diego Gas & Electric for approval of contracts to mitigate Aliso Canyon reliability impacts.²

In accordance with GO 96-B, the confidentiality of information included in this Advice Letter is described below. This Advice Letter contains both confidential and public appendices as listed below.

Confidential Appendix A:	Project Summary
Confidential Appendix B:	ACES Solicitation Overview
Confidential Appendix C:	Valuation Overview
Confidential/Public Appendix D:	Independent Evaluator Report
Confidential Appendix E:	Comparison of the Santa Paula 1 Contract to the ACES Solicitation Energy Storage Resource Adequacy Purchase Agreement with Pre-RA Delivery Period
Confidential Appendix F:	Santa Paula 1 Contract
Confidential Appendix G:	Consistent Evaluation Protocol Spreadsheet

¹ Resolution at 2, 4.

² See Letter from Director of Energy Division to Service List for AL 2924-E dated July 20, 2016 (reducing protest period to four days pursuant to Rule 1.3 of General Order 96-B).

Appendix H: Confidentiality Declaration

Appendix I: Proposed Protective Order

B. Background

On January 6, 2016, Governor Brown proclaimed a state of emergency in Los Angeles County due to the partial shutdown of the Aliso Canyon Natural Gas Storage Facility (“Aliso Canyon”). The Proclamation ordered the Commission, the California Energy Commission (“CEC”), and the California Independent System Operator (“CAISO”) to “take all necessary actions to ensure the continued reliability of natural gas and electricity supplies in the coming months during the moratorium on gas injections into the Aliso Canyon Storage Facility.”

On April 5, 2016, the Commission, CEC, CAISO, and the Los Angeles Department of Water and Power (“LADWP”) released an Action Plan for preserving gas and electric reliability in the Los Angeles Basin. This Action Plan predicted that the Los Angeles area could face up to 14 days of electric service interruptions this summer due to gas curtailments.

On May 26, 2016, the Commission adopted the Aliso Canyon Resolution, identifying energy storage systems as one potential solution to the reliability risks created by the partial shutdown of Aliso Canyon, and ordering SCE to hold a competitive solicitation for energy storage contracts. Specifically, the Resolution provided that:

1. SCE may procure storage resources South of Path 26 within its service territory, and to the extent the resources also qualify for Local Capacity Requirements (“LCR”) credit pursuant to Decision (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;
2. SCE shall solicit in-front-of-the-meter (“IFOM”) energy storage that must be operational by December 31, 2016;
3. All resources procured under the Aliso Canyon Energy Storage Solicitation must interconnect in a location that helps alleviate electric reliability concerns associated with the partial shutdown of Aliso Canyon and qualify for Resource Adequacy credit;
4. Resources procured in the Aliso Canyon Energy Storage Solicitation should be price-competitive with previous solicitations in which SCE has awarded contracts to energy storage resources, adjusting for different contract terms such as contract length and expedited delivery date impacts; and
5. SCE may enter into contracts with terms of 10 years or less.

The Commission further stated that SCE may seek approval of, and obtain cost recovery treatment, Energy Storage credit, and LCR credit for any contracts resulting from the Aliso Canyon Energy Storage Solicitation through a Tier 3 Advice Letter.³ Lastly, the Commission found that any procurement to alleviate reliability risks associated with the partial shutdown of Aliso Canyon will benefit all customers connected to the grid, and therefore all customers must bear the costs of the contracts resulting from the Aliso Canyon Energy Storage Solicitation. Specifically, CAM, as adopted by the Commission in D.15-11-041 and applicable to IFOM energy storage, shall apply to contracts resulting from the Aliso Canyon Energy Storage Solicitation.

On May 27, 2016, SCE launched its Aliso Canyon Energy Storage Request for Offers (“ACES RFO”). Consistent with the Resolution, SCE sought IFOM projects located South of Path 26 in SCE’s service territory that can provide Resource Adequacy (“RA”) for up to a 10-year term, and can reach commercial operation by December 31, 2016.⁴

C. Subject of the Advice Letter

The Santa Paula 1 Contract is for a 3-year, 5 megawatt (MW) energy storage project utilizing lithium-ion battery technology (the “Facility”). The Contract has an initial Delivery Date of December 31, 2016 and will serve as a bridge agreement to an existing RA-Only energy storage project, with a total of 15 MW, executed in SCE’s 2014 Energy Storage RFO with an Initial Delivery Date of January 1, 2020 (the “2014 ES RFO Agreement”). During the Pre-RA Delivery Period, the Project will submit economic bids for energy and/or ancillary services at the Project’s full capacity every trading day into the CAISO day-ahead and

³ The Resolution also authorized SCE to pursue proposals for turnkey project development of “build and transfer” projects located at the utility’s substations or on utility-owned or operated sites. SCE is required to submit an application for reasonableness review of utility-owned storage projects within 90 days after the operational start date of such projects. See Resolution at 12.

⁴ Concurrently with the ACES RFO, SCE launched a separate Request for Proposals for “Design, Build, and Transfer” projects (“DBT RFP”) that would result in utility-owned energy storage facilities to meet the Aliso Canyon reliability needs. Such project(s), if any, would be proposed for approval in a separate application filed in 2017.

real-time markets consistent with what a Resource Adequacy Resource would bid, as described in more detail in Section F, below.

The system is designed to provide four hours of discharge at the stated capacity, thus providing RA for the 5 MW of contract capacity throughout the term of the Santa Paula 1 Contract.⁵

The Santa Paula 1 project shares the same location, interconnection substation and developer as the project described in the 2014 ES RFO Agreement. The project is located at 132 N. 13th St., Santa Paula, CA 93060. The Facility will be interconnected to SCE's Petit circuit out of the Wakefield substation and has a service voltage of 16 kilovolts (kV). The project developer is Western Grid.

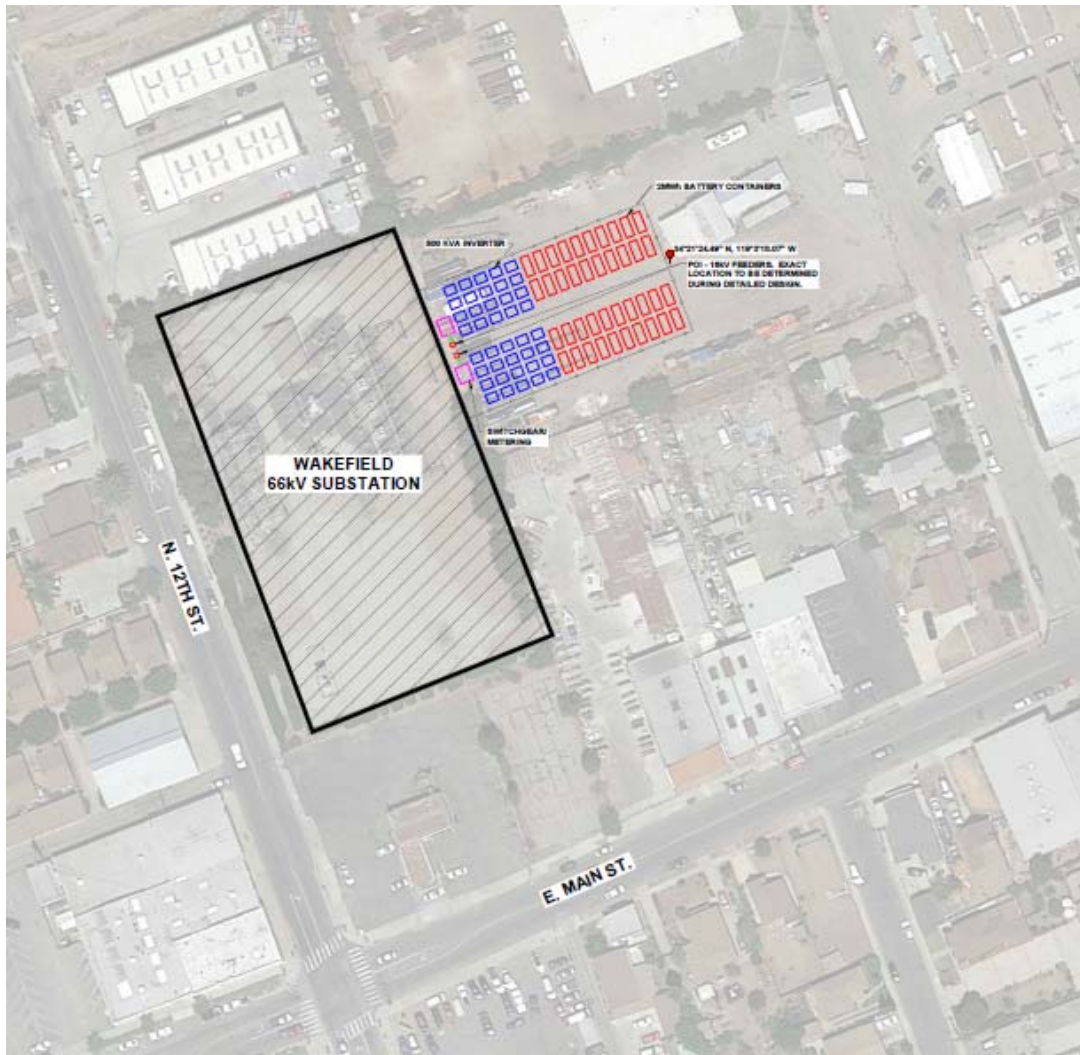
D. General Project Description

Project Name	Santa Paula 1
Technology	Lithium Ion
Capacity (MW)	5
Initial Delivery Date	12/31/2016
RA Delivery Deadline	06/01/2017
Expected Delivery Period (Years)	3 years
Vintage (New / Existing / Repower)	New
Location (City and State)	Santa Paula, CA
Qualify for Local Capacity Requirements Credit (Yes/No)	No

E. Project Location

The Facility is located on approximately 1.3 acres with an address of 132 N 13th St in the City of Santa Paula, Ventura County, CA. The centroid of the site is 34°21'24.49" N and 119°3'18.07" W. The site is dedicated to the Facility use only.

⁵ As noted previously, 5 MW of capacity is contracted for under the Santa Paula 1 Contract, while 15 MW is contracted for under the 2014 ES RFO Agreement.



F. General Deal Structure

The structure of the Santa Paula 1 Contract is based on the ACES Solicitation *Pro Forma* Energy Storage Resource Adequacy Purchase Agreement with Pre-RA Delivery Period (“*Pro Forma*”). The Product that SCE will purchase and receive during the RA Delivery Period is all system, local and flexible RA attributes from the Project once the Project receives full capacity deliverability status and becomes a Resource Adequacy Resource. The Product that SCE will purchase and receive during the Pre-RA Delivery Period (the period from achievement of the Initial Delivery Date until the RA Delivery Date) is Seller’s obligation to submit bids for energy and/or ancillary services at the Project’s full capacity every trading day into the CAISO day-ahead and real-time markets consistent with the requirements of a Resource Adequacy Resource. Essentially, the Pre-RA Delivery Period Product is the available capacity that a

Resource Adequacy Resource would provide, but without the RA compliance instrument. To the extent the Seller does not bid into the markets in this manner on any trading day, it receives no contract payments from SCE for the trading day. The Product SCE will purchase during the Pre-RA Delivery Period is consistent with the Resolution because it provides additional available capacity to the CAISO Grid to help alleviate electric reliability concerns associated with the partial shutdown of Aliso Canyon.

The Seller maintains the rights to all revenue from energy and ancillary services from the Project for the entire term of the Santa Paula 1 Contract. The Seller is responsible for all CAISO scheduling coordinator functions, including submitting all energy and/or ancillary services bids into the CAISO markets.

G. Confidentiality

SCE is requesting confidential treatment of Appendices A, B, C, E, F, and G, and the confidential version of Appendix D to this Advice Letter. The information for which SCE is seeking confidential treatment is identified in the Confidentiality Declaration attached as Appendix H. The confidential version of this Advice Letter will be made available to appropriate parties (in accordance with SCE's Proposed Protective Order, as discussed below) upon execution of the required non-disclosure agreement. Parties wishing to obtain access to the confidential version of this Advice Letter may contact Amber Dean Wyatt in SCE's Law Department at Amber.Wyatt@sce.com or 626-302-6961 to obtain a non-disclosure agreement. In accordance with GO 96-B, a copy of SCE's Proposed Protective Order is attached as Appendix I. It is appropriate to accord confidential treatment to the information for which SCE requests confidential treatment in the first instance in the advice letter process because such information is entitled to confidentiality protection pursuant to D.06-06-066,⁶ and is required to be filed by advice letter pursuant to Resolution E-4791. SCE would object if the information were disclosed in an aggregated format.

The information in this Advice Letter for which SCE requests confidential treatment, the pages on which the information appears, and the length of time for which the information should remain confidential are provided in Appendix H. This information is entitled to confidentiality protection pursuant to D.06-06-066 (as provided in the Investor-Owned Utility ("IOU") Matrix).⁷ The specific provisions of the IOU Matrix that apply to the confidential information in this Advice Letter are identified in Appendix H.

⁶ D.06-06-066 at 80 (Ordering Paragraphs 1 and 2).

⁷ *Id.* at Appendix 1.

II. CONSISTENCY WITH COMMISSION DECISIONS

A. Aliso Canyon Resolution

As noted above, the Resolution required that SCE solicit IFOM energy storage South of Path 26 in SCE’s service area that can reach commercial operation by December 31, 2016. Additionally, the Resolution required SCE to conduct the ACES RFO as a “one round” competitive solicitation, allowing bidders to submit pricing at the offer deadline. Further, the Commission required that any energy storage resources procured in the ACES RFO should be price-competitive with previous solicitations in which SCE has awarded contracts to energy storage resources, adjusting for different contract terms. As discussed in further detail below, SCE’s ACES RFO, and the contracts executed as a result of this RFO, meet the Resolution’s requirements.

1. The ACES RFO Was Reasonable, and Meets the Resolution’s Requirements

As noted above, on May 26, 2016, the Commission adopted the Aliso Canyon Resolution, ordering SCE to hold a competitive solicitation for energy storage contracts. SCE launched the ACES RFO the next day, on May 27, 2016. The ACES RFO schedule, as revised during the ACES RFO, is shown below:

<u>Schedule Event</u>	<u>Day of Week</u>	<u>Date</u>
RFO Launch - SCE posts RFO Instructions, Pro Forma agreements and other RFO documents on the RFO website	Friday	May 27, 2016
RFO Bidder's Conference - SCE hosts RFO bidder's conference	Thursday	June 2, 2016
SCE to consult with CAM concerning its proposed ACES RFO valuation & selection	Thursday	June 16, 2016
Offer Submittal Deadline - Sellers to submit offers and required documentation	Friday	June 17, 2016
SCE to consult with CAM concerning its proposed ACES RFO shortlist	Wednesday	July 6, 2016
Selection Notification - Date SCE to advise all Sellers on the selection status of their Offers	Wednesday	July 6, 2016
Negotiation Deadline - SCE and Short-Listed Sellers complete negotiations of the Final Agreements	Friday	July 29, 2016
SCE to consult with CAM concerning its proposed ACES RFO final agreement	Thursday	August 4, 2016
Execution Deadline – execution of final agreements	Friday	August 5, 2016 [§]

[§] Execution of the Western Grid Contract was delayed until August 11, 2016.

Although the milestones in the schedule generally follow a standard solicitation, the timeframes between milestones were necessarily accelerated from SCE's normal RFO processes.

SCE designed the solicitation to be expedited in a number of ways. First and foremost, SCE solicited for RA only, which is a simpler product to contract for and value. In addition, the RFO was designed to be a "one step" process, in which bidders submitted final pricing without an opportunity to refresh based on subsequent negotiations.⁹ This process can be accommodated if the product is relatively straightforward, as is the case with RA.

As is standard practice, with launch, SCE hosted a website that contained all pertinent information on the solicitation and sent out an email notification to a prospective bidders list that SCE has developed over time that contains more than 3,000 email addresses. Additionally, SCE hosted a bidder's conference that was attended by various parties in which SCE described the products and processes of the ACES RFO.

Additional information concerning the ACES RFO can be found in Appendix B.

2. The Santa Paula 1 Project Meets the Resolution's Requirements

The Santa Paula 1 Project meets the Resolution's requirements. First, the Santa Paula 1 Contract is for a term of 3 years, which is within the 10-year term limitation prescribed by the Resolution. Additionally, the project has an Expected Initial Delivery Date of December 31, 2016 and it serves as a bridge agreement to an existing 2014 ES RFO Agreement that will begin delivery on January 1, 2020. The Project is also located south of Path 26 and within SCE's service area. Further, as described in more detail in Section II.A.3 and Appendix C, the Santa Paula 1 Project is price competitive with previous solicitations in which SCE has awarded contracts to energy storage resources, adjusting for its expedited delivery date.

The Resolution also required resources to qualify for RA credit.¹⁰ One specific accommodation that SCE made for the ACES RFO focused on the ability for projects to obtain RA by the online date. In SCE's standard contract, RA is to be delivered coincident with the facility coming online. SCE recognized that it would be feasible for projects to come online by the required 12/31/16 date and provide reliability benefits to the system, but not be certified by the CAISO as a Resource Adequacy Resource until sometime later. With the expedited nature of the ACES RFO, limiting the eligibility requirements to projects that could obtain full capacity deliverability and RA by 12/31/16 would likely have resulted in few, if any,

⁹ Resolution at 5.

¹⁰ See Resolution at 4.

projects being able to bid into the RFO. As such, SCE developed an alternative in which a resource could come online by December 31, 2016, but could be certified for RA at a later date (deemed "RA after Online Date"). This accommodation is included in the Santa Paula 1 Contract, allowing the Project to meet the dual Resolution requirements of commercial operation by December 31, 2016 and qualifying for RA credit at a further agreed upon date.

The Santa Paula 1 Project has a RA Delivery Date of June 1, 2017, at which time the Project will be fully deliverable and comply with CAISO's RA compliance obligations. During the period of time that the Project is not fully deliverable, the Santa Paula 1 Contract requires Western Grid to bid energy and/or ancillary services into the CAISO markets for the hours that coincide with CAISO's RA availability requirements. Providing energy and ancillary services to the market consistent with the requirements for RA. To the extent Western Grid does not bid into the markets in this manner, it will not receive any contract payments from SCE. For the remaining term of the Santa Paula 1 Contract, the Project is ascribed its full RA value.

3. The Santa Paula 1 Contract is Priced Competitively With Previous Solicitations in Which SCE Has Awarded Contracts to Energy Storage Resources

Additionally, as required by the Resolution, SCE developed a "Price Competitiveness Benchmark" to ensure that offers were "price competitive with previous solicitations in which SCE has awarded contracts to energy storage resources," adjusting for the expedited delivery date necessitated by the Aliso Canyon emergency. In order to compare the RA only offers being solicited in the ACES RFO, SCE developed the RA premium, a quantitative metric, as its "Price Competitiveness Benchmark." The RA premium was defined to represent an estimate of an energy storage RA-only cost inclusive of network upgrades. To accomplish this, SCE calculated the RA premium observed in past solicitations by subtracting forecast energy and ancillary services net benefits from contract and network upgrade costs.¹¹

To develop the RA premium used as SCE's "Price Competitiveness Benchmark", SCE evaluated all of its RFOs in which IFOM energy storage was procured: (1) 2013 LCR RFO; (2) 2014 ES RFO; and (3) PRP 2. After considering all of the available data from aforementioned RFOs, the final analysis was based on the set of final IFOM energy storage offers from the LCR and 2014 ES RFOs. The offers from the PRP 2 were not included in the final analysis due to the pilot nature of the program coupled with its strict location-specific requirement.

¹¹ For RA-only offers from past solicitations the forecast energy and ancillary services net benefits were zero.

SCE considered all of the IFOM storage offers received in its LCR and 2014 ES RFOs, and calculated their respective RA premium and contract-specific “lead time” – the time that a counterparty would have to build and operationalize their energy storage project after receiving contract approval. Using the RA premium versus “lead time” data, SCE was able to construct a functional relationship between RA premium and project “lead time.” Using this relationship, a five month “lead time” was used to extrapolate an expected RA Premium for the ACES RFO.

Given the expected RA premium for the ACES RFO, the Santa Paula 1 Contract is priced competitively with previous solicitations in which SCE has awarded contracts to energy storage resources. Additional information concerning the Price Competitive Benchmark is provided in Confidential Appendix C.

B. Commission’s Energy Storage Procurement Framework

The Commission’s first decision addressing energy storage established the policies and mechanisms for procurement of energy storage pursuant to AB 2514.¹² With the goal of market transformation, the Commission set procurement targets to encourage the development and integration of cost-effective energy storage systems into California’s electric system. As part of this framework, the Commission established three guiding principles: (1) optimization of the grid, including peak reduction, contribution to reliability needs, or deferment of transmission and distribution upgrade investments; (2) the integration of renewable energy; and (3) the reduction of greenhouse gas emissions.¹³ All energy storage procured must meet one or more of these operational requirements.

The Santa Paula 1 Project meets these operational requirements. First, the Project will provide CAISO with a flexible resource that it can dispatch to meet Aliso Canyon-related reliability needs. During the Pre-RA Delivery Period, the Project is expected to submit economic bids for energy and ancillary services for every trading day in the CAISO’s day-ahead and real-time markets during time periods that mirror the CAISO’s availability obligations for Resource Adequacy Resources.

Further, during the RA Delivery Period, the Santa Paula 1 Project is expected to similarly provide CAISO with a flexible resource through the “must offer obligation.”

Additionally, if the threat of service interruptions due to Aliso Canyon passes, the Santa Paula 1 Project will be capable of helping to integrate renewables and

¹² D.13-10-040 at 2.

¹³ *Id.* at 9-10.

providing energy during times of peak load. Fundamentally, the Santa Paula 1 Project can store electricity to be used at another time and provide ancillary services when needed. These attributes could potentially mitigate extreme market prices, provide necessary generation during high load scenarios, or integrate must-take renewable energy that is otherwise not needed by charging its battery system from the grid.

C. Least-Cost Best-Fit (“LCBF”) Methodology and Evaluation

SCE used a Least-Cost, Best Fit methodology (“LCBF”), as described in D.04-12-048, to value and award contracts in the ACES RFO. SCE employs a net present value (“NPV”) analysis when it evaluates offers through an RFO. This methodology is consistent with valuations performed by SCE in other solicitations, such as SCE’s 2014 ES RFO, LCR RFO, Combined Heat and Power RFOs, Renewables Portfolio Standard solicitations, and All-Source RFOs for energy and RA. The quantitative component of the valuation entails forecasting: (1) the present value of the contract benefits; (2) the present value of the contract costs; and (3) the net value between (1) and (2).

Pertaining to the present value of the contract benefits, the only quantitative benefit that was calculated is the RA value. Further, the RA value is only ascribed during the RA Delivery Period when the Project is fully deliverable and can otherwise comply with CAISO’s RA compliance obligations.

Pertaining to the present value of the contract costs, this includes fixed contract costs, debt equivalents, and transmission and distribution upgrade costs, among others.

To calculate the RA value, SCE prepared a price forecast for RA over a 10 year horizon. The RA quantity is a monthly value prescribed in the offeror’s contract. The resulting value is calculated by multiplying the quantity of qualifying RA capacity by the forecasted capacity price. Because SCE is only seeking RA, the qualifying RA capacity of energy storage resources shall be calculated in a similar manner as dispatchable resources. Energy storage systems that wish to qualify for RA must be able to dispatch their RA capacity for at least four uninterrupted hours, as prescribed in D.14-06-050.

To calculate the costs of the offers, SCE calculated the contract payment costs – i.e., the monthly capacity payments – according to the SCE’s contractual

obligations, debt equivalents, transmission and distribution upgrade costs,¹⁴ and any necessary credit and collateral cost adders.

In addition to the NPV analysis, the RA premium was calculated for each offer as described in II.A.3. SCE then compared the offers' RA premiums against the "Price Competitiveness Benchmark" to ensure that offers were "price competitive with previous solicitations in which SCE has awarded contracts to energy storage resources," adjusting for the expedited delivery date necessitated by the partial shutdown of Aliso Canyon.

Finally, SCE assessed non-quantifiable characteristics of each offer by conducting an analysis of each project's qualitative attributes. SCE considered qualitative characteristics in determining the final selection, including interconnection, financeability, and developer experience.

Following its analysis, SCE consulted with its Cost Allocation Mechanism ("CAM") Group regarding SCE's proposed final shortlist and specific evaluation criteria, as required by the Aliso Canyon Resolution. SCE then negotiated with the shortlisted sellers. At the end of the contract negotiations period, SCE sought to execute contracts with the shortlisted sellers with which SCE successfully completed negotiations.

Using SCE's LCBF methodology described above, the Santa Paula 1 project compared favorably to other proposals received in the ACES RFO, and to the Price Competitiveness Benchmark. Additional information is included in Appendix C.

D. CAM Participation

SCE's CAM group was formed through Decision 07-12-052. Participants include representatives from the CPUC's Energy Division, the Office of Ratepayer Advocates, California Coalition of Utility Employees, Union of Concerned Scientists, The Utility Reform Network, the Natural Resources Defense Council, and Community Choice Aggregation and Direct Access representatives.

SCE consulted with its CAM group concerning the design of the ACES RFO on May 18, 2016. SCE consulted with its CAM group concerning its proposed ACES RFO shortlist on July 6, 2016. SCE consulted with its CAM group on August 4, 2016 before executing contracts.

¹⁴ Interconnection studies provide estimates for the system upgrade costs. In the absence of an interconnection study, bidders can provide an interconnection upgrade cost cap.

E. IE

The IE for the ACES RFO was Merrimack Energy Group, Inc. The IE joined and contributed to a number of conference calls and negotiation sessions. In addition, the IE reviewed email traffic, the Santa Paula 1 Contract, and other documents exchanged by the parties. The IE also participated in the CAM reviews. The IE Report is included as Confidential/Public Appendix D.

III. PROJECT DEVELOPMENT STATUS¹⁵

A. Company/Development Team

Western Grid is an Independent Power Producer formed in 2013 by Green Light Energy Corp. ("GLEC") and Apex Energy Solutions, LLC ("Apex"), respectively, with the intention of assisting in the Renewable and Preferred Energy Resources initiatives throughout California.

GLEC was formed in 2009 with intentions to assist in the Renewable Energy initiatives throughout California. GLEC was founded by Mr. Jeremy Vaa, an advocate of education and green living. Since its formation, Mr. Vaa has successfully assisted in various large and small utility scale projects ranging from construction ready projects, land acquisition and small solar projects. GLEC has aligned itself with the energy and environmental firms that specialize in the analytics and feasibility of these projects.

Apex is wholly owned by Ziad Alaywan, P.E. Mr. Alaywan is the President and CEO of ZGlobal Inc. Power Engineering and Energy Solutions headquartered in Folsom, CA. With nearly 30 years of experience in engineering, market analytics and project development, Mr. Alaywan formed ZGlobal in 2005 intending to offer energy consulting services to benefit our environment, society, contribute to our community and state-wide goals.

A certified Professional Engineer, Mr. Alaywan has held numerous leadership positions, including the start-up of the CAISO, where he was involved in designing and implementing the first wholesale energy market in the West. He also managed a \$150 million development budget and obtained the Western Electricity Coordinating Council (WECC) balancing authority certification for the formation of the CAISO.

Subsequent to CAISO's successful start-up in 1998, Mr. Alaywan assumed various leadership roles including Director of Engineering and Managing Director of Market Operations. His responsibilities included the oversight of grid operator

¹⁵ Some of the information in this section was provided by Western Grid and not independently verified by SCE.

plans for the transmission system and the operation of the CAISO markets. Additionally, he worked for 10 years with Pacific Gas & Electric Company (“PG&E”) holding various positions such as Transmission Planner, Senior Operations Engineer, Transmission and Generation Dispatcher, and managed the Real Time operations of the PG&E control area.

ZGlobal is acting as the owner’s engineer for the project. In this role, ZGlobal oversees all phases of project development and implementation. ZGlobal has provided some level of development services from initial site identification and interconnection submittal through PPA negotiations and energization for renewable energy projects. ZGlobal has extensive experience with evaluating developing, and implementing renewable energy projects.

Please find below a list of projects that are completed or in progress.

Project Name/Location	Technology	Generating Capacity	Commercial Operation Date	Off Takers
Solar Gen 2 Imperial County, CA	Solar PV	150 MW	January 2014 (On-Line)	SDG&E
Seville 1 & 2 Imperial County, CA	Solar PV	50 MW	December 2015 (On-Line)	SDG&E/IID
Coachella Energy Storage Imperial County, CA	Energy Storage	30 MW	September 2016 (Under Construction)	IID
Western Grid Development Ventura County, CA	Energy Storage	15 MW	January 2019	SCE
Clarksville El Dorado County	Energy Storage	3 MW	July 2017	PG&E
ReMAT Solar Projects Central Valley, CA	Solar PV	20 MW	Various, 2015 through 2017	PG&E
Titan Solar Imperial County, CA	Solar PV	50 MW	Under Construction	IID

B. Technology Type and Level of Technology Maturity

The project contemplates Samsung battery technology and pricing coupled with General Electric Battery Energy Storage System Brilliance inverters.

The lithium ion (Li-ion) battery is a rechargeable battery where the negative electrode (anode) and positive electrode (cathode) materials serve as a host for the lithium ion (Li+). Lithium ions move from the anode to the cathode during discharge and are intercalated into (*i.e.*, inserted into voids in the crystallographic structure of) the cathode. The ions reverse direction during charging. Because lithium ions are intercalated into host materials during charge or discharge, there is no free lithium metal within a Li-ion cell. In a Li-ion cell, alternating layers of anode and cathode are separated by a porous film (separator). An electrolyte composed of an organic solvent and dissolved lithium salt provides the media for Li-ion transport. For most commercial Li-ion cells, the voltage range is approximately 3.0 volts (V) (discharged or 0 % state-of-charge [SOC]) to 4.2 V (fully charged or 100% SOC) (Portable Rechargeable Battery Association n.d.).

Lithium ion batteries were developed in the 1970s and have been in use since the 1980s. It should be noted that while the technology is relatively stable, like any other technology in the emerging field of large scale energy storage, it is continually improving and gaining efficiency.

More specific information on the technology can be found below:

Table 1 – Major Equipment Summary

Battery Modules	
Manufacturer & model	Samsung 240S116P
Number of modules	18-1.15 MVA ESSUs
Output rating	20 MW
Gross power rating	20 MVA
Module output voltage	200 V
Current Inverter	
Manufacturer & model	GE BESS Brilliance
Number of inverters	16
Inverter output	1.5 MVA
Power factor specification	Full four quadrant

The developer has a number other projects that utilize this technology.

C. Development Milestones

1. Site Control

The Facility will be located on approximately 1.3 acres with an address of 132 N 13th St in the City of Santa Paula, Ventura County, CA. The centroid of the site is 34⁰21'24.49" N and 119⁰3'18.07" W. Western Grid has a lease agreement in place with the property owner that covers the term of Santa Paula 1 Contract.

2. Equipment Procurement

Equipment procurement has already begun taking place and Western Grid anticipates delivery of major components such as batteries, transformers, and inverters to occur in October 2016.

3. Permitting/Certifications Status

The table below describes the status of all major permits or authorizations necessary for development and operation of the Santa Paula 1 Project.

Name of Permit or Lease Required	Grantor	Description of Permit or Lease	Current Status (to be filed, pending approval, approved)	Projected timeframe for approval
Conditional Use Permit	City of Santa Paula	Discretionary permit granted by City of Santa Paula	To be filed	No later than 10/1/2016
Building Permit	City of Santa Paula	Construction permit for project	To be filed	No later than 10/1/2016

4. Interconnection

The Facility will be interconnected to SCE's Petit circuit out of the Wakefield substation and has a service voltage of 16 kV.

Additional information concerning project development is provided in Appendix A.

D. Financing Plan

Information regarding financing is included in Appendix A.

IV. CONTINGENCIES AND MILESTONES

The Santa Paula 1 Project is expected to begin operation under the Santa Paula 1 Contract on December 31, 2016. Additional information concerning project development is provided in Appendix A.

V. SAFETY CONSIDERATIONS

SCE is strongly committed to safety in all aspects of its business. Energy storage sellers are responsible for the safe construction and operation of their facilities and compliance with all applicable safety regulations. SCE has taken several steps to address those issues over which it has the most visibility and control – the delivery of electricity products to SCE in a reliable, safe, and operationally sound manner. SCE's *Pro Forma* requires the Seller to operate the energy storage facility in accordance with "Prudent Electrical Practices."¹⁶

"Prudent Electrical Practices" as defined in the Santa Paula 1 Contract means those practices, methods and acts that would be implemented and followed by prudent operators of electric energy storage facilities in the Western United States, similar to the Santa Paula 1 project, during the relevant time period, which practices, methods and acts, in the exercise of prudent and responsible professional judgment in the light of the facts known or that should reasonably have been known at the time the decision was made, could reasonably have been expected to accomplish the desired result consistent with good business practices, reliability and safety.

Prudent Electrical Practices shall include, at a minimum, those professionally responsible practices, methods and acts described in the preceding sentence that comply with manufacturers' warranties, restrictions in the Santa Paula 1 Contract, and the requirements of governmental authorities, WECC standards, the CAISO and applicable laws.

Further, these provisions specifically require that Western Grid take reasonable steps to ensure that:

- (a) Equipment, materials, resources, and supplies, including spare parts inventories, are available to meet the needs of the Project;
- (b) Sufficient Operating personnel are available at all times and are adequately experienced and trained and licensed as necessary to Operate the Storage Units properly and efficiently, and are capable of responding to reasonably foreseeable emergency conditions at

¹⁶ Section 8.01(a) of SCE's 2016 ACES RFO *Pro Forma*.

the Project and Transmission Emergencies whether caused by events on or off the Site;

- (c) Preventive, routine, and non-routine maintenance and repairs are performed on a basis that ensures reliable, long term and safe Operation of the Project, and are performed by knowledgeable, trained, and experienced personnel utilizing proper equipment and tools;
- (d) Appropriate monitoring and testing are performed to ensure equipment is functioning as designed;
- (e) Equipment is not operated in a reckless manner, in violation of manufacturer's guidelines or in a manner unsafe to workers, the general public, or the PTO's electric system or contrary to environmental laws, permits or regulations or without regard to defined limitations such as, flood conditions, safety inspection requirements, operating voltage, current, volt ampere reactive ("VAR") loading, frequency, rotational speed, polarity, synchronization, and control system limits; and
- (f) Equipment and components are designed and manufactured to meet or exceed the standard of durability that is generally used for electric energy generating facilities operating in the Western United States and will function properly over the full range of ambient temperature and weather conditions reasonably expected to occur at the Site and under both normal and emergency conditions.¹⁷

Consistent with SCE's focus on safety, the Santa Paula 1 Contract also includes a provision that, prior to commencement of any construction activities on the project site, Western Grid must provide to SCE a report from an independent engineer certifying that Western Grid has a written plan for the safe construction and operation of the generating facility in accordance with Prudent Electrical Practices.¹⁸

VI. REQUEST FOR EXPEDITED REVIEW AND APPROVAL

As discussed above, the timeframe in the Resolution for resources to come online is aggressive, and expedited review and approval of this Advice Letter is

¹⁷ Definition of "Prudent Electrical Practices" and capitalized terms set forth in the definition have the meaning set forth in Appendix A of SCE's 2016 ACES RFO *Pro Forma*.

¹⁸ Section 5.01(f) of SCE's 2016 ACES RFO *Pro Forma*.

necessary to ensure the Santa Paula 1 project can be online by the end of 2016 to help mitigate outage risks due to the Aliso Canyon emergency.

Expedited consideration of this Advice Letter is consistent with Rule 1.3 of GO 96-B, which provides that in “in a specific instance, and for good cause, the Director of an appropriate Industry Division may shorten the protest and reply period [for an advice letter] under the General Rules.” Good cause exists here, because expedited approval is the only way to meet the objective of the Resolution and Governor Brown’s Emergency Proclamation to “take all actions necessary to ensure the continued reliability” as a result of the Aliso Canyon emergency, including an “expedited competitive solicitation to procure energy storage” that can be operational by December 31, 2016 to “help mitigate an outage risk in the coming months due to limited availability of gas supplies from Aliso Canyon.”¹⁹ Expedited disposition is also consistent with what is being considered for a similar advice letter filed by San Diego Gas & Electric for approval of contracts to mitigate Aliso Canyon reliability impacts.²⁰

Some stakeholder review has already been completed, as SCE has consulted with its CAM Group, Independent Evaluator, and the Energy Division regarding this project.

Accordingly, SCE requests that the Commission shorten the protest period for this Advice Letter to four (4) calendar days, issue a proposed resolution approving the Santa Paula 1 Contract by no later than September 5, 2016, shorten the comment period on the draft resolution to five (5) calendar days, and issue a final resolution containing findings in the form requested in this Advice Letter by **September 15, 2016**.

VII. REQUEST FOR COMMISSION APPROVAL

The terms of the Santa Paula 1 Contract are conditioned on the occurrence of “CPUC Approval,” as it is described in the Santa Paula 1 Contract. To satisfy that condition with respect to the Santa Paula 1 Contract, SCE requests that the Commission issue a resolution no later than September 15, 2016 containing:

1. Approval of the Santa Paula 1 Contract in its entirety;
2. A finding that the Santa Paula 1 Contract is consistent with Resolution E-4791 and D.13-10-040;

¹⁹ Resolution at 2, 4.

²⁰ See Letter from Director of Energy Division to Service List for AL 2924-E dated July 20, 2016 (reducing protest period to four days pursuant to Rule 1.3 of GO 96-B).

3. A finding that the Santa Paula 1 Contract, totaling 5 MW, counts towards satisfying the outstanding portion of SCE's Energy Storage Procurement Target established in D.13-10-040;
4. A finding that the Santa Paula 1 Contract, and SCE's entry into it, is reasonable and prudent for all purposes, and that any payments to be made by SCE pursuant to the Santa Paula 1 Contract are recoverable in full by SCE through its Energy Resource Recovery Account (ERRA) Review proceeding, subject only to SCE's prudent administration of the Santa Paula 1 Contract;
5. Authorizing SCE to allocate the benefits and costs of the Santa Paula 1 Contract to all benefitting customers in accordance with Resolution E-4791, and specifically, a finding that the Cost Allocation Mechanism, as adopted by the Commission in D.15-11-041 and applicable to "In Front of the Meter" energy storage, shall apply to the Santa Paula 1 Contract;
6. Any other and further relief as the Commission finds just and reasonable.

VIII. TIER DESIGNATION

Pursuant to GO 96-B, Energy Industry Rule 5.3, and Resolution E-4791, SCE submits this Advice Letter with a Tier 3 designation (effective after Commission approval).

IX. EFFECTIVE DATE

This Advice Letter will become effective **on September 15, 2016** upon Commission approval.

X. NOTICE

Anyone wishing to protest this Advice Letter may do so by letter via U.S. Mail, facsimile, or electronically, any of which must be received by the Energy Division and SCE. In order to achieve the target December 31, 2016 on-line date, SCE requests that any protests be received no later than **August 19, 2016**, consistent with SCE's expedited schedule requested for this Advice Letter. Protests should be submitted to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, California 94102
E-mail: EDTariffUnit@cpuc.ca.gov

Copies should also be mailed to the attention of the Director, Energy Division, Room 4004 (same address as above).

In addition, protests and other correspondence regarding this advice letter should also be sent by letter and transmitted via facsimile or electronically to the attention of:

Russell G. Worden
Managing Director, State Regulatory Operations
Southern California Edison Company
8631 Rush Street
Rosemead, California 91770
Telephone: (626) 302-4177
Facsimile: (626) 302-4829
E-mail: AdviceTariffManager@sce.com

Michael R. Hoover
Director, State Regulatory Affairs
Southern California Edison Company
c/o Karyn Gansecki
601 Van Ness Avenue, Suite 2030
San Francisco, California 94102
Facsimile: (415) 929-5544
E-mail: Karyn.Gansecki@sce.com

With a copy to:

Amber Dean Wyatt
Senior Attorney
Southern California Edison Company
2244 Walnut Grove Avenue, 3rd Floor
Rosemead, CA 91770
Facsimile: 626-302-3990
E-mail: Amber.Wyatt@sce.com

There are no restrictions on who may file a protest, but the protest shall set forth specifically the grounds upon which it is based and must be received by the deadline shown above.

In accordance with General Rule 4 of GO 96-B, SCE is furnishing copies of this Advice Letter to the interested parties shown on the attached R.15-02-020 and GO 96-B service lists. Address change requests to the GO 96-B service list should be directed to AdviceTariffManager@sce.com or (626) 302-3719. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or ProcessOffice@cpuc.ca.gov.

Further, in accordance with Public Utilities Code Section 491, notice to the public is hereby given by filing and keeping the Advice Letter at SCE's corporate headquarters. To view other SCE advice letters filed with the Commission, log on to SCE's web site at <https://www.sce.com/wps/portal/home/regulatory/advice-letters>.

All questions concerning this Advice Letter should be directed to Darrah Morgan at (626) 302-2086 or by electronic mail at Darrah.Morgan@sce.com.

Southern California Edison Company

/s/ Russell G. Worden
Russell G. Worden

RGW:aw:cm
Enclosures

CALIFORNIA PUBLIC UTILITIES COMMISSION

ADVICE LETTER FILING SUMMARY ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.: Southern California Edison Company (U 338-E)

Utility type:

ELC GAS
 PLC HEAT WATER

Contact Person: Darrah Morgan

Phone #: (626) 302-2086

E-mail: Darrah.Morgan@sce.com

E-mail Disposition Notice to: AdviceTariffManager@sce.com

EXPLANATION OF UTILITY TYPE

ELC = Electric GAS = Gas
 PLC = Pipeline HEAT = Heat WATER = Water

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: 3454-E

Tier Designation: 3

Subject of AL: Submission of Santa Paula 1 Contract for Expedited Review and Approval by September 15, 2016

Keywords (choose from CPUC listing): Compliance, Agreements, Procurement

AL filing type: Monthly Quarterly Annual One-Time Other

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #:

Resolution E-4791

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: _____

Summarize differences between the AL and the prior withdrawn or rejected AL: _____

Confidential treatment requested? Yes No See Appendix H

If yes, specification of confidential information:

Confidential information will be made available to appropriate parties who execute a nondisclosure agreement.

Name and contact information to request nondisclosure agreement/access to confidential information:

Amber Wyatt, Law Department, (626) 302-6961 or amber.wyatt@sce.com

Resolution Required? Yes No

Requested effective date: Upon Commission Approval

No. of tariff sheets: -0-

Estimated system annual revenue effect: (%): _____

Estimated system average rate effect (%): _____

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: N/A

Service affected and changes proposed¹: _____

Pending advice letters that revise the same tariff sheets: None

¹ Discuss in AL if more space is needed.

Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, California 94102
E-mail: EDTariffUnit@cpuc.ca.gov

Russell G. Worden
Managing Director, State Regulatory Operations
Southern California Edison Company
8631 Rush Street
Rosemead, California 91770
Telephone: (626) 302-4177
Facsimile: (626) 302-4829
E-mail: AdviceTariffManager@sce.com

Michael R. Hoover
Director, State Regulatory Affairs
c/o Karyn Gansecki
Southern California Edison Company
601 Van Ness Avenue, Suite 2030
San Francisco, California 94102
Facsimile: (415) 929-5544
E-mail: Karyn.Gansecki@sce.com

With a copy to:

Amber Wyatt, Senior Attorney
Southern California Edison Company
2244 Walnut Grove Avenue, 3rd Floor
Rosemead, CA 91770
Facsimile: (626) 302-3990
E-mail: amber.wyatt@sce.com

CONFIDENTIAL Appendix A

Project Summary

Confidential Protected Materials – Public Disclosure Prohibited

CONFIDENTIAL Appendix B

ACES Solicitation Overview

Confidential Protected Materials – Public Disclosure Prohibited

CONFIDENTIAL Appendix C

Valuation Overview

Confidential Protected Materials – Public Disclosure Prohibited

CONFIDENTIAL Appendix D

Independent Evaluator Report

Confidential Protected Materials – Public Disclosure Prohibited

PUBLIC Appendix D
Independent Evaluator Report

PUBLIC VERSION

***Southern California Edison Company
2016 Aliso Canyon Energy Storage RFO
Request for Offers for
Energy Storage***

Final Report of the Independent Evaluator

August, 2016

***Prepared by
Merrimack Energy Group, Inc.***



Table of Contents

I. Introduction	2
II. Description of the Role of the IE.....	7
III. Outreach Efforts	10
IV. Description of SCE’s Bid Evaluation and Selection Process	11
V. Administration of the Solicitation Process.....	16
VI. Fairness of the Solicitation Process.....	23
VII. Safeguards and Methodologies Employed	25
VIII. Conclusions and Recommendations.....	27

ATTACHMENTS

Attachment 1 – SCE – Offers Received for ACES RFO

Attachment 2 – Agreement Between SCE and Western Grid Development, LLC

Attachment 3 – Agreement Between SCE and Powin Energy PPA Grand Johanna, LLC

Attachment 4 – Agreement Between SCE and Alta Gas, Inc.

I. Introduction

A. Overview of the 2016 Aliso Canyon Energy Storage (“ACES”) RFO

On May 27, 2016, Southern California Edison Company (“SCE” or “Company”) issued its 2016 Aliso Canyon Energy Storage Request for Offers (“RFO” or “ACES RFO”) to solicit offers from Bidders (“Sellers”) to supply Product from energy storage resources (“ESR” or “ESR Facility”) with the ultimate objective of executing purchase agreements substantially the same as SCE’s Pro Forma Aliso Canyon Energy Storage Resource Adequacy Purchase Agreement (“Pro Forma RA Agreement” or “Pro Forma Agreement”). The issuance of the ACES RFO was required via Commission Resolution E-4791¹ authorizing expedited procurement of storage resources to help ensure electric reliability in the Los Angeles Basin due to the moratorium on gas injections and limited operations of the Aliso Canyon Gas Storage Facility. Under the Resolution, the Commission required SCE to hold an expedited competitive energy storage procurement solicitation to help alleviate an outage risk during the upcoming summer and winter of 2016-2017. Issuance of the ACES RFO is designed to meet this requirement.

Resolution E-4791 was a result of public policy efforts on behalf of the Governor and various state agencies to take all actions necessary to ensure the continued reliability of natural gas and electricity supplies in the coming months during the moratorium on gas injections into the Aliso Canyon Storage Facility. An Action Plan released by the California Energy Commission (“CEC”), the California Public Utilities Commission (“CPUC”), California Independent System Operator (“CAISO”), and the Los Angeles Department of Water and Power (“LADWP”) found that “Aliso Canyon plays an essential role in maintaining both natural gas and electric reliability in the greater Los Angeles area. As a result, the facility’s limited current operations create a distinct possibility of electricity service interruptions in the coming summer months.”²

The Resolution also identified the parameters for the storage procurement. These include:

- SCE may procure storage resources within its service area and to the extent the resources also qualify for Local Capacity Requirements (“LCR”) credits or the storage mandate, SCE will be able to count the resource;
- SCE shall solicit in-front-of-the-meter energy storage that must be operational by December 31, 2016;
- All resources procured under the Aliso Canyon Energy Storage Solicitation must be interconnected in a location that helps to alleviate electric reliability concerns associated with the partial shutdown of the Aliso Canyon Gas Storage Facility and qualify for resource adequacy (“RA”) credit;
- Resources procured in the Aliso Canyon Energy Solicitation should be price-competitive with previous solicitations in which SCE has awarded contracts to

¹ Resolution E-4791 was issued by the California Public Utilities Commission on May 31, 2016.

² Aliso Canyon Action Plan to Preserve Gas and Electric Reliability for the Los Angeles Basin, http://www.energy.ca.gov/2016_energy_policy/documents/2016-04-08_joint_agency_workshop/Aliso_Canyon_Action_Plan_to_Preserve_Gas_and_Electric_Reliability_for_the_Los_Angeles_Basin.pdf.

- energy storage resources, adjusting for different contract terms such as contract length and expedited delivery date impacts;
- SCE may enter into contracts with terms of 10 years or less.

The Resolution also required that SCE conduct the Aliso Canyon Energy Storage Solicitation as a “one round” competitive solicitation allowing bidders to submit pricing at the offer deadline. SCE will then evaluate and shortlist offers. SCE will enter into contract negotiations with shortlisted bidders and will make final selection decisions based on successful negotiation of a form of contract agreeable to both parties.

Under the Resolution, SCE will also be allowed to submit applications for utility-owned storage projects. The Commission found that this option would increase the likelihood of resources being timely developed. The Commission found it is reasonable to allow the utilities to pursue proposals for turnkey project development of “build and transfer” projects located at the utility’s substation or on utility-owned or operated sites.³ As a result, SCE also issued its 2016 Aliso Canyon Energy Storage Design, Build and Transfer (“DBT”) RFP (“RFP” or “ACES DBT RFP”) on May 27, 2016. Under the RFP, SCE is seeking Sellers to supply fully operational energy storage projects to SCE on a fixed price, turnkey basis under which SCE would own the facility.

This report will focus only on the ACES RFO solicitation process. The DBT RFP process will be the subject of a future IE report, focusing specifically on the implementation of that solicitation. Since SCE does not intend to subject RFO and RFP Offers to direct competition with offers from the other solicitation, the reports can address each solicitation process separately. Furthermore, based on the schedules proposed, it is expected that the ACES RFO process will be completed in advance of the DBT RFP.⁴

For the ACES RFO, SCE is seeking to procure product from ESR Facilities (“Product”) meeting the CPUC definition of Energy Storage as adopted in D.13-10-040. The Product shall be as defined in the Final Agreement and will include all Resource Adequacy Benefits associated with, or attributable to the ESR Facility throughout the Delivery Period of the Final Agreement whether such credits or other attributes exist at the time a Final Agreement is executed or are created later during the Delivery Period of the Final Agreement.⁵

Some of the basic terms and conditions of the RFO, as stated in the RFO Participant Instructions,⁶ include:

³ Resolution E-4791, p. 12.

⁴ While the ACES RFO solicitation is a one-step process with expectations that contracts resulting from the solicitation will be executed in early August and filed for approval by August 15, the DBT RFP process is a two-stage process with final selection and contract execution not expected until September 2, 2016. The two solicitation processes were conducted in parallel through shortlist selection.

⁵ The inclusion of the DBT RFP required SCE to develop a Code of Conduct and separate project teams for the solicitations. The Code of Conduct is discussed in Section VII of this IE report.

⁶ 2016 Aliso Canyon Energy Storage RFO, RFO Participant Instructions, May 27, 2016 (“RFO Instructions”).

- SCE is soliciting Offers from ESR Facilities that are fully-deliverable or will be fully-deliverable whereby Seller shall convey to SCE all RA benefits that are attributable to the ESR Facility as detailed in the Pro Forma Agreement when the facility attains fully-deliverable status;
- Eligible ESR Facilities must be transmission and distribution connected and located within the CAISO control area, in SCE's service territory and south of Path 26. SCE has a preference for ESR Facilities in the Western Los Angeles sub-area of the Los Angeles basin local reliability area;
- Product price should be stated in \$/kW-month as defined in the Pro Forma Agreement. The product price submitted must assume posting Delivery Date Security and Performance Assurance as defined in the Pro Forma Agreement and assume the cost of any firm transmission rights to deliver the Product to the delivery point;⁷
- Sellers may submit multiple projects if each has been, is being, or will be studied for interconnection independently. SCE will not allow mutually inclusive offers;
- Sellers may submit up to twenty (20) offers for the same ESR Facility (e.g. different pricing, start date, or term);
- SCE encourages Diverse Business Enterprises ("DBE") to participate in the ACES RFO;
- SCE prefers Sellers that are special purpose entities organized for the sole purpose of owning and operating the project;
- SCE affiliates are permitted to participate in this ACES RFO. Seller must disclose whether or not it is an SCE affiliate.

SCE developed a number of eligibility criteria for the Offers submitted into the RFO. These include:

- Offers must be online, operational and capable of submitting bids into the CAISO market no later than December 31, 2016;
- ESR Facilities must have obtained or have a path forward to obtaining Resource Adequacy – namely ESR Facilities must have obtained Full Capacity Deliverability Status ("FCDS"), be in the process of obtaining FCDS, or attest to apply for FCDS in the next CAISO Cluster Study Process (Cluster 10);
- SCE will only consider Offers from Sellers for ESR Facilities located in front of the meter and interconnected within the CAISO control area, within SCE's service territory south of Path 26;
- Any existing interconnection agreements must support the ESR Facility's online date;
- Sellers may propose any contract term not to exceed ten (10) years;
- Distribution and transmission-connected projects with a Contract Capacity of .5 MW and greater are eligible to participate in the RFO;
- Only ESR Facilities that have a discharge duration of four hours or more, which is the current requirement for RA, are eligible;

⁷ Capitalized terms are as defined in the Pro Forma RA Agreement or the ACES RFO Instructions unless otherwise indicated.

- Seller's must attest to Site Control over the Term of the final Agreement by the Offer deadline or the Offer will not be given further consideration;
- The ESR Facility must be based on commercialized technology (e.g. neither experimental, research, demonstration, nor development).

As stated in the RFO Instructions, SCE intends to follow a single round solicitation process. SCE will only consider offers that are submitted as of the Offer deadline, contain all information requested in the Offer Workbook and contain each of the required items in the RFO Offer documents.⁸ SCE will evaluate and rank the offers and create a shortlist of Sellers based on the offers received. SCE will then negotiate terms and conditions of the Pro Forma Agreement(s) with Sellers selected to the shortlist and execute final Agreements with a subset of those Sellers.

SCE's Pro Forma Agreement for ESR's in-front-of-the-meter ("IFOM") is structured under the assumption that (1) Seller's Offer is based on the green-field development of a new ESR Facility or an existing ESR that was in commercial operation after January 1, 2010; (2) the ESR's first point of interconnection will be with the CAISO; and (3) the Seller or a third party contracted with the Seller will be the Scheduling Coordinator of the ESR, and all CAISO energy and ancillary service revenues and all operational costs will be for the Seller's account.

The ACES RFO also outlines the criteria to be applied for the evaluation and selection of shortlisted offers from among those submitted. For screening purposes, the RFO indicates that to be considered for selection in this RFO, the Offer must (1) meet the eligibility criteria set forth in Article One of the RFO Instructions; and (2) adhere to the submittal requirements set forth in Article Three of the Instructions.

Pursuant to regulatory requirements of the CPUC, SCE retained Merrimack Energy Group, Inc. ("Merrimack Energy") as the Independent Evaluator ("IE") for this market solicitation.

B. Aliso Canyon Storage RFO Schedule

In accordance with the CPUC Resolution, SCE has developed a schedule designed to meet the requirements for projects selected to be on-line by December 31, 2016. The schedule is highlighted in Table 1 below.

⁸These include but are not limited to a complete Offer Workbook that includes a complete description of the proposed ESR project and any Offer option, a signed confidentiality agreement, a signed Consent of Release of Interconnection Related Information, Seller's redline of the Pro Forma Agreement showing Seller's proposed modifications, Seller's financial information (annual reports, 10-K, audited financial statements) for the most recent three year period, Seller's company organizational chart, and Seller's information and experience letter. Additionally, SCE encourages Seller's to provide the status of any environmental and permitting developments, if available, including the status of Seller's application for certification from the CEC or application for permit from the local Air Pollution Control District.

Table 1: ACES RFO Proposed Schedule

Dates	Event
May 27, 2016	RFO Launch – SCE posts RFO Instructions, Pro Forma Agreement and other RFO Documents on the ACES RFO Website
June 2, 2016 – 1:00 Pacific time	RFO Conference – SCE hosts RFO Bidders Conference
June 17, 2016 – 1:00 Pacific time	Offer Deadline – Sellers submit Offers and required documentation
July 6, 2016	Seller notification – Date SCE to advise all Sellers on the selection status of their Offers
July 29, 2016	Negotiations deadline – SCE and Shortlisted Sellers complete negotiations
August 5, 2016	SCE and Shortlisted Sellers execute contracts ⁹

C. Issues Addressed in this Report

This report addresses Merrimack Energy’s assessment and conclusions regarding the following issues identified in the Commission’s CPUC Independent Evaluator Report Template:

1. Describe the role of the IE throughout the solicitation and negotiation process.
2. How did the IOU conduct outreach to bidders, and was the solicitation robust?
3. Describe SCE’s bid evaluation methodology. Evaluate the strengths and weaknesses of the methodology.
4. Evaluate the administration of the solicitation process including the fairness of the IOU’s bidding and selection process (i.e. quantitative and qualitative methodology used to evaluate bids, consistency of evaluation methods with criteria specified in bid documents, etc.).
5. Describe any applicable project-specific negotiations. Highlight any areas of concern including unique terms and conditions.¹⁰

⁹ The original schedule contained in the ACES RFO Instructions required execution of the final Agreements on July 29, 2016, the same day negotiations were completed. The revised schedule still requires agreement on the contract by July 29, 2016 but extends the date of formal execution until August 5, 2016.

6. If applicable, describe safeguards and methodologies employed by the IOU to compare affiliate bids or Utility-Owned Generation (“UOG”) ownership proposals. If a utility selected a bid from an affiliate or a bid that would result in utility asset ownership, explain and analyze whether the IOU’s selection of such bid(s) was appropriate.
7. Based on the complete bid process, is (are) the IOU contract(s) the best overall offer(s) received by the IOU?
8. Is the contract a reasonable way of achieving the need identified in the RFP?
9. Based on your analysis of the RFP bids, the bid process, and the overall market, does the contract merit Commission approval?

Many of these issues are addressed in this report, generally in the order included in the CPUC Independent Evaluator Report Template. However, all sections pertaining to contract negotiations provisions and approval are addressed in a separate Attachment for each contract executed.

II. Description of the Role of the IE throughout the Solicitation

In compliance with the above requirements, SCE retained Merrimack Energy Group to serve as Independent Evaluator for the Company’s 2016 Aliso Canyon Energy Storage RFO. Merrimack Energy was retained to provide an independent evaluation of the appropriateness of SCE’s evaluation methodology and selection process for product offers and to provide SCE, SCE’s Cost Allocation Mechanism group (“CAM”), and the Energy Division with periodic presentations, findings and other reports as requested. The objective of the role of the IE is to ensure that the solicitation process is undertaken in a fair, consistent, unbiased and objective manner and that the best offers are selected and acquired consistent with the solicitation requirements and evaluation criteria.

This role generally involves an assessment of the solicitation documents, detailed review and assessment of the evaluation process, the results of the quantitative and qualitative (non-price) analysis, selection of the short list or preferred product options, and monitoring and assessment of contract negotiations. For this solicitation, Merrimack Energy was retained from the beginning of the process through contract execution. Merrimack Energy participated in a number of calls and meetings with SCE project teams throughout the process based on the expedited nature of the Aliso Canyon Energy Storage RFO.

¹⁰ The contract negotiation process and summary of contract provisions for each Agreement executed is provided in separate Attachments to this report.

A. Regulatory Requirements for the Independent Evaluator

The requirements for participation by an Independent Evaluator (“IE”) in utility solicitations are outlined in decisions D.04-12-048 (Findings of Fact 94-95, Ordering Paragraph 28), D.06-05-039 (Finding of Fact 20, Conclusion of Law 3, Ordering Paragraph 8) of the California Public Utilities Commission (“Commission” or “CPUC”) and D.09-06-050.

The role of IE’s in California IOU procurement processes has evolved over the past twelve years. In Decision 04-12-048 (December 16, 2004), the CPUC required the use of an IE by IOUs in resource solicitations where there are affiliates, IOU-built or turnkey bidders. The CPUC generally endorsed the guidelines issued by the Federal Energy Regulatory Commission (“FERC”) for independent evaluation where an affiliate of the purchaser is a bidder in a competitive solicitation, but stated that the role of the IE would not be to make binding decisions on behalf of the utilities or administer the entire process.¹¹ Instead, the IE would be consulted by the IOU, along with the Procurement Review Group (“PRG”) or other solicitation advisory group on the design, administration, and evaluation aspects of the solicitation. The Decision identifies the technical expertise and experience of the IE with regard to industry contracts, quantitative evaluation methodologies, power market derivatives, and other aspects of power project development. From a process standpoint, the IOU could contract directly with the IE, in consultation with its PRG, but the IE would coordinate with the Energy Division.

In D.06-05-039 (May 25, 2006), the CPUC required each IOU to employ an IE regarding all RFPs issued pursuant to the RPS, regardless of whether there are any utility-owned or affiliate-owned projects under consideration. This was extended to any long-term contract for new generation in D.06-07-029 (July 21, 2006). In addition, the CPUC directed the IE for each RFP to provide separate reports (a preliminary report with the shortlist and final reports with IOU advice letters to approve contracts) on the entire bid, solicitation, evaluation and selection process, with the reports submitted to the utility, PRG, and CPUC and made available to the public (subject to confidential treatment of protected information). The IE would also make periodic presentations regarding its findings to the utility and the utility’s PRG consistent with preserving the independence of the IE by ensuring free and unfettered communication between the IE and the CPUC’s Energy Division, and an open, fair, and transparent process that the PRG could confirm.

In 2007, the use of an IE was required for any competitive solicitation seeking products for a term of more than three months in D.07-12-052 (December 21, 2007). Also, the process for retaining IEs was modified substantially, with IOUs developing a pool of qualified IEs subject to feedback and any recommendations from the IOU’s PRG and the Energy Division, an internal review process for IE candidates, and final approval of IEs by the Energy Division.

¹¹ Decision 04-12-048 at 129-37. The FERC guidelines are set forth in Ameren Energy Generating Company, 108 FERC ¶ 61,081 (June 29, 2004).

In 2008, in D.08-11-008, the CPUC changed the minimum term requirements from three months to two years, and reiterated that an IE must be utilized whenever an affiliate or utility bidder participates in the RFO, regardless of contract duration.

In D.09-06-050 issued on June 18, 2009 in Rulemaking 08-08-009, Order Instituting Rulemaking to Continue Implementation and Administration of California Renewable Portfolio Standard Program, the CPUC required that bilateral contracts should be reviewed according to the same processes and standards as contracts that come through a solicitation. This includes review by the utility's PRG and its IE, including a report filed by the IE.

In D.10-07-042 issued on July 29, 2010, the Commission reaffirmed the role of the IE and required the Energy Division to revise the IE Template to ensure that the IEs focus on their core responsibility of evaluating whether an IOU conducted a well-designed, fair, and transparent RFO for the purpose of obtaining the lowest market prices for ratepayers, taking into account many factors (e.g. project viability, transmission access, etc.).

This report is filed consistent with the above requirements and is consistent with the requirements outlined in the CPUC's Short Form IE Report Template.

B. Description of IE Oversight Activities

The IE was involved in a number of activities and completed several specific tasks in performing its oversight role in connection with development and implementation of the 2016 Aliso Canyon Energy Storage RFO, SCE's evaluation methodology, and evaluation and selection process. The activities of the IE during the process are described below:

- Participated in regularly scheduled team meetings prior to receipt of offers;
- Reviewed and commented on the Draft 2016 Aliso Canyon Energy Storage RFO documents;
- Participated in CAM meetings prior to and during the solicitation process;
- Reviewed and discussed the bid evaluation methodology and criteria proposed and developed by SCE;
- Participated in discussions with SCE regarding the benchmark assessment for determination whether the offers selected are competitively priced;
- Participated in the RFO Bidders Conference;
- Reviewed and summarized the offers received to ensure the Company and IE identified and assessed the same list of offers;
- Reviewed the conformance assessment undertaken by SCE and participated in calls with SCE and Bidders regarding conformance issues;
- Reviewed and assessed SCE's evaluation of the offers received for purposes of ranking and selecting the offers that would be included in the shortlist. Participated in several conference calls with SCE's project manager and project staff to discuss the status of the bids and any revisions to the shortlist;
- Monitored contract negotiations between SCE and the counterparties selected for contract negotiations;

- Participated in calls with specific counterparties to clarify offers.

This report provides an assessment and review of SCE's 2016 Aliso Canyon Energy Storage RFO procurement process from development of the RFO through execution of the final Agreements. The role of the IE is also discussed as it pertains to specific activities as identified in Section V of this report.

III. How did SCE Conduct Outreach to Bidders and Was the Solicitation Robust

A. Describe the IOU Outreach to Potential Bidders

Outreach activities are important to the success of a competitive solicitation process.

For the 2016 Aliso Canyon Energy Storage RFO, SCE posted notification on the ACES RFO website hosted by Accion Group established for this solicitation as well as sending a notification email to its RFO Participants list and parties to the Energy Storage OIR proceeding (R.15-03-011).

Documents associated with the solicitation were posted on the ACES RFO website for this RFO.¹² The website contained all the pertinent solicitation documents including:

- Aliso Canyon RFO Instructions;
- Pro Forma Agreement;
- Offer Workbook;
- Bidders Conference presentation;
- Consent for Release of Interconnection Information;
- Confidentiality Agreement;
- Resolution E-4791;
- Website Tutorial;
- RA Offer Form;
- RFO Schedule.

B. Identify the Principles Used to Determine Adequate Robustness of the Solicitation

There are several principles generally applied to determine whether the robustness of the solicitation was adequate. These include:

- Did the amount of capacity bid for the product sought allow for a competitive process?
- Were offers submitted for all products requested?
- Was there a competitive number of Bidders for all products solicited?

¹² https://scees.accionpower.com/_scees_1601/home.asp.

- Did the utility adequately market the solicitation?

C. Robustness of the Solicitation

SCE received 114 original offers on May 27, 2017 from [REDACTED] counterparties, including 51 projects despite the very short timeframe for developing and submitting a proposal (i.e. 21 days). After conformance issues were resolved a total of 48 projects representing 107 offers were eligible for evaluation.

The IE concludes that SCE's outreach activities were more than adequate and led to a robust market response based on the competitive number of respondents and options submitted, even though the schedule was expedited and constraining.

IV. Description of SCE's Evaluation Methodology

This section of the report provides an overall description of SCE's evaluation methodology and criteria for evaluating and selecting energy storage offers submitted into the ACES RFO. For the ACES RFO, SCE was required to develop two metrics or methodologies for conducting the evaluation:

1. Methodology for evaluating and ranking offers;
2. Metric to be used to address the Commission's finding that resources procured in the ACES RFO Solicitation should be price-competitive with previous solicitations in which SCE has awarded contracts to energy storage resources, adjusting for different contract terms such as contract length and expedited delivery date impacts.

SCE included a high level description of the methodology for evaluating and ranking offers in the 2016 Aliso Canyon Energy Storage RFO Participant Instructions and refined the methodology prior to receipt of offers. Initially, SCE's valuation teams were considering the development of a methodology that would allow SCE to compare the offers into each solicitation (i.e., Energy Storage RFO for RA product and the DBT options under the Energy Storage RFP) against one another. However, the process evolved into one in which the RFO and RFP processes were to be separate, with no head-to-head competition between the projects in the two solicitations. SCE's stated preference was to choose RA offers, all else being equal. The description below focuses on the evaluation process and methodology for the ACES RFO for RA product. The IE will later prepare a report on the Aliso Canyon DBT RFP process and evaluation results.

SCE developed an internal evaluation methodology designed to assess Energy Storage RFO offers to meet requirements for the ACES RFO based on a comparison of the costs and benefits of an energy storage resource. Since this solicitation is seeking RA product only and the Seller will be required to offer energy and ancillary products into the CAISO market, the evaluation methodology values RA capacity as the primary metric. All costs and benefits are valued using SCE's latest forecasts for the applicable products. The

result is a Net Present Value (NPV) calculation of the difference between costs and benefits of RA capacity for each offer (i.e. NPV\$ Benefits minus NPV\$ Costs).

As reported in the ACES RFO Instructions, the cost components for each offer include contract payments, transmission costs, and debt equivalence cost. Contract payments costs consist of a fixed payment stream. They are based on the contract capacity price and variable operating and maintenance charges. If applicable, transmission costs include cost adders for required network upgrades based on the best information available (e.g. completed Facilities Study, Phase 1 Interconnection Study (or equivalent), or a cost cap amount provided by Seller for Queue Cluster projects. Debt equivalence cost is an estimate of the cost impacts of contract commitments based on Standard & Poor's imputed debt methodology for power purchase agreements. However, for the actual evaluation debt equivalence costs were not included.¹³

The capacity value included in the benefits calculation is the value of the countable Resource Adequacy capacity. As stated in the RFO, energy storage placed on the grid can have RA benefits provided the ESR meets the CPUC and the CAISO's RA eligibility requirements and the ESR has been found fully deliverable by the CAISO. The RA quantity is a monthly value specified in the Offer. The resulting value is calculated by multiplying the quantity of qualifying RA capacity by the forecasted capacity price. Since SCE is only seeking RA, the qualifying RA capacity of a storage resource is calculated in a similar manner as dispatchable resources, taking into account Seller's RA Guaranty Date, if applicable. Potential Sellers of ESRs that wish to qualify for RA must be able to dispatch their RA capacity for at least four uninterrupted hours as prescribed in CPUC D.14-06-050.

Once the cost and benefit streams are calculated, each stream is discounted by an annual discount factor to yield a single NPV value. SCE uses a 10% discount rate for its NPV calculations.

In the next step during the valuation process, SCE assesses non-quantifiable characteristics of the Offers. SCE considers qualitative characteristics such as project viability in determining its shortlist of Offers. In this solicitation, a key viability consideration was the ability of the Bidder to traverse the interconnection process in a very short time period in order to place the project in operation by the end of the year.

SCE then rank orders all the Offers on the basis of quantitative value based on an NPV \$/kW-month metric. SCE will review the highest value projects along with their qualitative attributes. As is discussed in more detail below, consistent with the Findings of Resolution E-4791, SCE indicated it will also consider the price competitiveness of the Offers relative to the valuation of Offers from previous solicitations in which SCE has

¹³ SCE did not include debt equivalence costs for two reasons. First, SCE did not apply any debt equivalence adjustment when calculating the "Price Competitive" metric, which would skew the results if a debt equivalence adjustment was applied to only one of the factors. Second, inclusion of a debt equivalence adjustment in a case where third-party offers and utility-owned offers are competing is discouraged by the CPUC as favoring utility ownership offers.

awarded contracts to energy storage resources, adjusting for different contract terms such as contract length and expedited delivery date impacts.¹⁴

With regard to the “Price Competitive” metric SCE calculated a price competitive number that provides guidance regarding comparison with offers submitted into the Energy Storage RFO. For this assessment, SCE started with a list of energy storage offers from prior solicitations in which it procured in-from-of- the-meter (“IFOM”) energy storage resources. This included offers from the Local Capacity Requirements RFO (“LCR RFO”) and the 2014 Energy Storage RFO.¹⁵

The RA premium based on data from previous storage RFOs is represented in \$/kW-month, normalized to RA capacity given contract term. The RA premium value is calculated as: Contract Cost + Transmission Cost + Capacity Cost – Ancillary Service and Energy.

Given the short lead-time for a Seller to develop and construct its project, SCE attempted to reflect the implications of the short lead-time into its RA premium calculation for the ES RFO. For this assessment, SCE took all of the IFOM storage offers received in the LCR and ES RFOs, and calculated a contract-specific lead-time (i.e. the time between estimated Commission approval and COD). In order to compare contract costs on an apples-to-apples basis, SCE adjusted for the significantly shorter lead-time associated with the ACES RFO. The assumed lead-time for the ACES RFO is five months. Because SCE had not received any previous offers with such a short lead time, it needed to construct a functional relationship between lead time and RA cost premium, and extrapolate backwards to get the implied 5-month lead-time premium.

The curve generated by SCE from the data showed that there was a decreasing relationship between lead time and RA cost premium. SCE used the curve generated by this data to extrapolate what the premium would be for a five-month lead time.

Based on the analysis undertaken by SCE’s valuation team, it was determined that a reasonable RA premium “break-point” would be [REDACTED]

In summary, the evaluation methodology developed by SCE evaluates and ranks offers on an NPV\$/kW-month basis. SCE also calculates a Nominal RA Premium (\$/kW-month) for each offer as a basis for comparison relative to the Price Competitive metric required by the CPUC Resolution. SCE also calculated another metric but did not use the metric for Offer ranking and selection purposes. This metric was NPV\$/RA MW.

Framework and Principles for Evaluating SCE’s Bid Evaluation Methodology

¹⁴ SCE didn’t consider contract length in the “Price Competitive” evaluation process because the data sets were not sufficiently robust with few 10 year bids submitted into previous storage solicitations. Term length did factor into the analysis when calculating NPV \$/kW-month values.

¹⁵ SCE also considered including offers from the 2016 PRP solicitation but decided not to include those offers because the PRP solicitation was a pilot program, the solicitation focused on energy storage resources for localized areas, and lack of robust data made the offer set less suitable for building a relevant comparison metric.

This section of the report addresses the principles and framework underlying Merrimack Energy's review of SCE's methodology for the ACES RFO offer evaluation and selection. Key areas of inquiry by the IE and the underlying principles used by the IE to evaluate the methodology and results include the following:

- Were the procurement targets, products solicited, principles and objectives clearly defined in the RFO documents?
- Is the bid evaluation based on the criteria specified in the bid documents and regulatory decisions?
- Do the bid documents clearly define the type and characteristics of products desired and what information the bidder should provide to ensure that the utility can conduct its evaluation?
- Does the methodology identify how qualitative and quantitative measures were considered and were they consistent with an overall metric?
- Does the price evaluation methodology allow for consistent evaluation of offers of different sizes and in-service dates?

Evaluation Criteria and Methodology

SCE developed the 2016 ACES RFO very quickly based on the short lead time to issue the RFO. While SCE adequately defined at a high level the products required, the basis for the solicitation, the principles and objectives of SCE, the evaluation criteria, quantitative and qualitative evaluation factors, and the information required from the Bidders, the valuation methodology was still undergoing development and review. As described in the RFO, as a first step all offers were initially assessed for conformance with the basic submittal requirements identified in the ACES RFO Instructions. Subsequent to the conformance review, SCE undertook a quantitative assessment based on the evaluation methodology described in the previous section of this report.

In summary, the description and implementation of the evaluation methodology, criteria, and inputs meets the requirements of the Resolution and industry standards for this type of solicitation. One issue with such a short lead-time solicitation was whether the utility would be able to adequately describe the evaluation process to potential Bidders at the same time the valuation process was undergoing development. Although the valuation methodology was still undergoing development, the IE found that the Offer Workbook requested all the necessary information to undertake a consistent and adequate analysis.

Strengths and Weaknesses of SCE's Evaluation Methodology

This section of the report provides an assessment of the strengths and weaknesses of SCE's evaluation and selection methodology.

The following are the strengths identified by the IE with regard to the evaluation methodology:

1. The methodologies for evaluation were conceptually straightforward and have a rational relationship to the objectives of the RFO: to evaluate and select projects that can be reasonably placed in service in a short time period, have the lowest net costs among the bids submitted, and are reasonably economically competitive relative to energy storage projects bid into prior solicitations.
2. The metric used for rank ordering bids quantitatively, NPV \$/kW-month, is a reasonable metric for assessing the economics of RA-only bids and allowed for fair evaluation of different sizes (differences in in-service dates was not a major differentiating factor).
3. SCE's development of a methodology to calculate a competitive benchmark for energy storage bids from prior solicitations was reasonable given the diversity of the data points, the dearth of 10-year bids and bids with near-term in-service dates in the data set, and alternative ways the competitive benchmark could have been calculated.

The weaknesses of the methodology include the following:

1. The competitiveness methodology was not as clearly conveyed to bidders as it might have been if it had been developed well in advance of the submission of bids.
2. The IE did not find the competitiveness methodology to be particularly compelling. In other words, there could have been other approaches utilized which could also have produced reasonable, perhaps equally reasonable, results. However, that may have been due to the difficulties of deriving a competitive benchmark based on bidding processes and bid submissions that were difficult in a variety of respects, such as contract term lengths, in-service dates, and lead times, and unclear relationships to the contract term lengths, in-service dates and lead times in this solicitation.
3. Prior to shortlisting, there was not, in the IE's opinion, sufficient time to review in sufficient detail issues associated with the ability of highly ranked projects to go through the interconnection process in order to be installed by year's end.

Overall, the IE is of the opinion that the methodology used by SCE for evaluating Energy Storage RFO Offers was reasonable for this type of product. The methodology provides a systematic way of evaluating and ranking the types of offers and products considered.

V. Administration of the Aliso Canyon Energy Storage RFO Solicitation Process

In performing its oversight role, the IE participated in and undertook a number of activities in connection with the 2016 Aliso Canyon Storage RFO including providing comments on the RFO documents, participating in regularly scheduled conference calls with the SCE's project teams given the expedited nature of the project, participating in a number of discussions on the bid evaluation methodology and selection process, rationale for any constraints or objectives underlying the evaluation and selection, organizing and summarizing the bids received, reviewing and commenting on the evaluation and selection process and results at each step of the evaluation and selection process, and participating in meetings with the CAM Group. The key project activities are listed in this section of the report in conjunction with the activities of the IE.

Project Team Meetings

Once Merrimack Energy was selected to serve as IE, the IE and SCE project teams began holding a number of calls to address the completion of the ACES RFO documents, Code of Conduct,¹⁶ and the valuation methodologies to be used for the evaluation and selection process. In addition, Merrimack Energy was also involved as IE for DBT RFP process as well as IE for SCE's bilateral contract negotiations with a seller or the installation of energy storage devices at SCE natural gas-fired units.

At the outset a representative of Merrimack Energy participated in the majority of the project team calls and either provided comments or responded to questions and comments raised by team members regarding fairness issues or other issues related to the IE's role in the solicitation process.

CAM Meeting Prior to Receipt of Offers

SCE discussed the launch of the Aliso Canyon Energy Storage Solicitation at the CAM meeting held on May 19, 2016, shortly after issuance of Draft Resolution E-4791 on May 12, 2016. SCE addressed the following issues at the CAM meeting:

- Summary of the Draft Resolution
- Overview of the solicitation process and SCE's objectives for the process;
- Schedule for launching the RFO (SCE expected to launch the RFO on May 27, 2016;
- Next steps

SCE also included a few slides with some preliminary thoughts on the valuation components and valuation methodology.¹⁷

¹⁶ The Code of Conduct was required because of the DBT RFP under which SCE would own the resource.

¹⁷ Although the focus of this report is on the Energy Storage RFO process, the slide presentation described the two tracks associated with the solicitations: (1) Energy Storage Request for Offers (RFO) – Seller will design, build, own, and operate the energy storage facility; SCE purchases the Resource Adequacy; and (2)

Preparation/Launch of the ACES RFO

The IE reviewed and provided input and comments to SCE on both the ACES RFO as well as the DBT RFP. Based on the nature and complexity of the DBT RFP along with the involvement of SCE as ultimate owner of any DBT projects resulting from the solicitation, the IE was focused on asking a number of questions and raising potential issues with the RFP. The IE also raised the issue initially with SCE that if a DBT type process is initiated with SCE ultimately owning the selected projects that a Code of Conduct should be developed. After the initial discussion about the need for a Code of Conduct, SCE immediately began preparing a Code of Conduct following the CPUC requirements associated with a Code of Conduct for solicitations where utility-ownership is an option to protect against the risk of self-dealing associated with utility-ownership options relative to third-party ownership.

The RFO was issued on May 27, 2016 as planned. The 2016 Aliso Canyon Energy Storage RFO and associated documents were posted to the ACES RFO website on that date.

Bidders Conference

SCE held by webinar a Bidders Conference on June 2, 2016 that addressed both the ACES RFO process and the DBT RFP. The purpose was to provide prospective Bidders with an overall perspective on the solicitation processes including the products sought, eligibility requirements, bid evaluation and selection methodology and process, requirements of the Bidders, schedule, and interconnection process. Bidders had the opportunity to ask questions after each agenda topic.

Agenda issues addressed at the Bidders Conference included:

- Introduction and Overview
- Interconnection Service
 - Fast track process
 - Independent Study process
 - Where to find information on the interconnection process
- Aliso Canyon Storage RFO Materials
 - Description of eligibility requirements
 - Products solicited
 - RFO Schedule
 - Description of the Offer Workbook that Bidders will be required to complete
- DBT RFP Materials
 - Overview
 - Schedule

Design, Build, Transfer Request for Proposals – Seller will design, build and transfer the facility to SCE who will own the facility.

- Description of the RFP Workbook
- Valuation and Selection methodology and process for both the RFO and RFP

Approximately 144 Participants either participated via Webex or called into the Bidders Conference, on fairly short notice.

Discussion of Bid Evaluation Methodology

SCE developed evaluation approaches for the ACES RFO, DBT RFP, and a proposed bilateral transaction a Seller along with the competitiveness cost analysis for the ACES RFO. Merrimack Energy posed a number of questions regarding the evaluation approaches. With respect to the ACES RFO, the questions focused primarily on the competitiveness cost analysis. Over the course of four different meetings and presentations, SCE refined its analytical approach and planned implementation.

During four meetings SCE's evaluation team members and the IE discussed the valuation and selection metric for each of the solicitations, valuation methodology, input assumptions required, implications of different RA guarantee dates, open issues to be addressed and schedule for completing the methodology based on the proposed schedule. In the early meetings, the team addressed the appropriate methodologies for comparing ACES RA RFO and DBT options. As the meetings proceeded, the focus turned to the evaluation of DBT offers given the complexity of the offers. Also, the team decided to evaluate the ACES RFO and RFP offers separately but to prefer RFO offers all else being equal. The team also discussed the Code of Conduct requirements and how these requirements affect the presentation of the valuation results.

Questions and Answers

The IE estimates that there were approximately 41 questions submitted at the Bidders Conference, with 35 of the questions focused on the ACES RFO and the rest on the DBT RFP. SCE responded verbally to all questions. There were no FAQs posted on the ACES RFO website. Given the extremely short timeframe to prepare for receipt of offers after the RFO was posted, SCE limited the Q&As only to specific questions submitted by potential registered Bidders to the ACES RFO Website. A total of 8 questions were answered and posted on the ACES RFO website.

Receipt of Offers

Offers were received as scheduled on June 17, 2016. Offers were submitted directly to the ACES RFO website. A total of [REDACTED] submitted 114 offers associated with 51 projects.¹⁸

¹⁸ Two Bidders contacted SCE after the time allotted for offers submission and claimed they were not able to upload their files onto the ACES RFO website. SCE and the IE agreed to allow these two Bidders an additional few hours to upload files. One of the Bidders was able to successfully upload their remaining offers prior to the deadline. However, the other Bidder was not able to successfully upload their offers. On June 22, 2016, the day after offers were due, SCE notified that Bidder that their RA offers for the ACES

The [REDACTED] remaining Bidders are listed in Table 2, along with the number of projects and options submitted.

Table 2: List of Bidders Who Participated in the 2016 ACES RFO

Bidder Name	Number of Projects	Number of Offers
[REDACTED]		

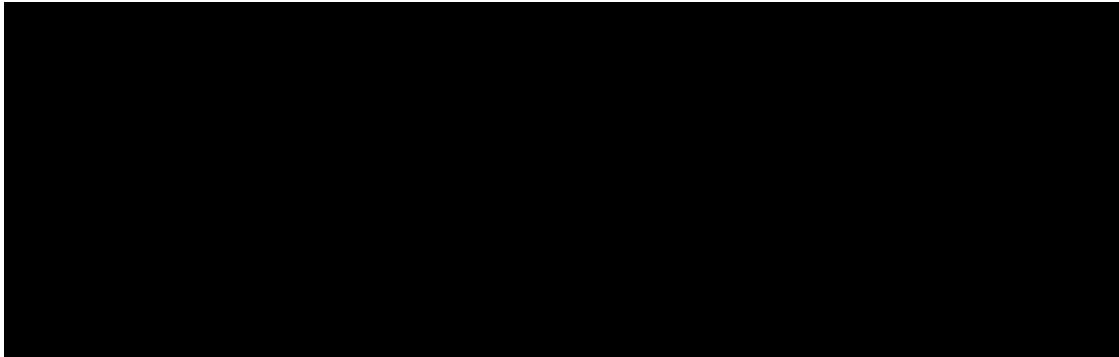
Once the offers were submitted to the ACES RFO website, the IE downloaded the offers and reviewed the offers along with SCE’s project team. The IE prepared its own summary of the offers received including high level summary information of the offer’s quantity (MW), RA guarantee date, estimated interconnection cost, and pricing for each Offer. The IE used this information to also check the evaluation results and ranking of offers compiled by SCE for selection purposes.

Attachment 1 provides summary information regarding the IE’s list of the Offers received.

Conformance of Offers/Cure Period

RFO were not complete and were not submitted within the allotted time extension. As a result, SCE notified that Bidder that their offers were non-conforming and would not be eligible for the solicitation. The IE agreed with SCE’s decision to classify the second Bidder’s offers as non-conforming.

As provided in the Table above, the original list of offers included 51 projects and 113 offers. However, several projects and offers were non-conforming. The offers listed as non-conforming include:





After these adjustments were accounted for, there were a total of 48 projects and 107 offers eligible to compete.

Offer Ranking and Selection

After accounting for issues raised in the conformance/clarification assessment, SCE proceeded to complete its review and assessment and rank offers based on its evaluation methodology. The evaluation methodology consisted of the following steps:

1. Calculate the total cost for each offer based on the Workbook submitted by each Bidder;
2. Calculate the total RA value of the offer for each month as the product of the monthly capacity offered times SCE's forecast of the RA value for each month in which the Bidder guarantees RA credit;
3. Calculate the Net Present Value of the cost and benefit streams based on SCE's discount rate of 10% which is used for most solicitation processes;
4. Calculate the difference between the costs and benefits;
5. Divide the difference between the costs and benefits by the average monthly kW submitted for each offer;
6. Rank order the offers from highest to value for all eligible offers.

CAM Meeting – Aliso Canyon Energy Storage RFO Shortlisting

SCE presented its final evaluation results and project selection to the CAM on July 6, 2016. SCE informed the CAM Group that it obtained epRMC approval on the recommended selection of Aliso Canyon RFO offers totaling 


SCE provided the CAM/PRG background on the Aliso Canyon RFO process and background for the ACES RFO. SCE identified the parameters for the storage procurement which included:

- In-front-of-the-meter (IFOM) storage which must be operational by 12/31/2016;

- The project must be located South of Path 26 and within SCE’s service territory;
- Contracts will count towards LCR and Energy Storage mandates, if applicable;
- The Offer must qualify for Resource Adequacy;
- The Offer(s) selected should be price-competitive with previous solicitations in which SCE has awarded contracts to energy storage resources;
- The contract term must be 10 years or less.

SCE provided a summary of the offers received and those considered for selection. SCE identified offers that were considered for shortlist selection and the basis for its recommended selection.¹⁹

Table 3 provides a summary of the top ranked [REDACTED] offers in rank order, including the offers that SCE considered for shortlisting and which were presented to the CAM at its July 6, 2016 meeting. Beyond the offers considered for shortlisting, the remaining Offers are above the Price-Competitive metric, which was [REDACTED]

Table 3: Offers Proposed for Shortlist Selection

Name	Nominal Capacity Price \$/kW-month	NPV (\$/kW-month)	Nominal RA Premium (\$/kW-month)	Contract MW	Term	RA Guaranty Date
[REDACTED]						

¹⁹ [REDACTED]

[REDACTED]

For its recommended shortlist, SCE selected [REDACTED] generally in rank order adjusted for exclusivity constraints. [REDACTED] The proposed shortlist consists of the following projects and portfolio statistics:

[REDACTED]

[REDACTED]


Contract Negotiations and Execution

The final steps in the ACES RFO process involved shortlist notification and contract execution. SCE notified the counterparties of shortlist selection of their offers on July 6, 2016, consistent with the ACES RFO schedule. In the notice, SCE informed the shortlisted counterparty which offers were selected.

Subsequently, SCE sent the counterparties an executable form of the Pro Forma Agreement for review.

During negotiations, one of the constant themes raised by several counterparties was that the availability of equipment to meet the MWs proposed by the end of 2016 was proving to be a challenge. [REDACTED]

[REDACTED]



Between August 5, 2016 and August 11, 2016, SCE and the three counterparties executed the agreements for 27 MW of energy storage.

VI. Fairness of SCE's Offer Evaluation and Selection Process

Principles Used to Determine Fairness of Process

In evaluating SCE's performance in implementing the 2016 ACES RFO, Merrimack Energy has applied a number of principles and factors, which incorporate those suggested by the Commission's Energy Division as well as additional principles that Merrimack Energy has used in its oversight of other competitive bidding processes. These include:

- Were bidder questions answered fairly and consistently and the answers made available to all?
- Did the bid evaluation team maintain consistent scoring and evaluation among and across projects, including different products, offer metrics and price structures?
- Did the evaluation methodology result in a fair and equitable evaluation and selection process?
- Was the evaluation and selection process consistent with the requirements outlined in the CPUC Resolution with regard to the Aliso Canyon energy storage procurement solicitation?
- Were the requirements listed in the ACES RFO applied in the same manner to all proposals?
- Was there evidence of any undue bias regarding the evaluation and selection of different offers that cannot be reasonably explained?
- Were the offers given equal credibility in the economic evaluation?
- Did SCE ask for "clarifications" that provided the bidder an advantage over others?
- Were all cost factors treated in an equitable and consistent manner?

- Did SCE consistently apply the requirements, procedures and criteria of the evaluation process as identified in the RFO documents to different bids and types of projects?
- Was the evaluation and selection process based on complete information about each proposal and a thorough investigation by SCE's project team?

Merrimack Energy has the following observations about the process based on our role as IE:

- Overall, the IE viewed the offer evaluation and ranking process by SCE as being reasonable, consistent, and fair to all respondents and generally consistent with the pre-specified evaluation protocols and criteria identified in SCE's ACES RFO documents and internal descriptions. As described in this report SCE indicated that it intended to rank offers based on NPV \$/kW-month. SCE followed the process and methodology it had prepared for ranking and selecting offers.
- SCE's evaluation and selection process resulted in SCE selecting four energy storage offers for shortlisting purposes. SCE's evaluation and selection process resulted in the following outcomes for shortlist selection:
 - SCE selected [REDACTED] of energy storage RA capacity at a notional cost of approximately [REDACTED];
 - All of the Offers selected had a Nominal RA Premium below the Price Competitive Metric [REDACTED]
 - The average price of the projects selected for the shortlist was [REDACTED]
- Based on our assessment of the evaluation process relative to the above criteria, it is our opinion that all offerors had access to the same amount and quality of information at the same time via SCE's website. SCE utilized the ACES RFO website dedicated to the solicitation and posted all documents and Questions and Answers on the website. We also observed no difference in the treatment of offerors regarding clarification questions for Offerors, correspondence and communications with Offerors, and follow-up contacts. SCE also conducted a Bidders Conference call which allowed all potential bidders to ask clarifying questions about the ACES RFO and related requirements.
- Most of the Offers submitted were conforming offers. However, several offers either withdrew or were classified as non-conforming. The remaining offers were more than sufficient to maintain a competitive process throughout the solicitation. SCE eliminated one offer due to late submission and classified a few other offers as non-conforming. One Seller withdrew for failure to secure site control. The IE agreed with this decision.

- RA-only agreements were executed for three of the [REDACTED] shortlisted projects,



- The impact of the adjustments in contract volume is that SCE has executed contracts for three projects with aggregate capacity of 27 MW at a cost of [REDACTED].
- Merrimack Energy has reviewed the three contracts executed by SCE, with respect to Alta Gas' 20 MW Pomona Storage Energy 1 project, Western Grid Development's 5 MW Santa Paula 1 project, and Powin Energy's 2 MW Millikan Avenue BESS project. In the IE's opinion, these contracts were fairly negotiated by SCE, were consistent with the intent of Resolution E-4791, and appropriately protect the interests of SCE's ratepayers. Each of the contracts is addressed in the Attachments to this IE report.
- The CAM Group was actively involved in the ACES RFO process via SCE's presentations and updates on two occasions during the solicitation timeframe to discuss the RFO documents and requirements, the offer evaluation and selection protocols, the results of the solicitation, and the basis for short list selection; Our assessment is that SCE's evaluation of the offers and its decisions on offer ranking and selection were fair, reasonable and consistent. SCE exhibited considerable care and diligence in the evaluation process, informed the IE at each step, and sought input from the IE consistently throughout the process;

VII. Safeguards and Methodologies Employed

Commission policy governing the procurement of utility-owned generation through competitive solicitations was included in D.07-12-052 (p. 209). The policy states:

“However, we reiterate that, as a precondition for conducting an RFO seeking utility ownership options, the IOU, in conjunction with its IE, PRG, and ED staff shall develop a strict code of conduct – to be signed by any and all IOU personnel involved in the RFO process – to prevent sharing of sensitive information between staff involved in developing utility bids and staff who create the bid evaluation criteria and select winning bids.”

Merrimack Energy was originally contacted by SCE to serve as IE for the ACES RFO solicitation. However, during an initial team meeting to discuss the solicitation process, SCE indicated that it also intended to develop and issue an RFP for Design, Build, and Transfer (“DBT”) options for which SCE would ultimately own the project based on the provisions of the final Resolution E-4791. The IE raised the issue at that time whether SCE was developing a Code of Conduct for the solicitation given that a utility ownership option could potentially compete with a third-party offer.²¹ SCE immediately began developing a Code of Conduct consistent with Commission policy and involved the IE in the process at that time.

SCE prepared the Aliso Canyon Energy Storage (“ACES”) RFO/RFP Confidentiality Protocol and Code of Conduct which applies to all SCE employees, contractors, and consultants engaged in the ACES RFO/RFP that SCE initiated in compliance with Resolution E-4791. The Code of Conduct prevents the sharing of sensitive information between personnel involved in developing utility bids and personnel who create the bid evaluation criteria and select winning bids. Although SCE personnel will not actually be developing utility bids for the ACES RFP since the ACES RFP is limited to bids by third parties for turnkey DBT projects, SCE is requiring all personnel who are engaged in the ACES RFO/RFP to adhere to the Code of Conduct.

The Code of Conduct created categories of employees (i.e., Energy Storage Solicitation Employees and Energy Storage Ownership Employees) along with their duties and functions, defined confidential information, identified access to confidential information by each category of employees, defined requirements associated with the transfer of employees between project teams, and the procedures for addressing any violations.

SCE explained the Code of Conduct to employees in staff meetings and responded to questions and concerns about the Code of Conduct on a regular basis in meetings and conference calls. SCE also appointed an Attorney to oversee the Code of Conduct. SCE provided a list of the employees that are subject to the Code of Conduct along with identification of the employee category to the IE.

The IE was contacted by the appointed Attorney to oversee the Code of Conduct on two occasions regarding transfer of employees. In the first case, the IE was informed that several employees were not properly classified at the beginning of the solicitation process and were being reclassified based on their expected functions. SCE required these

²¹ Merrimack Energy had served as IE in another solicitation in California in which third-party and utility-owned options were allowed to compete and was aware of the Commission policy and Code of Conduct issues.

employees to re-sign the Code of Conduct and attest if they had received any confidential information. SCE determined there were not violations and informed the IE. However, there were no violations associated with the transfer.

The IE was also informed that three ownership employees were inadvertently included on an email chain that included the costs incurred to mitigate reliability issues associated with the Aliso Canyon response as requested by the Energy Division. SCE's lead Attorney on the Code of Conduct informed the IE that only SCE's expected expenditures (including the cost of the contracts to be procured via the ACES RFO) were identified, but there was no other context in terms of MW procured or information about the Bidders. Based on discussions with SCE it did not appear that this information would provide any competitive advantage to the DBT team.

An example of how the solicitation process has been conducted given the team structure under the Code of Conduct is the process undertaken by SCE for presentation of evaluation and shortlist results at the July 6, 2016 CAM meeting. At the meeting, SCE provided 5 presentations including one for the ACES RFO presented by the Energy Storage Solicitation team, two for ACES DBT RFP (one by the Ownership team and one by the Solicitation Team on the economic analysis), and two for the utility-owned storage proposal at SCE Peakers (one by the generation team and one by the Solicitation team). Members of the generation team and DBT ownership team were not allowed to listen in on the presentations by the Solicitation team for any of the options.

In conclusion, the IE is not aware of any violations of the Code of Conduct. SCE was diligent in developing and implementing the Code of Conduct as required. The presence of an Attorney to oversee the Code of Conduct and coordinate with the IE on any possible issues was a very positive development.

VIII. Conclusions and Recommendations

The results of the ACES RFO solicitation process are generally consistent with the Commission's policy objectives. First, the response of the market was more than ample, especially given the limited lead time required to place an energy storage facility in operation by the end of 2016. Second, the solicitation has produced several projects which appear to be in a position to meet the stringent on-line requirements of this solicitation and its associated stringent lead times. Third, the competitiveness cost benchmark did serve the purpose of limiting bid selection to those projects whose costs were reasonable under the circumstances.

For the reasons stated herein, Merrimack Energy concludes that the short listing decisions by SCE in the ACES RFO were reasonable and based on the requirements and evaluation criteria set forth in the RFO documents. SCE followed its established protocols and methodology in evaluating and selecting offers. While it is disappointing that one of the shortlisted projects dropped out after shortlisting and another reduced the size of its shortlisted project, the three contracts that have been executed represent a reasonable

response to the Commission's directive to effectuate incremental storage to help alleviate the potential shortages associated with the moratorium on injections into the Aliso Canyon natural gas storage facility. In Merrimack Energy's opinion, the resulting RA contracts are reasonable, are in the best interests of customers, and should be approved.

Given the unique nature of this solicitation, the IE has no additional recommendations regarding this solicitation process.

ATTACHMENT 1 (Confidential)

Redacted in its Entirety

ATTACHMENT 2 (Confidential)

Redacted in its Entirety

ATTACHMENT 3 (Confidential)

Redacted in its Entirety

ATTACHMENT 4 (Confidential)

Redacted in its Entirety

CONFIDENTIAL Appendix E

Comparison of the Santa Paula 1 Contract to the ACES

Solicitation RA *Pro Forma* Energy Storage Agreement

Confidential Protected Materials – Public Disclosure Prohibited

CONFIDENTIAL Appendix F

Santa Paula 1 Contract

Confidential Protected Materials – Public Disclosure Prohibited

CONFIDENTIAL Appendix G

Consistent Evaluation Protocol Spreadsheet

Confidential Protected Materials – Public Disclosure Prohibited

PUBLIC Appendix H
Confidentiality Declaration

**DECLARATION OF GUS FLORES REGARDING THE CONFIDENTIALITY OF CERTAIN
DATA**

I, Gus Flores, declare and state:

1. I am a Principal Manager of Contract Origination in the Power Supply organization at Southern California Edison Company (“SCE”). I was responsible for overseeing SCE’s Aliso Canyon Energy Storage (“ACES”) Request for Offers (“RFO”). As such, I have reviewed SCE’s Advice Letters seeking California Public Utilities Commission (“Commission” or “CPUC”) approval of the results of its ACES RFO, and supporting Appendices. I make this declaration in accordance with Decisions (“D.”) 06-06-066 and D.08-04-023, issued in Rulemaking (“R.”)05-06-040, and D.13-10-040 issued in R.10-12-007. I have personal knowledge of the facts and representations herein and, if called upon to testify, could and would do so, except for those facts expressly stated to be based upon information and belief, and as to those matters, I believe them to be true.

2. Listed below is the data in the supporting Advice Letter and Appendices for which SCE is seeking confidential protection and the categories of the Matrix of Allowed Confidential Treatment Investor Owned Utility Data (“Matrix”) appended to D.06-06-066 to which these data correspond.

Data	Location	Matrix Category	Period of Confidentiality
Project Summary of the Santa Paula 1 Project	Confidential Appendix A	VIII.A Bid Information	For bid information, total number of projects and megawatts bid by resource type public after final contracts submitted to CPUC for approval.
ACES RFO Solicitation Overview	Confidential Appendix B	VIII.A Bid Information	For bid information, total number of projects and megawatts bid by resource type public after final contracts submitted to CPUC for approval.

		VII.B Contracts and power purchase agreements between utilities and non-affiliated third parties (except RPS)	Contracts confidential for three years, or until one year following expiration, whichever comes first.
Independent Evaluator Report	Confidential Appendix D at pages 11, 13, 18, 19, 20, 21, 22, 23, 24, and 25; Confidential Attachments 1, 2, 3, and 4 to the Independent Evaluator Report in their entirety	VII.B Contracts and power purchase agreements between utilities and non-affiliated third parties (except RPS) VIII.A Bid Information VIII.B Specific quantitative analysis involved in the scoring and evaluation of participating bids	Contracts confidential for three years, or until one year following expiration, whichever comes first. For bid information, total number of projects and megawatts bid by resource type public after final contracts submitted to CPUC for approval. Specific quantitative analysis involved in the scoring and evaluation of participating bids confidential for three years after winning bidders selected.
Comparison of the Santa Paula 1 Contract to the 2016 Aliso Canyon Energy Storage RFO Pro Forma Energy Storage Resource Adequacy Purchase Agreement With Pre-RA Delivery Period	Confidential Appendix E	VII.B Contracts and power purchase agreements between utilities and non-affiliated third parties (except RPS)	Contracts confidential for three years, or until one year following expiration, whichever comes first.
Santa Paula 1 Contract	Confidential Appendix F	VII.B Contracts and power purchase agreements between utilities and non-affiliated third parties (except RPS)	Contracts confidential for three years, or until one year following expiration, whichever comes first.

3. SCE is complying with the limitations on confidentiality specified in the Matrix that pertain to the data listed in the table above.

4. I am informed and believe and thereon allege that the data in the table in paragraph 2 above cannot be aggregated, redacted, summarized, masked or otherwise protected in a manner that would allow partial disclosure of the data while still protecting confidential information.

5. I am informed and believe and thereon allege that the data in the table in paragraph 2 and above has never been made publicly available.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on August 11, 2016, at Rosemead, California.

/s/ Gus Flores
Gus Flores

**DECLARATION OF RANBIR SEKHON REGARDING THE CONFIDENTIALITY OF
CERTAIN DATA**

I, Ranbir Sekhon, declare and state:

1. I am the Director of the Portfolio Planning & Analysis department of Southern California Edison’s (“SCE’s”) Power Supply organization. I was responsible for overseeing the valuation process for SCE’s Aliso Canyon Energy Storage (“ACES”) Request for Offers (“RFO”). As such, I have reviewed SCE’s Advice Letters seeking California Public Utilities Commission (“Commission” or “CPUC”) approval of the results of its ACES RFO, and supporting Appendices. I make this declaration in accordance with Decisions (“D.”) 06-06-066 and D.08-04-023, issued in Rulemaking 05-06-040, and D.13-10-040 issued in R.10-12-007. I have personal knowledge of the facts and representations herein and, if called upon to testify, could and would do so, except for those facts expressly stated to be based upon information and belief, and as to those matters, I believe them to be true.

2. Listed below is the data in the supporting Testimony for which SCE is seeking confidential protection and the categories of the Matrix of Allowed Confidential Treatment Investor Owned Utility Data (“Matrix”) appended to D.06-06-066 to which these data correspond.

Data	Page	Matrix Category	Period of Confidentiality
Valuation Overview	Confidential Appendix C	VIII.B Specific quantitative analysis involved in the scoring and evaluation of participating bids	Specific quantitative analysis involved in the scoring and evaluation of participating bids confidential for three years after winning bidders selected.
ES RFO Consistent Evaluation Protocol (“CEP”) Spreadsheet	Confidential Appendix G	VIII.A Bid Information VIII.B Specific quantitative analysis involved in the scoring and evaluation of	For bid information, total number of projects and megawatts bid by resource type public after final contracts submitted to CPUC for approval. Specific quantitative analysis involved in the scoring and evaluation of participating bids

		participating bids	confidential for three years after winning bidders selected.
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3. SCE is complying with the limitations on confidentiality specified in the Matrix that pertain to the data listed in the table above.

4. I am informed and believe and thereon allege that the data in the table in paragraph 2 above cannot be aggregated, redacted, summarized, masked or otherwise protected in a manner that would allow partial disclosure of the data while still protecting confidential information.

5. I am informed and believe and thereon allege that the data in the table in paragraph 2 above has never been made publicly available.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on August 11, 2016, at Rosemead, California.

/s/ Ranbir Sekhon

Ranbir Sekhon

PUBLIC Appendix I
Proposed Protective Order

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

Submission of Santa Paula 1 Contract for)
Procurement of Energy Storage From SCE's)
Aliso Canyon Energy Storage Solicitation)

Advice 3454-E

PROPOSED PROTECTIVE ORDER

1. Scope. This Protective Order shall govern access to and the use of Protected Materials, produced by, or on behalf of, any Disclosing Party (as defined in Paragraph 2 below) in this proceeding.

2. Definitions.

In addition to the terms defined and capitalized in other sections of this Protective Order, the following terms are defined for the purposes of this Protective Order:

A. For purposes of this Protective Order, the term “Protected Materials” means: (i) trade secret, market sensitive, or other confidential and/or proprietary information as determined by the Disclosing Party in accordance with the provisions of Decision (“D.”) 06-06-066 and subsequent decisions, including D.14-10-033 which governs the treatment of market sensitive greenhouse gas data and information, General Order 66-C, Public Utilities Code section 454.5(g), or any other right of confidentiality provided by law; or (ii) any other materials that are made subject to this Protective Order by the Assigned Administrative Law Judge (“Assigned ALJ”), Law and Motion Administrative Law Judge (“Law and Motion ALJ”), Assigned Commissioner, the California Public Utilities Commission (“Commission”), or any court or other body having appropriate authority. Protected Materials also include memoranda, handwritten notes, spreadsheets, computer files and reports, and any other form of information (including information in electronic form) that copies, discloses, incorporates, includes or

compiles other Protected Materials or from which such materials may be derived (except that any derivative materials must be separately shown to be confidential). Protected Materials do not include: (i) any information or document contained in the public files of the Commission or any other state or federal agency, or in any state or federal court; or (ii) any information that is public knowledge, or which becomes public knowledge, other than through disclosure in violation of this Protective Order or any other nondisclosure agreement or protective order.

B. The term “redacted” refers to situations in which Protected Material in a document, whether the document is in paper or electronic form, have been covered, blocked out, or removed.

C. The term “Disclosing Party” means a party who initially discloses any specified Protected Material in this proceeding.

D. The term “Requesting Party” means any party that is requesting receipt of Protected Material from a Disclosing Party.

E. The term “Party” refers to the Requesting Party or the Disclosing Party and the term “Parties” refers to both the Requesting Party and the Disclosing Party.

F. The term “Market Participant” refers to a Requesting Party that is:

- 1) A person or entity, or an employee of an entity, that engages in the wholesale purchase, sale or marketing of energy or capacity, or the bidding on or purchasing of power plants, or bidding on utility procurement solicitations, or consulting on such matters, subject to the limitations in 3) below.
- 2) A trade association or similar organization, or an employee of such organization,
 - a) whose primary focus in proceedings at the Commission is to advocate for persons/entities that purchase, sell or market energy or capacity at wholesale; bid on, own, or purchase power plants; or bid on utility procurement solicitations; or
 - b) a majority of whose members purchase, sell or market energy

or capacity at wholesale; bid on, own, or purchase power plants; or bid on utility procurement solicitations; or

- c) formed for the purpose of obtaining Protected Materials; or
 - d) controlled or primarily funded by a person or entity whose primary purpose is to purchase, sell or market energy or capacity at wholesale; bid on, own, or purchase power plants; or bid on utility procurement solicitations.
- 3) A person or entity that meets the criteria of 1) above is not a Market Participant for purpose of access to Protected Materials unless the person/entity seeking access to Protected Materials has the potential to materially affect the price paid or received for electricity if in possession of such information. An entity will be considered not to have such potential if:
- a) the person or entity's participation in the California electricity market is *de minimis* in nature. In the resource adequacy proceeding (R.05-12-013) it was determined in D.06-06-064 § 3.3.2 that the resource adequacy requirement should be rounded to the nearest megawatt (MW), and load serving entities (LSEs) with local resource adequacy requirements less than 1 MW are not required to make a showing. Therefore, a *de minimis* amount of energy would be less than 1 MW of capacity per year, and/or an equivalent of energy; and/or
 - b) the person or entity has no ability to dictate the price of electricity it purchases or sells because such price is set by a process over which the person or entity has no control, *i.e.*, where the prices for power put to the grid are completely overseen by the Commission, such as subject to a standard offer contract or tariff price. A person or entity that currently has no ability to dictate the price of electricity it purchases or sells under this section, but that will have such ability within one year because its contract is expiring or other circumstances are changing, does not meet this exception; and/or
 - c) the person or entity is a cogenerator that consumes all the power it generates in its own industrial and commercial processes, if it can establish a legitimate need for Protected Materials.

G. The term “Non-Market Participant” refers to a Requesting Party that does not meet the definition of Market Participant. The California Independent System Operator is deemed a Non-Market Participant for purposes of this Protective Order.

H. “Reviewing Representatives” are limited to person(s) designated in accordance with Paragraph 5 who meet the following criteria:

- 1) Reviewing Representatives may not currently be engaged in: (a) a transaction for the purchase, sale, or marketing at wholesale of electrical energy or capacity or natural gas (or the direct supervision of any employee(s) engagement in such a transaction); (b) the bidding on or purchasing of power plants (or the direct supervision of any employee(s) engagement in such a transaction); or (c) knowingly providing electricity or gas marketing consulting or advisory services to others in connection with a transaction for the purchase, sale, or marketing at wholesale of electrical energy or capacity or natural gas or the bidding on or purchasing of power plants (or the direct supervision of any employee(s) engagement in such a transaction or consulting).
- 2) Reviewing Representatives may not be an employee of a Market Participant. If the Market Participant or Non-Market Participant chooses to retain outside attorneys, consultants, or experts in the same law firm or consulting firm to provide advice in connection with marketing activities, then the attorney, consultant, or expert serving as a Reviewing Representative must be separated by an ethics wall consistent with the ethics wall requirements in D.11-07-028, as that decision may be subsequently modified or changed by the Commission, from those in the firm who are involved in wholesale commercial dealings.
- 3) Reviewing Representatives shall use Protected Materials only for the purpose of participating in the Commission proceeding in which they received the information.
- 4) Reviewing Representatives are permitted to participate in regulatory proceedings on behalf of Market Participants and Non-Market Participants.
- 5) All Reviewing Representatives are required to execute the Nondisclosure Certificate attached to this Protective Order and are bound by the terms of this Protective Order.

I. The term “Authorized Reviewers” refers to: (1) a Requesting Party that is a Non-Market Participant; or (2) a Reviewing Representative of a Requesting Party. A Requesting Party that is a Market Participant is not an Authorized Reviewer but it may designate a Reviewing Representative in accordance with Paragraph 5.

J. The term “Nondisclosure Certificate” refers to the Nondisclosure Certificate attached as Appendix A.

3. Designation, Filing, and Service of Protected Materials.

When filing or providing in discovery any documents or items containing Protected Materials, a party shall physically mark such documents (or in the case of non-documentary materials such as computer diskettes, on each item) as “PROTECTED MATERIALS SUBJECT TO PROTECTIVE ORDER,” or with words of similar import as long as one or more of the terms “Protected Materials” or “Protective Order” is included in the designation to indicate that the materials in question are Protected Materials. All materials so designated shall be treated as Protected Materials unless and until: (a) the designation is withdrawn pursuant to Paragraph 14 hereof; (b) an Assigned ALJ, Law and Motion ALJ, Assigned Commissioner, or the Commission makes a determination that: (i) the document does not contain Protected Materials or does not warrant confidential treatment or (ii) denies a motion to file the document under seal; or (c) the document or information becomes public knowledge, other than through disclosure in violation of this Protective Order or any other nondisclosure agreement or protective order. However, the Disclosing Party has the burden of showing that the documents are Protected Materials, and merely marking a document “Protected Materials” is insufficient to meet that burden.

All documents containing Protected Materials that are tendered for filing with the Commission shall be placed in sealed envelopes or otherwise appropriately protected and shall be tendered with a motion to file the document under seal pursuant to Rule 11.4 of the

Commission's Rules of Practice and Procedure. All documents containing Protected Materials that are served on parties in a proceeding shall be placed in sealed envelopes or otherwise appropriately protected and shall be endorsed to the effect that they are served under seal pursuant to this Protective Order. Such documents shall only be served upon Authorized Reviewers and persons employed by or working on behalf of the Commission. Service upon Authorized Reviewers and persons employed by or working on behalf of the Commission may either be: (a) by electronic mail in accordance with the procedures adopted in this proceeding; (b) by facsimile; or (c) by overnight mail or messenger service. Whenever service of a document containing Protected Materials is made by overnight mail or messenger service, the Assigned ALJ shall be served with such document by the same means and at the same time.

4. Redaction of Documents. Whenever a Party files, serves or provides in discovery a document that includes Protected Materials (including but not limited to briefs, testimony, exhibits, and responses to data requests), such Party shall also prepare a redacted version of such document. The redacted version shall enable persons familiar with this proceeding to determine with reasonable certainty the nature of the data that has been redacted and where the redactions occurred. The redacted version of a document to be filed shall be served on all persons on the service list, and the redacted version of a discovery document shall be served on all persons entitled thereto.

5. Designation of Reviewing Representatives. The Requesting Party shall provide written notice identifying its proposed Reviewing Representative(s) to the Disclosing Party before the Disclosing Party provides any Protected Materials to the Requesting Party's Authorized Reviewers. The written notice shall include the information identified in this paragraph. If the Requesting Party decides to designate any additional Reviewing Representative(s) after the Requesting Party's Authorized Reviewers receive Protected

Materials, the Requesting Party shall identify the additional proposed Reviewing Representative(s) to the Disclosing Party before the Requesting Party provides Protected Materials to the additional Reviewing Representative(s). Within five (5) business days after receiving written notice of the identity of any Reviewing Representative, the Disclosing Party may provide the Requesting Party with a written objection to a specific Reviewing Representative stating the grounds for the objection. Any dispute concerning whether an identified person or entity is an appropriate Reviewing Representative shall be resolved through the dispute resolution procedures in Paragraph 11 of this Protective Order. If a Disclosing Party objects to a specific Reviewing Representative within five (5) business days after the Reviewing Representative is identified, the Parties shall not provide any Protected Materials to the disputed Reviewing Representative until the Parties are able to resolve the dispute consistent with the dispute resolution procedures in Paragraph 11. Failure by the Disclosing Party to object within five (5) business days does not waive the Disclosing Party's right to later object to the Reviewing Representative, even if Protected Materials has already been disclosed. However, further disclosure of Protected Materials would be stayed until the parties are able to resolve the dispute consistent with the dispute resolution procedures in Paragraph 11.

Reviewing Representative(s) have a duty to disclose to the Disclosing Party any potential conflict of interest that puts the Reviewing Representative in violation of D.06-12-030, as modified by subsequent decisions of the Commission. A resume or curriculum vitae is reasonable disclosure of such potential conflicts, and should be the default evidence provided in most cases.

6. Nondisclosure Certificates. A Reviewing Representative shall not inspect, participate in discussions regarding, or otherwise be granted access to, Protected Materials unless and until he or she has first completed and executed a Nondisclosure Certificate, attached hereto

as Appendix A, and delivered the signed Nondisclosure Certificate to the Disclosing Party. The Disclosing Party shall retain the executed Nondisclosure Certificates pertaining to the Protected Materials it has disclosed and shall promptly provide copies of the Nondisclosure Certificates to Commission Staff upon request.

7. Access to Protected Materials and Use of Protected Materials. Subject to the terms of this Protective Order, Authorized Reviewers shall be entitled to access any Protected Materials and may make copies of Protected Materials, but such copies become Protected Materials. Authorized Reviewers may make notes of Protected Materials, which shall be treated as Protected Materials if such notes disclose any Protected Materials. Protected Materials obtained by a Party in this proceeding may also be requested by that Party in a subsequent Commission proceeding, subject to the terms of any nondisclosure agreement or protective order governing that subsequent proceeding, without constituting a violation of this Protective Order.

8. Maintaining Confidentiality of Protected Materials. Each Authorized Reviewer shall treat Protected Materials as confidential in accordance with this Protective Order and the Nondisclosure Certificate. Protected Materials shall not be used except as necessary for participation in this proceeding, and shall not be disclosed in any manner to any person except: (i) Authorized Reviewers; (ii) an Authorized Reviewer's employees and administrative personnel, such as clerks, secretaries, and word processors, to the extent necessary to assist the Authorized Reviewer, provided that they shall first ensure that such personnel are familiar with the terms of this Protective Order and have signed a Nondisclosure Certificate; and (iii) persons employed by or working on behalf of the Commission. Authorized Reviewers shall adopt suitable measures to maintain the confidentiality of Protected Materials they have obtained pursuant to this Protective Order, and shall treat such Protected Materials in the same manner as they treat their own most highly confidential information.

Authorized Reviewers shall be liable for any unauthorized disclosure or use by themselves and/or employees, paralegals, or administrative staff. In the event any Authorized Reviewer is requested or required by applicable laws or regulations, or in the course of administrative or judicial proceedings (in response to oral questions, interrogatories, requests for information or documents, subpoena, civil investigative demand or similar process) to disclose any of Protected Materials, the Authorized Reviewer shall immediately inform the Disclosing Party of the request, and the Disclosing Party may, at its sole discretion and cost, direct any challenge or defense against the disclosure requirement, and the Authorized Reviewer shall cooperate in good faith with such Party either to oppose the disclosure of the Protected Materials consistent with applicable law, or to obtain confidential treatment of the Protected Materials by the person or entity who wishes to receive them prior to any such disclosure. If there are multiple requests for substantially similar Protected Materials in the same case or proceeding where an Authorized Reviewer has been ordered to produce certain specific Protected Materials, the Authorized Reviewer may, upon request for substantially similar materials by another person or entity, respond in a manner consistent with that order to those substantially similar requests.

9. Return or Destruction of Protected Materials. Protected Materials shall remain available to Authorized Reviewers until an order terminating this proceeding becomes no longer subject to judicial review. If requested to do so in writing after that date, the Authorized Reviewers shall, within fifteen days after such request, return the Protected Materials to the Disclosing Party that produced such Protected Materials, or shall destroy the materials, except that copies of filings, official transcripts and exhibits in this proceeding that contain Protected Materials, and notes of Protected Materials may be retained, if such Protected Materials are maintained in accordance with Paragraph 8. Within such time period each Authorized Reviewer, if requested to do so, shall also submit to the Disclosing Party an affidavit stating that, to the best

of its knowledge, all Protected Materials have been returned or have been destroyed or will be maintained in accordance with Paragraph 8. To the extent Protected Materials are not returned or destroyed, they shall remain subject to this Protective Order.

In the event that a Reviewing Representative to whom Protected Materials are disclosed ceases to be engaged to provide services in this proceeding, then access to such materials by that person shall be terminated and the Reviewing Representative shall immediately return or destroy all Protected Materials, or provide an affidavit stating that all Protected Materials and all notes of Protected Materials will be maintained in accordance with Paragraph 8. Even if a Reviewing Representative is no longer engaged in this proceeding, every such person shall continue to be bound by the provisions of this Protective Order and the Nondisclosure Certificate.

10. Access and Use by Governmental Entities.

A. In the event the Commission receives a request from the California Energy Commission (“CEC”) for a copy of or access to any Party’s Protected Materials, the procedure for handling such requests shall be as follows. Not less than five (5) business days after delivering written notice to the Disclosing Party of the request, the Commission shall release such Protected Materials to the CEC upon receipt from the CEC of an Interagency Information Request and Confidentiality Agreement (“Interagency Confidentiality Agreement”). Such Interagency Confidentiality Agreement shall: (i) provide that the CEC will treat the requested Protected Materials as confidential in accordance with this Protective Order; (ii) include an explanation of the purpose for the CEC’s request, as well as an explanation of how the request relates to furtherance of the CEC’s functions; (iii) be signed by a person authorized to bind the CEC contractually; and (iv) expressly state that furnishing of the requested Protected Materials to employees or representatives of the CEC does not, by itself, make such Protected Materials public. In addition, the Interagency Confidentiality Agreement shall include an express

acknowledgment of the Commission's sole authority (subject to judicial review) to make the determination whether the Protected Materials should remain confidential or be disclosed to the public, notwithstanding any provision to the contrary in the statutes or regulations applicable to the CEC.

B. In the event the Commission receives a request for a copy of or access to a party's Protected Materials from a state governmental agency other than the CEC that is authorized to enter into a written agreement sufficient to satisfy the requirements for maintaining confidentiality set forth in Government Code Section 6254.5(e), the Commission may, not less than five (5) business days after giving written notice to the Disclosing Party of the request, release such Protected Materials to the requesting governmental agency, upon receiving from the requesting agency an executed Interagency Confidentiality Agreement that contains the same provisions described in Paragraph 10.A above.

C. The CEC may use Protected Materials when needed to fulfill its statutory responsibilities or cooperative agreements with the Commission. Commission confidentiality designations will be maintained by the CEC in making such assessments, and the CEC will not publish any assessment that directly reveals the data or allows the data submitted by an individual load serving entity to be "reverse engineered."

11. Dispute Resolution. All disputes that arise under this Protective Order, including but not limited to alleged violations of this Protective Order and disputes concerning whether materials were properly designated as Protected Materials, shall first be addressed by the parties through a meet and confer process in an attempt to resolve such disputes. If the meet and confer process is unsuccessful, either party may present the dispute for resolution to the Assigned ALJ or the Law and Motion ALJ.

12. Other Objections to Use or Disclosure. Nothing in this Protective Order shall be construed as limiting the right of a Party, the Commission Staff, or a state governmental agency covered by Paragraph 10 to object to the use or disclosure of Protected Materials on any legal ground, including relevance or privilege.

13. Remedies. Any violation of this Protective Order shall constitute a violation of an order of the Commission. Notwithstanding the foregoing, the parties and Commission Staff reserve their rights to pursue any legal or equitable remedies that may be available in the event of an actual or anticipated disclosure of Protected Materials.

14. Withdrawal of Designation. A Disclosing Party may agree at any time to remove the “Protected Materials” designation from any materials of such Party if, in its opinion, confidentiality protection is no longer required. In such a case, the Disclosing Party will notify all Requesting Parties that the Disclosing Party has agreed to withdraw its designation of Protected Materials for specific documents or material.

15. Modification. This Protective Order shall remain in effect unless and until it is modified or terminated by the Commission or the Assigned ALJ. The identity of the parties submitting Protected Materials may differ from time to time. In light of this situation, modifications to this Protective Order may become necessary. The Parties shall work cooperatively to develop such modifications and, to the extent the Parties are able to agree to modifications, shall file a motion with the Assigned ALJ or the Commission seeking approval of the modifications. To the extent Parties are unable to agree on modifications after a good faith effort, each party governed by this Protective Order has the right to seek modifications in it as appropriate from the Assigned ALJ or the Commission.

16. Interpretation. Headings are for convenience only and may not be used to restrict the scope of this Protective Order.

Entered: _____
Administrative Law Judge

Date: _____

APPENDIX A TO PROPOSED PROTECTIVE ORDER
BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Submission of Santa Paula 1 Contract for)	
Procurement of Energy Storage From SCE's)	Advice 3454-E
<u>Aliso Canyon Energy Storage Solicitation</u>)	

NON-DISCLOSURE CERTIFICATE

I hereby certify my understanding that access to Protected Materials is provided to me pursuant to the terms and restrictions of the Protective Order in this proceeding, that I have been given a copy of and have read the Protective Order, and that I agree to be bound by it. I understand that the contents of the Protected Materials, any notes or other memoranda, or any other form of information that copies or discloses Protected Materials shall not be disclosed to anyone other than in accordance with that Protective Order. I acknowledge that a violation of this certificate constitutes a violation of an order of California Public Utilities Commission.

Signed: _____

Name _____

Title: _____

Organization: _____

Dated: _____