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To:	Matt Vespa
Subject:	Southern California Edison Company"s Moorpark Sub-Area Local Capacity Requirements Procurement Plan
Date:	Thursday, December 21, 2017 10:57:29 AM
Attachments:	SCE Moorpark Sub-Area Local Capacity Requirements Procurement Plan.pdf
Importance:	High

Southern California Edison Company ("SCE") submits the Moorpark Sub-Area Local Capacity Requirements Procurement Plan ("Moorpark LCR Procurement Plan") to Energy Division pursuant to D.13-02-015 and the November 27, 2017 letter from Edward Randolph, Director of Energy Division, to SCE ("Energy Division Letter").

As requested in the November 27, 2017 Energy Division Letter, SCE is also serving its Moorpark LCR Procurement Plan on the service lists for A.14-11-016 and R.16-02-007.

(See attached file: SCE Moorpark Sub-Area Local Capacity Requirements Procurement Plan.pdf)

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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE

STATE OF CALIFORNIA

Order Instituting Rulemaking to Integrate and Refine Procurement Policies and Consider Long-Term Procurement Plans.	Rulemaking 12-03-014 (Filed March 22, 2012)

MOORPARK SUB-AREA LOCAL CAPACITY REQUIREMENTS PROCUREMENT PLAN OF SOUTHERN CALIFORNIA EDISON COMPANY SUBMITTED TO ENERGY DIVISION PURSUANT TO D. 13-02-015

Dated: **December 21, 2017**

MOORPARK SUB-AREA LOCAL CAPACITY REQUIREMENTS PROCUREMENT PLAN OF SOUTHERN CALIFORNIA EDISON COMPANY SUBMITTED TO ENERGY DIVISION PURSUANT TO D. 13-02-015

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MOORPARK SUB-AREA LOCAL CAPACITY REQUIREMENTS PROCUREMENT PLAN OF SOUTHERN CALIFORNIA EDISON COMPANY SUBMITTED TO ENERGY DIVISION PURSUANT TO D. 13-02-015

I.

OVERVIEW

Southern California Edison Company ("SCE") submits the Moorpark Sub-Area Local Capacity Requirements Procurement Plan ("Moorpark LCR Procurement Plan") to Energy Division pursuant to D.13-02-015 and the November 27, 2017 letter from the Director of Energy Division to SCE, both of which require SCE to provide a procurement plan demonstrating how it will procure California Public Utilities Commission ("Commission" or "CPUC") authorized resources before launching a solicitation in the Moorpark sub-area.[1] Due to recent events, which will be explained below, there is a need for resources to meet long-term local capacity requirements ("LCR") in the Moorpark sub-area of the Big Creek/Ventura local reliability area by 2021. SCE will launch a Request for Proposals ("RFP") in the Moorpark sub-area soliciting Preferred Resources[2] and energy storage to meet LCR needs.

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1 D.13-02-015 at 133-134 (Ordering Paragraphs ("OP") 5).

2 Preferred Resources are defined in the State's Energy Action Plan II, at page 2, as follows: "The loading order identifies energy efficiency and demand response as the State's preferred means of meeting growing energy needs. After cost-effective [energy] efficiency and demand response, we rely on renewable sources of power and distributed generation, such as combined heat and power

Procurement of resources through the RFP may also enhance resiliency objectives in the Santa Barbara/Goleta area located in the Moorpark sub-area. Although SCE will only solicit Preferred Resources and energy storage connected to the Moorpark and Santa Clara 230/66 kV A-bank substations, it will consider proposals for small (less than 55 MW) gas-fired generation ("GFG") projects connected to the Goleta system, which includes the Goleta 230/66 kV A-bank Substation and the underlying voltage network because of potential charging constraints for energy storage connected to the Goleta system in the event of the loss of the Goleta-Santa Clara 230 kV transmission lines. Notwithstanding SCE's plan to solicit small GFG projects in the Santa Barbara/Goleta area, SCE will have a strong preference for Preferred Resources and energy storage resources in the Santa Barbara/Goleta area.

SCE needs to launch its RFP in February 2018 in order to procure Preferred Resources and energy storage projects that can be online by 2021. Thus, SCE respectfully requests that Energy Division approve the Moorpark LCR Procurement Plan by February 1, 2018.

The Moorpark LCR Procurement Plan describes how SCE intends to procure LCR resources in the Moorpark sub-area, and resources that may also further resiliency objectives in the Santa Barbara/Goleta area. Chapter II describes the Moorpark sub-area, the LCR needs in the area and the factors impacting need, including the unique grid resiliency issues in the Santa Barbara/Goleta area. Chapter III explains the solicitation process, and Chapter IV explains the valuation and selection process. The Moorpark LCR Procurement Plan meets the requirements set forth in D.13-02-015.

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applications. To the extent [energy] efficiency, demand response, renewable resources, and distributed generation are unable to satisfy increasing energy and capacity needs, we support clean and efficient fossil-fired generation. Concurrently, the bulk electricity transmission grid and distribution facility infrastructure must be improved to support growing demand centers and the interconnection of new generation, both on the utility and customer side of the meter."

A. Background

On February 13, 2013, in the Long Term Procurement Plan ("LTPP") proceeding, the Commission issued D.13-02-015 ("Track 1 Decision"), in which it authorized SCE to procure between 215 to 290 MW of electrical capacity in the Moorpark sub-area of the Big Creek/Ventura local reliability area to meet long-term local capacity requirements by 2021.[3] The need for additional capacity in the Moorpark sub-area is largely due to the expected retirement of approximately 2,000 MW from once-through cooling ("OTC") generation facilities in the Moorpark sub-area in compliance with State Water Resources Control Board regulations.[4]

The Track 1 Decision also ordered SCE to submit an LCR procurement plan ("LCR Procurement Plan") to Energy Division explaining how it would conduct its LCR Request for Offers ("RFO").[5] SCE submitted its original LCR Procurement Plan on July 15, 2013.[6] The original LCR Procurement Plan included a section highlighting the unique grid resiliency issues in the Santa Barbara/Goleta area explaining that SCE would not be able to meet all of the peak load served by the Goleta Substation if an outage occurred on the two Goleta- Santa Clara 230 kV transmission lines.[7] In accordance with the Track 1 Decision, Energy Division reviewed SCE's LCR Procurement Plan and requested that SCE submit a modified LCR Procurement Plan with additional information.[8] SCE submitted its final modified LCR Procurement Plan on

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3 *Id*. at 131 (OP 2). D.13-02-015 also authorized SCE to procure between 1400- 1800 MW of electric capacity to meet local capacity requirements in the West Los Angeles sub-area of the Los Angeles basin local reliability area. *Id*. at 130-131 (OP 1).

4 *Id*. at 6, 120 (Finding of Fact ("FOF") 5); California Energy Commission's Tracking Progress, *Once-Through Cooling Phase-Out* (last updated on February 17, 2015) at 6 (total MW from the retirement of the following OTC plants in the Moorpark sub-area: Mandalay 1,2 and Ormond Beach 1,2) available at http://www.energy.ca.gov/renewables/tracking_progress/documents/once_through_cooling.pdf.

5 D.13-02-015 at 133-134 (OP 5-7).

6 A.14-11-016, SCE's LCR RFO Moorpark Application: Exhibit SCE-1, SCE's Opening Testimony, at 4.

7 A.14-11-016, SCE's LCR RFO Moorpark Application: Exhibit SCE-10, Track 1 Procurement Plan of Southern California Edison Company Submitted to Energy Division Pursuant to D. 13-02-015, at 15-16.

8 A.14-11-016, SCE's LCR RFO Moorpark Application: Exhibit SCE-1, SCE's Opening Testimony, at 4.

August 30, 2013.[9] Energy Division approved SCE's modified LCR Procurement Plan on September 4, 2013.

To meet the need identified in the Track 1 Decision, on September 12, 2013, SCE issued an all-source RFO in compliance with CPUC direction seeking new LCR resources, including Preferred Resources, (Energy Efficiency ("EE"), Demand Response ("DR"), renewable resources, Combined Heat and Power ("CHP") resources, and Distributed Generation ("DG")), energy storage resources, and GFG.

The Track 1 Decision also ordered SCE to file an application for approval of all contracts entered into as a result of the procurement process for new capacity in the Moorpark sub-area.[10] On November 26, 2014, SCE filed an application for approval of the results of its 2013 LCR RFO for the Moorpark sub-area seeking approval of 11 contracts.[11] On June 1, 2016, the Commission issued D.16-05-050, approving, in part, SCE's application for approval of the results of its LCR RFO for the Moorpark sub-area, including approval of the Puente contract, a 262 MW GFG project, and 12 MW of Preferred Resources contracts.[12]

Through its application, SCE also sought approval of the Ellwood Refurbishment contract and a linked 0.5 MW in-front-of-the-meter ("IFOM") energy storage contract to ensure the continued operation of Ellwood as the original Moorpark LCR need determination assumed such. The Commission found that although Ellwood is not an incremental resource that would count towards LCR need, "it is appropriate to consider the Ellwood contract in this proceeding."[13] D.16-05-050 also determined that "this proceeding is the most efficient procedural venue to establish if there is a separate local reliability need in the Goleta area…."[14] Based on these findings, the Commission deferred consideration of the Ellwood Refurbishment

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9 *Id*.
10 D.13-02-015 at 135 (OP 11).
11 A.14-11-016, SCE's Application for Approval of the Results of Its 2013 Local Capacity Requirements Request for Offers for the Moorpark Sub-Area, filed November 26, 2014.
12 D.16-05-050 at 39 (OP 1).
13 *Id*. at 30.
14 *Id*. at 31.

contract and the linked 0.5 MW IFOM energy storage contract, both located in Goleta, to a separate decision in the same docket that addressed the unique grid resiliency issues in the Santa Barbara/Goleta area and the best way to meet those needs.[15] In D.17-09-034, issued on October 4, 2017, the Commission ultimately rejected the Ellwood Refurbishment and linked IFOM energy storage contracts, but determined the following:

> Unique and localized transmission grid issues exist in the Santa Barbara/Goleta part of SCE's service territory and, in the event of the loss of the two Goleta-Santa Clara 230 kV transmission lines (referred to as an N-2 Contingency) customers in the Santa Barbara/Goleta area will likely lose service. … Depending on the circumstances of the outage and when it occurs, in the absence of additional resources, SCE would not be able to meet 105 MW of peak load and customers could face rolling blackouts.[16]

As a result, the Commission ordered SCE to provide a letter, within six months of the decision, to the Director of the Energy Division and the Commissioners with "an update on efforts, actions, and resources under review to address the unique needs in the Santa Barbara/Goleta that may arise in the event of the loss of the two Goleta-Santa Clara 230 kilovolt transmission lines."[17] The Moorpark LCR Procurement Plan includes actions that may further the resiliency objectives in the Santa Barbara/Goleta area.

On April 15, 2015, after it had been awarded a contract through the LCR RFO, NRG Oxnard Energy Center LLC ("NRG") filed an Application for Certification ("AFC") at the California Energy Commission ("CEC") seeking authority to construct and operate the Puente project. Throughout the CEC certification proceeding, there was significant opposition to the project from the City of Oxnard, environmental groups, and community members. On October 5, 2017, the CEC Siting Committee assigned to the certification of the Puente project provided notice of its intent to issue a Presiding Member's Proposed Decision ("PMPD") that recommends denial of certification of the Puente project. The CEC permitting process for Puente has since been suspended. If the CEC had certified the Puente project, it would have

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15 *Id*. at 38 (Conclusion of Law ("COL") 8).
16 D.17-09-034 at 24 (FOF 8-9).
17 *Id*. at 27 (OP 2).

contributed to meeting LCR needs in the Moorpark sub-area in 2021 and additional LCR procurement would not have been needed at this time.

As a result of the of the PMPD and the suspension of the CEC permitting process for Puente, SCE is moving forward with its procurement planning process and intends to issue an RFP for LCR resources in the Moorpark sub-area to meet long-term reliability needs by 2021 pursuant to D.13-02-015. Through the RFP, SCE will also seek resources to help further the resiliency objectives in the Santa Barbara/Goleta area.

B. Relevant Rules and Statutes

There are many existing statutes and rules that pertain to the procurement of Preferred Resources and energy storage in California. The incremental procurement of Preferred Resources and energy storage to meet LCR need in the Moorpark sub-area may not fully comply with all of the presently applicable rules. For example, the Track 1 Decision requires that all resources be demonstrated to be incremental to resource development that would have otherwise occurred. As a result, EE resources selected to meet the LCR need may not meet the Commission's cost-effectiveness tests, but may still be cost-competitive with alternatives available at the time of selection.

The rules surrounding Renewables Portfolio Standard ("RPS") procurement could also affect SCE's procurement of renewable resources to meet its LCR needs. For instance, SCE may need to account for the RPS cost limitation mechanism, which has not yet been adopted by the Commission, in procuring renewable resources to meet LCR needs. Moreover, pursuant to Public Utilities Code Sections 399.13 (a)(7)(A-B), SCE "shall give preference to renewable energy projects that provide environmental and economic benefits to communities afflicted with poverty or high unemployment, or that suffer from high emission levels of toxic air contaminants, criteria air pollutants, and greenhouse gases."[18] SCE will address any other

[18] Public Utilities Code Sections 399.13 (a)(7)(A-B) state the following: (A) In soliciting and procuring eligible renewable energy resources for California-based projects, each electrical corporation shall

relevant RPS rules in its application or other filing requesting approval of renewable LCR contracts. SCE will adhere to procurement rules applicable on the date of the selection of resources.

The Commission's energy storage rules set forth in D.13-10-040 govern SCE's procurement of transmission, distribution, and customer connected storage. Although SCE has exceeded its interim targets set by the Commission, particularly in the customer domain, it is SCE's expectation that cost-competitive energy storage will be a critical component of the LCR Moorpark resource portfolio. In instances where customer-connected storage is the best fit to fill the LCR need, SCE will continue to value and consider these resources to meet its Moorpark LCR needs, and notwithstanding its current customer-connected energy storage domain position. This LCR procurement will also take into account and comply with the multi-use application rules pending Commission approval in R.15-03-011, the Energy Storage Framework proceeding.

Moreover, given that SCE intends to focus its LCR procurement on Preferred Resources and energy storage, the procurement will be consistent with the Loading Order of the State's Energy Action Plan.[19] However, as identified in the Track 1 Decision, "[i]n addition to meeting reliability criteria and consistency with the Loading Order, LCR procurement by SCE must be at

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give preference to renewable energy projects that provide environmental and economic benefits to communities afflicted with poverty or high unemployment, or that suffer from high emission levels of toxic air contaminants, criteria air pollutants, and greenhouse gases. (B) Subparagraph (A) applies to all procurement of eligible renewable energy resources for California-based projects, whether the procurement occur through all-source requests for offers, eligible renewable resources only requests for offers, or other procurement mechanisms. This subparagraph is declaratory of existing law.

[19] The State's Energy Action Plan II, at page 2, states the following: "The loading order identifies energy efficiency and demand response as the State's preferred means of meeting growing energy needs. After cost-effective [energy] efficiency and demand response, we rely on renewable sources of power and distributed generation, such as combined heat and power applications. To the extent [energy] efficiency, demand response, renewable resources, and distributed generation are unable to satisfy increasing energy and capacity needs, we support clean and efficient fossil-fired generation. Concurrently, the bulk electricity transmission grid and distribution facility infrastructure must be improved to support growing demand centers and the interconnection of new generation, both on the utility and customer side of the meter."

least cost to ratepayers."[20] SCE will do its best to "balance[e] the three criteria of ensuring reliability, consistency with the Loading Order and cost-minimization."[21]

In addition, given that SCE plans on soliciting GFG projects in the Santa Barbara/Goleta area because of potential resource constraints, SCE will adhere to Assembly Bill 1937, codified at Public Utilities Code Section 454.5(b)(9)(D)(i-ii), and actively seek, express a preference for, and when considering bids, provide a greater preference to Preferred Resource and energy storage bids "located in communities that suffer from cumulative pollution burdens."[22]

Pursuant to D.08-11-008 and D.06-07-029, SCE will utilize Sedway Consulting as its Independent Evaluator ("IE"), as Sedway was the IE utilized during the 2013 LCR RFO.[23] SCE will also periodically consult with the Cost Allocation Mechanism ("CAM") Group and Energy Division. Pursuant to the Track 1 Decision and AB 57, codified at Public Utilities Code Section 454.5, SCE will seek approval for contracts signed through the RFP in a subsequent application. Per D.06-07-029, Public Utilities Code Section 365.1(c)(2)(A-B), the Track 1 Decision, which authorized the LCR procurement to benefit all customers within the SCE service territory, and D.16-05-050,[24] which approved SCE's LCR RFO Moorpark application and the cost allocation methodology proposed in the application, SCE intends to seek CAM treatment for RFP-executed contracts.

This LCR Procurement Plan is intended to comply with all relevant statutes and rules to the greatest extent possible, but may vary from Preferred Resource and energy storage procurement rules in order to acquire the least-cost, best-fit resources in the most effective

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[20] D.13-02-015 at 80.

[21] *Id*.

[22] Public Utilities Code Section 454.5(b)(9)(D)(i-ii) (i): The electrical corporation, in soliciting bids for new gas-fired generating units, shall actively seek bids for resources that are not gas-fired generating units located in communities that suffer from cumulative pollution burdens, including, but not limited to, high emission levels of toxic air contaminants, criteria air pollutants, and greenhouse gases.
(ii) In considering bids for, or negotiating contracts for, new gas-fired generating units, the electrical corporation shall provide greater preference to resources that are not gas-fired generating units located in communities that suffer from cumulative pollution burdens, including, but not limited to, high emission levels of toxic air contaminants, criteria air pollutants, and greenhouse gases.

[23] D.08-11-008 at 39-40 (OP 2); D.06-07-029 at 28.

[24] D.16-05-050 at 39 (OP 2).

locations to meet LCR needs. In such instances, the Commission's review and approval of proposed contracts for meeting LCR needs in a dedicated application should be sufficient, notwithstanding any potential conflict with rules that may otherwise exist.

II.

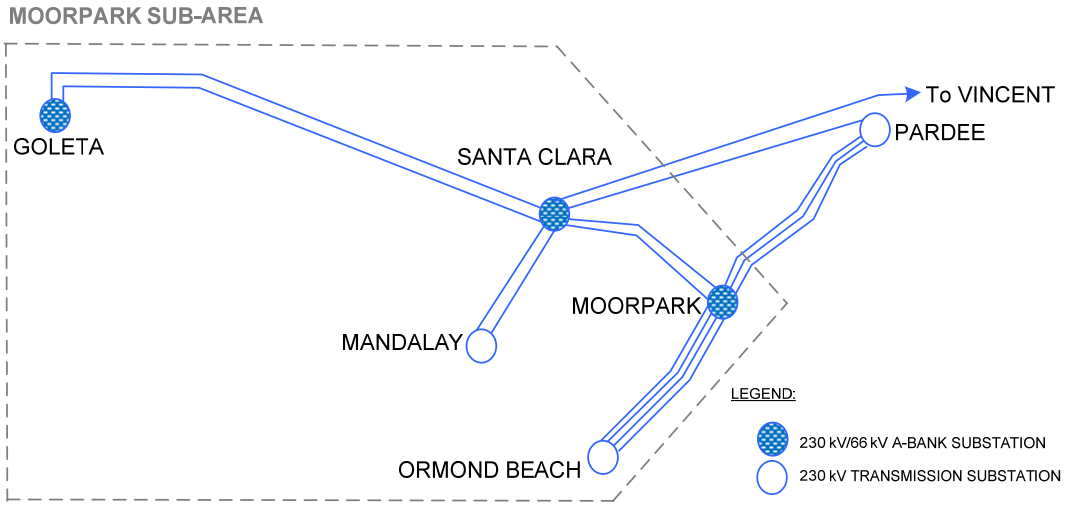
BASIS FOR ESTABLISHING LCR PROCUREMENT NEED

A. Description of the Procurement Area

As discussed above, through the RFP, SCE will solicit offers from resources that will be connected to SCE's transmission, subtransmission, and distribution facilities in the Moorpark sub-area. Figure II-1 below shows the three 230/66 kV (A-bank) substations in the Moorpark sub-area: Moorpark A-bank Substation, Santa Clara A-bank Substation, and Goleta A-bank Substation. The high voltage 230 kV transmission system in the Moorpark sub-area through each A-bank Substation radially "feeds" an underlying local subtransmission network of 66/12kV or 66/16kV (B-bank) substations, which ultimately distributes and provides electricity to SCE customers.[25] All substations in the Moorpark sub-area have the same Locational Effectiveness Factors.

[25] CAISO's Moorpark Sub-Area Local Capacity Alternative Study at 6.

Figure II-1
Moorpark Sub-Area



B. The Role that Preferred Resources Will Play in Addressing LCR Needs

Preferred Resources will play an important role in meeting the LCR need in the Moorpark sub-area. The California Independent System Operator ("CAISO") performed its Moorpark Sub-Area Local Capacity Alternative Study,[26] issued on August 16, 2017, to quantify the amount and determine the characteristics of Preferred Resources, energy storage, and/or reactive power devices that would be necessary to meet local capacity requirements in the Moorpark sub-area. With reliance upon Preferred Resources that are not available at all hours of the day, CAISO identified a need for energy storage resources with discharge durations of up to nine and ten hours to fully satisfy local capacity requirements. SCE will evaluate offers in its RFP and work with the CAISO to ensure that procured resources meet the LCR need.

Moreover, the effectiveness of Preferred Resources and energy storage requires alignment between the times when these resources can be available to reduce or meet LCR needs and when LCR needs occur. For instance, if LCR needs are associated with peak demands and the local capacity area is summer peaking, then distributed solar resources may be valuable.

[26] CAISO's Moorpark Sub-Area Local Capacity Alternative Study, available at http://www.caiso.com/Documents/Aug16_2017_MoorparkSub-AreaLocalCapacityRequirementStudy-PuentePowerProject_15-AFC-01.pdf.

If LCR needs occur only on rare occasions associated with such summer peak periods, then DR programs with a limited number of calls may be valuable. If, however, LCR needs occur at sporadic times throughout the year and are associated with transmission conditions rather than peak loads, then neither distributed solar resources nor DR will be valuable to meet those needs.

C. Baseline Planning Assumptions

In its 2022 Local Capacity Report,[27] CAISO identified the most critical contingency for the Moorpark sub-area as the loss of the Moorpark-Pardee 230 kV #3 line followed by the loss of the Moorpark-Pardee 230 kV #1 and #2 lines ("Moorpark LCR Contingency"), which could cause voltage collapse. The Moorpark sub-area includes the Ormond Beach and Mandalay power plants, which are OTC facilities that are scheduled to shut down per State Water Resources Control Board regulation by 2021. The loss of the OTC units combined with the Moorpark LCR Contingency led to the original LCR need determination of 215 to 290 MW in the Moorpark sub-area that was authorized in the Track 1 Decision.

Since the Track 1 Decision was issued, in addition to the OTC unit retirements, two other generation plants in the Moorpark sub-area, Mandalay Generating Station Unit 3 ("Mandalay 3") and Ellwood, are assumed to be retired post 2020. Without Mandalay 3 and Ellwood, there will be a 318 MW local capacity deficiency by 2022 in the Moorpark sub-area.[28] However, because SCE recently contracted for 10 MW of energy storage in Goleta as a part of its 2016 Energy Storage and Distribution Deferral RFO, the LCR deficiency will be 308 MW.[29]

To partially address the LCR deficiency, SCE has identified a transmission solution: a fourth 230 kV line between Moorpark-Pardee that can address the voltage collapse following the

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[27] CAISO's Final 2022 Long-Term Local Capacity Technical Report, available at http://www.caiso.com/Documents/Final2022Long-TermLocalCapacityTechnicalReport.pdf.

[28] CAISO's Moorpark Sub-Area Local Capacity Alternative Study at 6, Table 2-2.

[29] The 10 MW energy storage project selected through the 2016 Energy Storage and Distribution Deferral ("ES & DD") RFO was submitted to the Commission for approval on December 1, 2017 in Application 17-12-002. SCE has not received Commission approval of the contract and if the contract is denied it would increase LCR need by 10 MW.

critical Moorpark LCR Contingency that can meet a substantial portion, 232 MW, of the total residual 308 MW Moorpark LCR deficiency, therefore reducing the overall LCR procurement need to 76 MW. However, SCE's assessment of LCR need post-2020 may change depending on circumstances that may occur between the date of this submittal and the filing of its application for approval of resources selected through the RFP. SCE will continue to consult with the CAISO on LCR needs in the Moorpark sub-area post-2020, including updated load forecasts if any, and make a final need determination showing in its application seeking approval of resources contracted through the Moorpark LCR RFP.

D. Consideration of Transmission Alternatives

As discussed in Section C, SCE plans to participate in CAISO's 2017-18 Transmission Planning Process ("TPP") to examine transmission options to address the Moorpark sub-area LCR need. SCE will propose using the existing transmission corridor between the Moorpark and Pardee substations that contains the three 230 kV lines, Moorpark – Pardee lines # 1, 2 & 3. These lines are supported by two sets of double circuit transmission structures leaving one position vacant, providing an opportunity to install a fourth 230 kV line between the Moorpark and Pardee substations. The fourth 230 kV line between the Moorpark and Pardee substations addresses the Moorpark LCR voltage collapse issue upon loss of the first three lines. The proposed transmission option reduces the LCR procurement need to 76 MW, at a customer cost that is much lower than what supply-side resources would yield.

1. Consultations with the California Independent System Operator

SCE is proactively consulting with the CAISO on matters related to this Procurement Plan. It is anticipated that the CAISO will open a public stakeholder review process to present potential transmission mitigations to address the Moorpark LCR need. This will be included as part of the CAISO's 2017-18 TPP and any recommended transmission mitigations to address the Moorpark LCR need will be presented to the

CAISO Board in March 2018 for review and a decision. SCE also continues to work with the CAISO to better define the attributes that Preferred Resources and energy storage[30] must have in order to reduce or meet LCR needs with respect to the specific contingencies CAISO modeled in the Moorpark sub-area. SCE will maintain communications with the CAISO throughout its procurement process to enhance the identification of the required and/or preferred LCR attributes, including the total need assessment.

E. Additional Considerations in the Moorpark Sub-Area

As established in Phase 2 of the LCR RFO Moorpark proceeding, there is a unique and localized grid resiliency issue in the Santa Barbara/Goleta area.[31] The Santa Barbara/Goleta area is a unique geographic area located in the western-most part of SCE's service territory.[32] This area is relatively isolated as it is bound by the Pacific Ocean to the south and west, and the Los Padres National Forest to the north and east.[33] See Figure II-2 for a diagram of the area.

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30 For DR and ES, the important attributes are hours of continuous operation and times when delivery is available.

31 A.14-11-016, SCE's LCR RFO Moorpark Application: Exhibit SCE-11, SCE's Phase 2 Opening Testimony, at 1-3. SCE's Opening Testimony also explained the unique issues facing the Santa Barbara/Goleta area. A.14-11-016, SCE's LCR RFO Moorpark Application: Exhibit SCE-1, SCE's Opening Testimony, at 6-7.

32 *Id*. at 7.

33 *Id*.

Figure II-2
Goleta-Santa Clara Transmission Lines

The Goleta 230/66 kV Substation serves the load in Santa Barbara/Goleta area and is connected to the SCE transmission system through the two Goleta-Santa Clara 230 kV transmission lines.[34] These two transmission lines are the only points of connection between the Goleta 230/66 kV Substation and the rest of SCE transmission system, and thus, the sole source of transmission service for the Santa Barbara/Goleta area.[35] The two Goleta-Santa Clara 230 kV transmission lines are on the same set of transmission towers, which increases the potential for a common-mode failure of both lines.[36] The concern about losing the Goleta-Santa Clara 230 kV transmission lines is largely due to the towers being located on rugged, mountainous terrain where landslides caused by heavy rainfall (*e.g.*, 1997-1998 El Niño conditions) and frequent fires (*e.g.,* 2007 Zaca, 2008 Gap, 2008 Tea, 2009 Jesusita, and 2017 Thomas fires) create a heightened risk to the transmission lines and towers.[37] Due to the rugged terrain, any required repair and

[34] *Id*.
[35] *Id*. at 1-2.
[36] *Id*. at 2.
[37] *Id*. The loss of the Goleta-Santa Clara 230 kV transmission lines is also referred to as an N-2 contingency. The N-2 of the Goleta-Santa Clara 230 kV lines is compliant with the North American

replacement of transmission lines and transmission towers could take up to several weeks if a natural disaster, such as a landslide or earthquake, occurs.[38]

The unique grid issues in the Santa Barbara/Goleta area are not reliability issues based on North American Reliability Corporation ("NERC") or CAISO standards. The loss of the Goleta-Santa Clara 230 kV transmission lines is referred to as an N-2 contingency. The N-2 of the Goleta-Santa Clara 230 kV lines is compliant with NERC Reliability Standard TPL-001-4, which allows customer load to be dropped without a stated timeframe for restoration.[39]

In the event of an outage of the Goleta-Santa Clara 230 kV transmission lines (*i.e.*, an N-2 event), approximately 85,000 customers in the Santa Barbara/Goleta area would lose power until emergency electrical back-up power could be delivered to the area.[40] Service disruption could initially affect all customers, including critical services (*e.g.*, hospitals, schools, and street lights).[41] Emergency back-up power would be delivered via three existing sub-transmission tie lines from the Santa Clara 66 kV sub-transmission system.[42] The Santa Clara 66 kV sub-transmission system normally serves western Ventura County, but can also act as a partial back-up that is capable of replacing a portion of the capacity provided by the Goleta-Santa Clara 230 kV transmission lines.[43] If the Goleta-Santa Clara 230 kV transmission lines are not able to be reenergized, SCE's system operators would begin utilizing the 66 kV lines to pick up load in the Santa Barbara/Goleta area within an hour.[44]

Electric Reliability Corporation ("NERC") Reliability Standard TPL-001-4, which allows customer load to be dropped without a stated timeframe for restoration. *Id*.

38 *Id*.

39 A.14-11-016, SCE's LCR RFO Moorpark Application: Exhibit SCE-11, SCE's Phase 2 Opening Testimony, at 2. *See also* SCE, Chinn, Transcript, Vol. 5 at 815:15-22 (November 1, 2016) ("[T]he issue we're trying to address is not specific to a NERC or [CA]ISO standard[] in that NERC and [CA]ISO standards don't provide a restoration time…those standards allow for the loss of the transmission system, and basically the systems allow the blackout that is permitted under…both NERC and [CA]ISO standards.").

40 *Id*. at 9.

41 *Id*.

42 *Id*.

43 *Id*.

44 *Id*.

However, the existing 66 kV facilities do not have adequate capacity to serve the entire 285 MW forecasted annual peak load, nor provide adequate short circuit duty in the Santa Barbara/Goleta area if both Goleta-Santa Clara 230 kV transmission lines are lost.[45] The 66 kV facilities currently have sufficient capacity to reroute 100 MW to the Santa Barbara/Goleta area.[46] A planned upgrade of the 66 kV sub-transmission system, the Santa Barbara County Reliability Project ("SBCRP"), which is expected to be completed in May 2019, will increase this emergency back-up capacity from 100 MW to 180 MW.[47] However, even rerouting 180 MW through the 66 kV system would not allow for all Santa Barbara/Goleta annual peak load to be met in the event both Goleta-Santa Clara 230 kV transmission lines are down; there would still be a 105 MW[48] shortfall beginning in 2019,[49] assuming the retirement of the 54 MW Ellwood peaker facility.[50] Cost and best-fit will be factors in determining how the resiliency shortfall is met from RFP offers, with explicit recognition that the least cost-best fit resource selection to address Moorpark LCR needs may not contribute to Goleta-are resiliency.

1. The Role of Gas-Fired Generation in Enhancing Resiliency

New generation resources located in the Santa Barbara/Goleta area will address Moorpark LCR needs and may also help further resiliency objectives in the area. As

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45 *Id*. at 9-10. The projected load was based on SCE's 2016 Transmission Substation Plan ("TSP") load forecast –A local desalination plant and other developments contribute to the projected peak load forecast. *See* Exhibit SCE-14, Southern California Edison Company's 2016 Transmission Substation Plan, Goleta A-Bank Load Forecast.

46 *Id*. at 10.

47 *Id*. (citing Exhibit SCE-13, Excerpt from Proponent's Environmental Assessment Santa Barbara County Reliability Project at 1-5).

48 A 10 MW energy storage project selected through the 2016 ES & DD RFO was submitted to the Commission for approval on December 1, 2017 in Application 17-12-002. SCE has not received Commission approval of the contract and if the contract is approved it could reduce the shortfall to 95 MW.

49 *Id*. The current projected peak load served by the Goleta Substation was utilized to determine the MW shortfall. SCE will review its projected peak load projection before making final contract awards.

50 SCE has Ellwood under contract through December 2018.

described above, if an extended outage occurred on the two Goleta-Santa Clara 230 kV lines, there would still be up to a 105 MW shortfall.

With renewable resources being the preference to address the 105 MW shortfall, there is limited charging capability to support additional energy storage in Goleta during an N-2 event. Over the course of an extended outage of the 230 kV lines, energy storage would be required to continuously discharge during the day in order to serve peak load and re-charge during hours when Goleta load is minimal. Given the limitations of the 66 kV tie lines from the adjacent system, there may not be enough energy in the off-peak hours to charge energy storage and serve the Goleta peak load needs the following operating day. The availability of generation resources such as a solar, fuel cells, or a GFG peaker are needed to enable greater reliance on energy storage to meet Goleta resiliency objectives.

SCE identifies that there are various environmental, siting, and local community opposition factors in the area that affect the potential development of new GFG. Specifically, local communities, such as Goleta and Santa Barbara County, have expressed opposition to developing new GFG in the area. SCE recognizes the expressed preference of many community stakeholders to not contract for the development of a new GFG resource. SCE intends to work with stakeholders to facilitate the submittal of commercially viable proposals for Preferred Resources and energy storage projects to enhance the likelihood of an all Preferred Resource and energy storage procurement solution.

III.

SOLICITATION PROCESS

As explained above, through the RFP, SCE will only solicit Preferred Resources and energy storage connected to the Moorpark and Santa Clara 230/66 kV A-bank substations, but will consider proposals for small (less than 55 MW) gas-fired generation ("GFG") projects

connected to the Goleta system, which includes the Goleta 230/66 kV A-bank Substation and the underlying voltage network because of potential charging constraints for energy storage connected to the Goleta system in the event of the loss of the Goleta-Santa Clara 230 kV transmission lines. Notwithstanding SCE's plan to solicit small GFG projects in the Santa Barbara/Goleta area, SCE will have a strong preference for Preferred Resources and energy storage resources located in the Santa Barbara/Goleta area. In addition, the RFP will be seeking products that can be online by 2021.

SCE has run similar solicitations and used that experience to develop the timeline, structure, and product types for the RFP. Additionally, if bidders have projects that are not identified, the RFP structure will allow for those projects to be submitted as offers. This chapter describes aspects of the proposed solicitation process.

A. Solicitation Timeline

SCE proposes launching the RFP the first quarter (Q1) of 2018, and submitting the resulting LCR procurement application in the first quarter (Q1) of 2019. This schedule will provide time for bidders to identify projects and start the necessary pre-development work, which should lead to greater competition and more viable offers. The timeline is structured to allow time for bidders to get their projects online in order to meet the 2021 LCR need. However, potential delays with any of the following milestones could adversely affect the ability of developers to meet the 2021 LCR online deadline: approval of the Procurement Plan; RFP launch date; filing of application for contract approval; and a Commission decision on the application for contract approval.

SCE proposes the following RFP timeline in Table III-1:

Table III-1
SCE's Proposed RFP Timeline[51]

No of Days	RFP Milestones
T	Energy Division approves Procurement Plan
T+14	RFP Launch
T+135	Indicative offer submittal
T+209	Shortlisting; start contract negotiations
T+293	Negotiation deadline
T+319	Final offer submittal
T+349	SCE notifies successful bidders
T+413	SCE files application for contract approval

B. Solicitation Structure

Based on SCE's experience with various solicitation formats, SCE will utilize a format similar to its second Preferred Resources Pilot ("PRP") RFO ("PRP RFO 2") for the RFP, with one exception: a price refresh has been added back into the procurement process because this is an RFP and the products may evolve during the process of conformity and negotiation. The process will entail an initial solicitation of indicative offers, negotiation of contract terms with "short-listed" offers, a final price refresh of "short-listed" offers, and an evaluation and selection process (that may involve further negotiations with a limited subset of bidders).

Steps in the proposed RFP process, in chronological order, include:

1. Internal preparation

- Prior to launch, SCE finalizes all documents that will be part of the RFP (*e.g.*, pro forma contracts, participant instructions, and submittal templates) and reviews details of the RFP with both internal and external stakeholders. External stakeholders will include, but are not limited to, the Independent

[51] The proposed timeline includes estimates, and is subject to change.

Evaluator, the Cost Allocation Mechanism Group and Commission staff; their roles are described further below.

2. **Launch RFP**

- SCE publishes a RFP website (hosted on https://scemoorparkgoletarfp.accionpower.com) with all information that bidders will need to participate in the RFP. SCE notifies market participants directly via a comprehensive email list that SCE maintains and also through various service lists, including those for dockets addressing Preferred Resources and energy storage. SCE also issues a press release that is run in industry publications for both conventional and preferred/alternative resources.
- After launch, SCE hosts a bidder's conference to walk through the various aspects of the solicitation, discuss the valuation approach, and responds to questions and concerns. Due to the complexity of the RFP and the variety of products that are being solicited, SCE intends to go into more depth than normal on the solicitation process, the documents, and the valuation during the bidder's conference. SCE will also maintain a running list of frequently asked questions ("FAQs") on its RFP website.

3. **Notice of intent of submission**

- After reviewing RFP materials, bidders must submit an official notification of which products they intend to bid into the RFP. Having this information as early as possible helps SCE to fine-tune a plan to respond to the workload and address any issues related to offer templates associated with new products that may have not been contemplated.

4. **Indicative offers submitted by bidders**

   - Using the same data templates as will be used for submitting final offers, bidders submit non-binding indicative offers. First and foremost, the indicative offers provide pricing that SCE will use for short-list notification. An ancillary benefit of this process is that it gets bidders used to filling out submittal templates and alerts SCE to any offer anomalies that need to be worked out.

5. **Shortlist notification**

   - Based on shortlist criteria and valuation results of the indicative offers, SCE notifies bidders of shortlisting status, which includes one of the following:
     - Shortlisted, and SCE wishes to continue negotiations;
     - Shortlisted, but SCE wishes to pursue negotiations with other bidders first and may re-engage with the bidder at a later time; or
     - Not shortlisted, and SCE does not wish to pursue discussions.

6. **Contract negotiation**

   - Once the shortlist has been identified, SCE and bidders will negotiate terms and conditions of executable contract forms based on SCE's published pro forma contracts.

7. **Commercial lockdown**

   - At this time "commercial" terms are finalized, (*e.g.*, net qualifying capacity, location, operational attributes). These are the technical terms that describe a potential offer, and need to be finalized sufficiently early to provide adequate time for proper valuation.

8. **Negotiation deadline**

- All terms and conditions of contract forms must be finalized and ready for execution in order for bidders to submit final pricing.

9. **Final prices submitted**

- Bidders submit final binding prices along with previously negotiated contract forms. These documents represent each bidder's final offer.

10. **SCE accepts, rejects, or re-engages bidders**

- SCE chooses to either accept/reject offers, or go back to bidders for one final round of negotiations. In the past, SCE has either accepted or rejected offers. However, given the complexity of the RFP and the desire to maximize Preferred Resources and energy storage, along with the potential challenges of developing GFG, SCE intends to make it clear to bidders that SCE *may* return to bidders after their final offer has been submitted. SCE may ask for an additional modification in contract terms or a reduction in price in order to increase the chances that a potentially attractive offer is selected.

C. Bid Requirements

All bidders must be able to either reduce load or otherwise interconnect with SCE's transmission system in the Moorpark sub-area at the substations identified in Figure II-1. Therefore, the resources must be reasonably adjacent to these substations. As discussed in Chapter II, any resources connected to the Goleta substation will be counted towards both LCR need and the Goleta-area resiliency objectives identified for this RFP.

SCE will consider offers for contract terms of any length as required by the Track 1 Decision. In addition, SCE will request a contract term of up to 10 and 20 years as part of its

"preferred" contract terms at the launch of the RFP. If a bidder is offering a 15 year or longer bid, they must also submit a 10 year or less bid. For CHP, resources must bid at least 5 years, but not more than 12 years. Finally, for the stand-by products for Goleta-area resiliency, resources must bid at least 5 years, but not more than 10 years, and at least one of the bids must be for 5 years.

SCE will also require projects at a minimum to enter the interconnection process or receive Fast Track "Pass" by April 30, 2018, the deadline for Queue Cluster #11.

D. Outreach Efforts

Historically, SCE has been very successful in its developer outreach efforts and ensuring potential bidders are aware of a solicitation. SCE announced the launch of the RFP to over four thousand developers from its mailing list. A RFP website has been set up to communicate information about the RFP and to respond to questions. In addition, SCE has been focused on community outreach and engagement, and hosted a meeting in Santa Barbara with city and county representatives and community stakeholders from the Santa Barbara/Goleta area and had a separate meeting with representatives from the City of Oxnard to (1) communicate SCE's objectives with respect to the RFP and resiliency in the area and (2) obtain feedback. During the meeting in Santa Barbara, participants expressed concerns with enhancing resiliency in the area with GFG; in response, SCE encouraged the participants to work with developers to facilitate a robust set of Preferred Resource and energy storage projects that would bid into the RFP. Additionally, SCE noted that addressing Goleta-area resiliency is a solicitation objective, but not a firm LCR requirement. SCE also hosted a Market Awareness Conference and will host a Bidder's Conference after the launch of the solicitation. Additional outreach and conferences may be scheduled if needed.

The CPUC General Order 156 ("GO 156") contains rules governing the development of programs to increase participation of Women-Owned, Minority-Owned, Disabled Veteran-Owned, Lesbian-Owned, Gay-Owned, Bisexual-Owned, and/or Transgender-Owned Business

Enterprises ("Diverse Business Enterprises" or "DBE") in procurement of contracts from utilities as required by Public Utilities Code Sections 8281-8286.[52] In support of GO 156, SCE continues to look for opportunities to build an increased pool of diverse suppliers, including DBE participants in power procurement activities like the RFP.

E. Safety

Consistent with SCE's focus on safety, SCE requires that, prior to commencement of any construction activities on project sites, the bidder must provide to SCE a report from an independent engineer. The report must certify that the bidder has a written plan for the safe construction and operation of the resource in accordance with Prudent Electrical Practices. SCE's "Pro Forma" documents also provide that the bidder shall operate the resource in accordance with Prudent Electrical Practices. The detailed definition of "Prudent Electrical Practices" includes "those practices, methods and acts that would be implemented and followed by prudent operators of electric energy resources in the Western United States, similar to the Generating Facility, 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."

F. Resource Types

SCE will solicit Preferred Resources and energy storage in the Moorpark sub-area to meet LCR needs. However, as noted, SCE will solicit all resource types, including GFG offers, in the Santa Barbara/Goleta area only to enhance resiliency objectives. The various energy resources that will be solicited include the following:

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[52] General Order 156 at 1.

Table III-2
Resource Types

Resource Category	Description
Energy Efficiency	Reducing electrical usage through design, equipment, and appliances.
Demand Response	Demand Response programs deliver a reduction in electric usage compared to normal consumption patterns, as customers respond to a trigger.
Renewable Generation	Electrical generation from renewable resources such as solar, wind, bioenergy, etc., as defined by the CEC.
Energy Storage	Using technologies to store electricity for later use.
Gas-Fired Generation (only in Santa Barbara/ Goleta area)	Electrical generation from resources using natural gas fuels.
Fuel Cells	An electrochemical cell that converts the chemical energy from a fuel into electricity through an electrochemical reaction of hydrogen fuel with oxygen or another oxidizing agent.
Combined Heat and Power	A suite of technologies that can use a variety of fuels to generate electricity (for host and/or SCE) or power at the point of use, allowing the heat that would normally be lost in the power generation process to be recovered to provide needed heating and/or cooling.

G. Contract Documents

As part of the RFP launch, SCE will provide "Pro Forma" documents that represent its preferred terms and conditions for new agreements. The Pro Formas have been developed over multiple procurements, including but not limited to the 2013 LCR RFO, the PRP RFO, the PRP RFO 2, the 2016 Aliso Canyon Energy Storage RFO, the 2015 Energy Storage RFO, the 2016 Energy Storage & Distribution Deferral RFO, and the Integrated Distributed Energy Resources Pilot RFO. SCE will provide these documents to bidders interested in those products, and they will serve as the starting point for negotiations. As a solicitation that will accept offers from almost any resource type, a single form of contract for all types would be too broad and may not adequately cover all requirements. Therefore, SCE is leveraging the document types developed in the procurements mentioned above to address different technologies with the following contracts and term sheets:

Table III-3
Pro Forma Contracts

Contracts	Notes
Behind the Meter (BTM) – Renewable Generation (RG)	Delivers energy directly to load from a renewable resource without using distribution facilities or the transmission system.
BTM – RG – Energy Storage (ES) Hybrid	Delivers energy directly to load from a renewable resource utilizing energy storage without using distribution facilities or the transmission system.
BTM – Demand Response (DR)[53]	Response to SCE's signal to reduce load from specified electrical customers at specified times. Energy storage is allowed to be part of the DR resource under this contract.
BTM – Energy Efficiency (EE)	The EE product is structured using the existing Measurement & Verification process in SCE's existing EE programs and has a similar structure to the LCR EE contracts with updates reflecting lessons learned from the administration of LCR contracts. Please note, that SCE is also conducting an EE RFA and RFP through SCE's Customer Service organization and will have future announcements on coordination of procurements.
CHP	Counterparty dispatch of combined heat and power Qualified Facility (QF) - facility. SCE will take excess generation. Only will be considered in Goleta area unless CHP resource qualifies as a renewable energy resources with the CEC.
In Front of the Meter (IFOM) – RG	A renewable resource directly connected to a circuit or lower voltage substation and delivers at least a portion of its renewable energy output onto SCE's electrical system.
IFOM – ES Resource Adequacy Only	Resource Adequacy ("RA") is the only 'product' being purchased per this pro forma. RA is produced from an energy storage facility that will be directly connected to SCE's electrical system and will be capable of absorbing energy, storing it for a period of time, and thereafter dispatching the energy.
IFOM – ES with Put	RA is sold to SCE. In addition, Seller has the annual option to sell SCE the rights to the energy output vis-a-via an annual "put" to SCE (SCE must take) where SCE buys the energy, engages in all CAISO energy market activities, and receives market energy revenues. RA, and energy during the "put' periods, is produced from an energy storage facility that will be directly connected to SCE's electrical system and will be capable of absorbing energy, storing it for a period of time, and thereafter dispatching the energy.
GFG	The product is comprised of RA benefits, capacity attributes, energy and ancillary services. There are no restrictions around SCE's usage of the product beyond the standard limitations governed by the specified operating restrictions. Only will be considered in Goleta for resiliency need.
Term Sheets	Notes
IFOM – RG – ES Hybrid	Delivers energy directly to load from a renewable resource utilizing energy storage and is directly connected to a circuit or lower voltage substation and delivers at least a portion of its renewable energy output onto SCE's electrical system.

BTM – Permanent Load Shift (PLS)	The installation of battery equipment at an end-use customer site that reduces energy consumption from the grid during the need hours, and shifts such consumption to hours outside the need hours.
BTM – Fuel Cell	Delivers energy directly to load from a fuel cell resource without using distribution facilities or the transmission system. Only will be considered in Goleta area unless fuel cell resource qualifies as a renewable energy resources with the CEC.
IFOM – Fuel Cell	A fuel cell resource directly connected to a circuit or lower voltage substation and delivers at least a portion of its renewable energy output onto SCE's electrical system. Only will be considered in Goleta area unless fuel cell resource qualifies as a renewable energy resources with the CEC.

H. Role of the Independent Evaluator, the Cost Allocation Mechanism Group and the Procurement Review Group

1. Independent Evaluator

D.08-11-008 requires an IE for all competitive solicitations that involve affiliate transactions, utility-owned or utility-turnkey offers, and for all solicitations that seek products two years or greater in duration, regardless of who participates.[54] In addition, D.06-07-029 stipulates that an IE is required if an investor-owned utility ("IOU") runs a solicitation that seeks to allocate new generation costs in accordance with the CAM outlined in the same decision. In compliance with D.08-11-008 and D.06-07-029, SCE recommended Sedway Consulting, Inc. ("Sedway") as the IE for SCE's RFP. Sedway is currently in SCE's pre-qualified pool of IEs and has prior experience developing and running solicitations in other parts of the country for EE, DR, and DG, as well as renewable and conventional resources. Sedway also has prior experience overseeing the negotiation and evaluation of the 2013 LCR RFO.

The IE will ensure that the solicitation process is fair to all qualified bidders, and also that no SCE affiliate has an undue advantage over non-affiliates in the solicitation. The IE will be required to make a determination as to whether SCE's final selection was

[53] DR Standby contract will be available as a product in the Santa Barbara/Goleta area to solve for an N-2 contingency event.

[54] D.08-11-008 at 39-40 (OP 2).

fair and free from anti-competitive behavior, and was not unfairly influenced by its affiliate relationships. The IE must report its findings to SCE's CAM Group and the Energy Division, and may testify in CPUC proceedings, as required or requested by SCE or the CPUC. Upon completion of the bid process to a solicitation, the IE must also complete the CPUC's Independent Evaluator Report Template, with updates based on completion of the solicitation itself, for review by the CPUC and SCE's CAM Group.

Any IE selected is expected to make recommendations to SCE for improvements to SCE's solicitation process that the IE may have during the course of the solicitation activity. The IE, however, does not have the authority to mandate SCE to make any changes to its solicitation process. SCE, not the IE, will conduct and administer the solicitation and evaluation process. In addition, the IE may not negotiate with any bidder or counterparty on SCE's behalf, serve as a single point of contact between SCE and bidders or counterparties, nor make binding decisions on behalf of SCE.

2. Cost Allocation Mechanism Group

D.06-07-029 adopted a CAM that allows the benefits and also costs of new generation that meets specific needs to be distributed among all benefitting customers. SCE intends to seek CAM treatment for contracts signed in the RFP, but may defer to existing program cost allocation methodologies for certain Preferred Resources.[55] As has been SCE's practice whenever CAM treatment is concerned, SCE will consult with its CAM Group on a regular basis prior to, during and after the close of its RFP.

3. Procurement Review Group (PRG)

Since SCE intends to seek CAM treatment for resources procured through the RFP, SCE will be consulting with its CAM Group. However, if SCE determines that it is

[55] SCE anticipates that all LCR contracts will receive CAM treatment. However, if SCE believes that the administrative cost for CAM treatment is not justifiable for certain contracts, SCE will identify such contracts in its procurement application and provide justification for a different treatment.

not seeking CAM treatment for any reason on one of more of the contracts, SCE will consult its PRG for relevant matters through the course of the RFP.

I. Track 1 Decision Solicitation Requirements

Pursuant to Ordering Paragraph 4 in the Track 1 Decision, any requests for offers issued by SCE pursuant to the Track 1 Decision, must adhere to requirements in previous procurement decisions (including D.07-12-052) and shall include the following elements:

a. The resource must meet the identified reliability constraint identified by the CAISO;

b. The resource must be demonstrably incremental to the assumptions used in the CAISO studies, to ensure that a given resource is not double counted;

c. The consideration of costs and benefits must be adjusted by their relative effectiveness factor at meeting the CAISO identified constraint;

d. A requirement that resources offer the performance characteristics needed to be eligible to count as local Resource Adequacy capacity;

e. No provisions specifically or implicitly excluding any resource from the bidding process due to resource type (except as authorized in this Order);

f. No provision limiting bids to any specific contract length;

g. Provisions designed to be consistent with the Loading Order approved by the Commission in the Energy Action Plan and to pursue all cost-effective preferred resources in meeting local capacity needs;

h. Provisions designed to minimize costs to ratepayers by procuring the most cost-effective resources consistent with a least cost/best fit analysis;

i. A reasonable method designed to procure local capacity requirement amounts at or within the levels authorized or required in this decision, not counting amounts procured through cost-of-service contracts;

j. An assessment of projected greenhouse gas emissions as part of the cost/benefit analysis;

k. A method to consider flexibility of resources without a requirement that only flexibility of resources be considered; and

l. Use of the most up-to-date effectiveness ratings.

IV.

VALUATION AND SELECTION PROCESS

A. Least-Cost, Best-Fit

1. Overview

SCE will prepare forecasts for RA capacity, electrical energy, ancillary services, natural gas, renewable energy credits and greenhouse gas ("GHG") compliance market prices (*i.e.*, the market price forecast). SCE utilizes a blended approach for forecasting market prices. SCE's blending combines forward market prices and fundamental model prices to bridge SCE's use of forward market prices for the valuation of products that deliver in the near-term and SCE's use of fundamental model prices for the valuation of products that deliver over a longer term. Forward power prices are also adjusted for location in the final valuation.

SCE will calculate the forecasted quantity of RA capacity, electrical energy, RPS credits, and ancillary services ("AS") that each resource will provide, and multiply these quantities by their respective market price forecasts. The sum of these benefits represent the market value that the resource is forecasted to receive. SCE will then compare the contract costs and other costs required to extract this market value, such as capacity payments and fuel costs to generate electrical energy, to determine the cost-effectiveness of the resource. The most cost-effective resources will have the lowest overall costs as compared to their forecasted market value benchmark.

The benchmark for determining cost-effectiveness (*i.e.*, the resource's market value forecast) minus the costs required to receive these benefits, plus any other value that can be attributed to the resource, discounted at 10%, is equal to the calculated Net Present Value ("NPV") of the offer.

B. Evaluation Methodology

1. Overview

SCE employs an NPV analysis when it evaluates offers submitted through an RFO or bilaterally. This methodology is consistent with evaluations performed by SCE in other solicitations such as SCE's CHP RFOs, SCE's RPS RFOs and All Source RFOs for energy and RA. The quantitative component of the evaluation entails forecasting (1) the value of contract benefits, (2) the value of contract costs, and (3) the net value of both (1) and (2). Once all of the valuation elements are calculated, they are discounted to a present value using an annual discount rate. SCE then subtracts the present value of expected costs from the present value of expected benefits to determine the expected NPV of the offer.

In addition to quantitative benefits, contracts may also have qualitative benefits that are evaluated separately. The elements used in the quantitative valuation are described below.

2. Contract Benefits

a) Energy and Ancillary Service Benefits

For dispatchable resources, SCE utilizes a production-cost model (Plexos or SCE's proprietary models), along with a stochastic price process via a Monte Carlo simulation, to value the energy and ancillary service benefits of a generating unit. Inputs to the dispatch model include unit characteristics such as

capacity, heat rate curve, ramp rate, start fuel and start cost, minimum and maximum run-time, variable operation and maintenance ("O&M") cost, GHG cost, congestion and losses, fuel cost, and emission constraints, among others, as applicable. SCE uses the economic dispatch principle, wherein a unit is dispatched if its forecasted benefits exceed its costs (*i.e.*, if it is "in the money"). Plexos and SCE's proprietary models compare the forecasted cost of running a unit against energy and ancillary services price forecasts to determine whether a unit is in the money. SCE determines both the intrinsic and extrinsic (optionality) value of the resource.

For must-take and baseload resources, SCE calculates the energy benefits of an offer based on the estimated market value of energy and the offer's expected generation delivery profile.

b) Resource Adequacy Capacity Benefits

RA capacity benefits are derived by first developing a forecast of expected forward RA prices and then applying this forecast to the total RA capacity provided by the contract. The RA quantity is determined by using the net qualifying capacity ("NQC") counting rules of the CPUC.

c) Renewable Energy Credit Benefit

SCE will ascribe a Renewable Energy Credit ("REC") value benefit to renewable DG resources to recognize the value provided by these resources in meeting SCE's RPS compliance targets. SCE will estimate the monthly REC benefit of the offers by multiplying their expected monthly generation by SCE's REC price forecast. The REC benefit will be calculated for the months where SCE is expected to be short in its RPS compliance target.

d) Distribution Deferral Value

If the offers are determined to provide distribution system benefits that reduce, eliminate or defer the need of distribution capital upgrades, SCE will estimate and ascribe the resulting avoided cost as a benefit to the offers. The capital expenditure estimates of traditional distribution upgrades are converted into deferral value ($) using a real economic carrying charge method. This methodology is also called an economic deferral method and is consistent with the method used by SCE for converting capital investments into annual costs for General Rate Case ("GRC") purposes. Similarly, transmission deferral value is calculated, if applicable.

3. Contract Costs

a) Dispatch and Energy Costs

For dispatchable resources, dispatch costs include unit start costs, variable O&M costs ("VOM"), GHG cost, and fuel costs, as applicable. Start costs include the fixed cost of starting a unit, and are differentiated by hot and cold starts, depending on how long the unit has been offline. VOM costs are costs which are directly proportional to the output of the unit, measured in dollars per Megawatt-hour ("$/MWh"). GHG cost is the California Cap & Trade compliance cost of obtaining the allowances for a unit emitting GHG. Fuel costs include the variable cost of generating power and the fixed cost of the required fuel amount used to start up a unit. These cost components are accounted for in the Plexos production cost modeling or SCE's proprietary models and are used to make the economic dispatch decisions.

For must-take and baseload resources, energy costs can include fuel costs (as indicated by a heat rate), VOM, and GHG compliance costs, or simply an all-

in energy price in dollars per Megawatt-hour. SCE does not have dispatch rights to these types of resources, typically the bidder provides generation profiles for these resources.

b) Capacity Payments

Capacity payments represent the total fixed contract payments SCE is expected to make under the contract for delivery of the energy, capacity and other applicable attributes.

c) Debt Equivalence

Debt equivalence is the term used by credit rating agencies to describe the fixed financial obligation resulting from long-term power purchase agreements ("PPA"). Pursuant to D.04-12-048, the Commission permitted the utilities to recognize costs associated with the effect debt equivalence has on the utilities' credit quality and cost of borrowing in their valuation process. D.08-11-008 was issued in November 2008, and authorized the IOUs to continue recognizing the balance sheet impact of debt equivalence when valuing PPAs. Given the confirmation of the use of debt equivalence for valuation purposes, SCE considers debt equivalence in its valuation process.

d) Transmission Cost

For projects that do not have an existing interconnection to the electric system, or have an existing interconnection but not for a proposed expansion of an existing facility, system transmission upgrade costs are based on a Phase 1 Interconnection Study (as defined in the CAISO Tariff) (or equivalent study), or later study for generator interconnection procedures applications. For projects with no interconnection study, but with an offer providing SCE the right to

terminate if system transmission upgrade costs exceed a specified amount called transmission cap, system transmission upgrade costs are based on the specified transmission upgrade amount.

e) Greenhouse Gas Cost

For any offer passing through all or some of the GHG compliance cost, SCE will assess a GHG cost to the offer based on SCE's forecast of GHG prices and the offer's forecasted amount of GHG emissions.

f) Renewable Integration Costs

For intermittent (*i.e.*, solar and wind) resources, SCE will calculate a renewable integration cost adder as prescribed in its RPS procurement authorization.

g) Credit/Collateral Adders

Counterparties may seek to negotiate credit and collateral requirements that are different from SCE's pro forma requirements. In doing so, there is no longer a "level playing field" in terms of default exposure amounts across the offers. In these cases, SCE will calculate a cost to the offer based on the incremental exposure created by the negotiated terms.

h) Gross-up Factors

If a resource will connect to the distribution system, then distribution loss factors will be applied to the expected generation, affecting the amount of energy benefits, and possibly costs, accrued to the offer, to normalize the offer relative to offers which deliver to the transmission system.

Demand Side Management offers act as load reducers, and therefore receive adjustments to their energy and RA quantity benefits to reflect both avoided T&D losses and RA reserve margin requirements.

C. Incrementality

SCE will assess submitted offers to ensure they are incremental to existing efforts, in order to prevent double counting, and/or double incentivization. SCE intends to employ an approach consistent with principles adopted by the Commission in D.16-12-036, including:

- Ensure ratepayers are not paying twice for the same service;
- Ensure the reliability of a service, *i.e.*, ensure it is not counting on a service to be there when the service might be deployed at another time or place;
- Not be unduly burdensome to participants;
- Be technology neutral;
- Be fair and consistent;
- Recognize that a distributed energy resource is eligible to provide multiple incremental services and be compensated for each service; and
- Be flexible and transparent to bidders.[56]

For this solicitation, SCE proposes employing an incrementality methodology consistent with the foregoing principles. This methodology is also practical, simple, actionable, and encouraging of business. As such, SCE will employ a method which divides offers into three tranches for each specific need, as specified below:

1. Wholly Incremental: Offers which provide technologies and services not already being sourced or reasonably expected to be sourced through another utility procurement, program, or tariff, and that meet specific identified needs will be categorized into Tranche One "Wholly Incremental." These offers will be assessed full incrementality value.

[56] D.16-12-036 at 18-19.

2. Partially Incremental: Offers in which some portion of the energy resource or service is already incentivized through another authorized utility procurement, program, or tariff, and that meet specific identified needs will be categorized into Tranche Two "Partially Incremental." Only the portion of the offer that provides material enhancements to the existing project (*e.g.*, locational, temporal, or increased performance certainty) will be considered incremental.

3. Not Incremental: Offers which provide technologies or services already sourced under another authorized utility procurement, program, or tariff, that meet the identified need, and that provide no clearly discernable incremental value beyond current offerings will be categorized into Tranche Three "Not Incremental." These offers will not be considered, and, as such, will not be included in the valuation and selection process.[57]

SCE intends to provide a transparent, fair, and flexible method to bidders to help self-assess incrementality in its solicitation materials. SCE will also work with the IE to assess the feasibility of increased pre-bid submittal communication regarding incrementality assessments to determine if bidders will be able to contact SCE directly to assist them in evaluating to what extent their specific bids could be considered incremental.

D. Qualitative Assessment

In addition to the benefits and costs quantified during the evaluation, SCE assesses non-quantifiable characteristics of each offer by conducting an analysis of each project's qualitative attributes. SCE considers qualitative characteristics in determining the short list and final selection. These characteristics may include:

- Permitting and interconnection
  - Environmental & permitting status
  - Electrical interconnection

[57] Advice 3620-E, SCE's Request for Approval to Launch Integrated Distributed Energy Resources Incentive Pilot Solicitation, dated June 15, 2017, at 11-12.

  - Fuel interconnection & source
  - Water interconnection & source
- Pre-development milestones
  - Project financing status
  - Project development experience
  - Thermal host (CHP Only)
  - FERC & California (CA) qualifying facility standards (CHP Only)
  - Emissions performance standards
- Development milestones
  - Site control
  - Large equipment status
  - Reasonableness of commercial operation date
- Transmission area
- GHG contributions towards the CHP Settlement Agreement target
- Location of a project, including in a Disadvantaged Community
- Contributions to addressing Goleta-area resiliency
- Contributions towards SCE's RPS & energy storage targets
- Portfolio fit of energy, capacity, & term
- Offeror concentration
- Technology Concentration
- Dispatchability & curtailability

E. LCR and Resource Adequacy Counting

1. Resource Adequacy Counting

The Commission adopted SCE's recommendation to use existing RA counting conventions to determine the amount of capacity each resource/program would count

towards meeting or reducing the LCR need. However, SCE will solicit certain types of products that do not have specified counting rules in the current RA program.

SCE will establish the amount of RA capacity (including system, local and flexible) attributed to each resource under the guidance of the current NQC counting rules of the CPUC's Qualifying Capacity Methodology Manual ("Manual"). If a resource's operational capabilities generally fall under a category described in the guide, the rules will be applied directly. For example, dispatchable generation resources receive NQC values based on their available capacity. SCE calculates the wind and solar NQC values based on the Effective Load Carrying Capacity ("ELCC") methodology, subject to deliverability. EE, permanent load shift products, and most types of DG are typically considered load adjustments rather than supply-side resources. SCE uses program/technology specific studies to estimate the impact of EE/DG on peak load reduction. SCE will consider the impact of this peak load reduction as equivalent to RA capacity for valuation and selection purposes.

SCE will estimate NQC values for those resource types not directly described in the Manual by using a similar, existing category. For instance, SCE can estimate the NQC of a behind the meter dispatchable energy storage resource using DR rules. When no reasonable estimate can be made using the existing Manual categories, SCE will consider the resource's contribution to meeting or reducing peak demand requirements in ascribing and proposing a counting convention.

2. Moorpark LCR and Goleta Counting

SCE will count capacity procured to meet the LCR target based on the calculated 2021 August NQC for each resource as defined by existing Local RA program rules. A 2021 August NQC is appropriate because the CAISO's LCR studies were based on peak demand conditions. SCE will count the capacity procured to address resiliency objectives in the Santa Barbara/Goleta area on the area's hourly need profile.

Appendix A

Roadmap of Track 1 Decision Requirements

Table A. 1 - SCE's Moorpark Sub-Area LCR Procurement Plan Road Map to D.13-02-015 Requirements

D. 13-02-015 Requirement	Location in the Moorpark LCR Procurement Plan	Page#
Ordering Paragraph 4		
• Any Requests for Proposals (RFP) issued by Southern California Edison Company pursuant to this Order shall include the following elements:		
a. The resource must meet the identified reliability constraint identified by the California Independent System Operator (ISO);	Section II.C. Baseline Planning Assumptions	pp. 11-12
b. The resource must be demonstrably incremental to the assumptions used in the California ISO studies, to ensure that a given resource is not double counted;	Section IV. C. Incrementality	pp. 36-37
c. The consideration of costs and benefits must be adjusted by their relative effectiveness factor at meeting the California ISO identified constraint;	Section II.A. Description of the Procurement Area	pp. 9-10
d. A requirement that resources offer the performance characteristics needed to be eligible to count as local Resource Adequacy capacity;	Section IV. E.1. Resource Adequacy Counting	pp. 38-39
e. No provisions specifically or implicitly excluding any resource from the bidding process due to resource type (except as authorized in this Order);	Section III. F. Resource Types	pp. 24-25
f. No provision limiting bids to any specific contract length;	Section III. C. Bid Requirements	p. 22-23
g. Provisions designed to be consistent with the Loading Order approved by the Commission in the Energy Action Plan and to pursue all cost-effective Preferred Resources in meeting local capacity needs;	Section II.B. The Role That Preferred Resources Will Play in Addressing LCR Needs	pp. 10-11
h. Provisions designed to minimize costs to ratepayers by procuring the most cost-effective resources consistent with a least cost/best fit analysis;	Section IV.A. Least-Cost, Best-Fit	p. 30-31
i. A reasonable method designed to procure local capacity requirement amounts at or within the levels authorized or required in this decision, not counting amounts procured through cost-of-service contracts;	Section I. Overview	pp. 1-2
j. An assessment of projected greenhouse gas emissions as part of the cost/benefit analysis;	Section IV. B. 3.e. GHG Cost	p. 35
k. A method to consider flexibility of resources without a requirement that	Section IV.B.2. Contract Benefits	pp. 31-33

D. 13-02-015 Requirement	Location in the Moorpark LCR Procurement Plan	Page#
only flexibility of resources be considered; and		
l. Use of the most up-to-date effectiveness ratings.	Section II.A. Description of the Procurement Area	pp. 9-10
Ordering Paragraph 5		
• Southern California Edison Company (SCE) shall provide a procurement plan for all required and authorized resources in the Los Angeles Basin and Big Creek/Ventura local areas to Energy Division no later than 150 days after the effective date of this decision. SCE shall show that its proposed procurement plan is consistent with Ordering Paragraph 4. SCE shall not go forward with any public procurement process until Energy Division approves the process in writing, except that SCE may proceed with parts of its procurement plan if so authorized. SCE also shall adhere to previous Commission decisions regarding this proposed procurement process, including consultation with the Procurement Review Group and Independent Evaluators.	Section I. Overview	pp. 1-2
Ordering Paragraph 6		
• In its proposed procurement plan to be reviewed by Energy Division, Southern California Edison Company shall show that it has a specific plan to undertake integration of energy efficiency, demand response, energy storage and distributed generation resources in order to meet or reduce local capacity requirement needs through 2021.	Section II.B. The Role That Preferred Resources Will Play in Addressing LCR Needs	pp. 10-11
Ordering Paragraph 7		
• A list of all Applicable rules and statutes impacting the Plan	Section I. B. Relevant Rules and Statues	pp. 6-9
• A detailed description of how SCE intends to procure resources, specifying the structure of any RFO or alternative procurement process and related timelines;	Section III. Solicitation Process	p. 17-30
• A statement as to whether or not SCE intends to seek Commission reconsideration of the solicitation and bilateral contracting determinations in its 2012 RPS procurement plan;	N/A	
• A detailed list of the RPS procurement authorizations and processes that support SCE's plans to acquire RPS-eligible resources to meet LCR needs;	Section I.B. Relevant Rules and Statues	pp. 6-9
• A methodology for determining least cost/ best fit that includes evaluating and quantifying performance characteristics that vary among resource type (e.g. time to start,	Section IV. Valuation and Selection Process	pp. 30-39

D. 13-02-015 Requirement	Location in the Moorpark LCR Procurement Plan	Page#
output at various times, variable cost, effectiveness in meeting contingencies, etc.);		
• What type of price benchmark will be used in determining cost-effectiveness for resources;	Section IV. A. 1. Least Cost Best Fit - Overview	p. 30-31
• An explanation for each resource type indicating whether modifications will be made to existing programs or if a new approach will be utilized;	Section III.F. Resource Types	pp. 24-25
• A methodology for determining peak capacity for resources for which there is not a currently approved methodology for determining Net Qualifying Capacity; and	Section IV. E. 1. Resource Adequacy Counting	pp. 38-39
• A methodology for determining other reliability capabilities (e.g. voltage support) for resources for which there is not a currently approved methodology for determining these capabilities.	Section IV. B. Evaluation Methodology	pp. 31-36