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

Application of Southern California Edison  
Company (U338E) for Approval of the Results of  
Its 2013 Local Capacity Requirements Request  
for Offers for the Moorpark Sub-Area.

Application 14-11-016  
(Filed November 26, 2014)

**CITY OF OXNARD'S OPPOSITION TO MOTIONS TO STRIKE BY  
SOUTHERN CALIFORNIA EDISON AND NRG**

ELLISON FOLK (SBN 149232)  
EDWARD T. SCHEXNAYDER (SBN 284494)  
SHUTE, MIHALY & WEINBERGER LLP  
396 Hayes Street  
San Francisco, California 94102  
Telephone: (415) 552-7272  
Facsimile: (415) 552-5816  
folk@smwlaw.com  
schexnayder@smwlaw.com

Attorneys for the City of Oxnard

Date: May 19, 2017

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**PRELIMINARY STATEMENT**

The motions to strike by Southern California Edison and NRG, Inc. fail to appreciate the purpose for which the City of Oxnard submitted its reply comments in this proceeding. The City’s comments were specifically designed to address assertions by SCE and NRG that approval of the Ellwood contract is necessary to ensure reliability in the Goleta/Santa Barbara region of the Moorpark subarea. Specifically, the City’s Preferred Resources Alternative outlined in the City’s reply comments demonstrates that it is possible to meet reliability concerns in both the Moorpark subarea and the Goleta/Santa Barbara region without approval of a ten year contract for Ellwood facility. Instead, a combination of battery storage, demand response, synchronous condensers, and *existing* resources in the Moorpark subarea would be sufficient to meet both the Moorpark subarea LCR and the Goleta area reliability concerns. Accordingly, the City’s comments fall within the parameters of Rule 14.3 of the California Public Utility Commission’s Rules and Procedures.

More fundamentally, the motions to strike—particularly that filed by SCE—misconstrue the essential elements of the City’s Preferred Resources Alternative. While

the City appreciates SCE's comments, they do not demonstrate that the "validity of Oxnard's CEC Supplemental Testimony is suspect."<sup>1</sup> In fact, just two and a half weeks ago, the CAISO Board indicated its support for an analysis of a preferred resource alternative for the Moorpark subarea.<sup>2</sup> As detailed below, the criticisms made by SCE simply underscore the basic validity of the Preferred Resources Alternative and may even offer an opportunity to improve it. Therefore the City respectfully requests that the motions to strike be denied.

**I. The Preferred Resources Alternative Demonstrates the Feasibility of Addressing SCE's Concerns Regarding Grid Reliability Without Combustion.**

SCE's concerns regarding reliability in the Santa Barbara/Goleta area are a microcosm of those in the larger Moorpark subarea. SCE claims that the need to provide short circuit duty requires the type of synchronous generation that the Ellwood facility provides.<sup>3</sup> However, the Preferred Resources demonstrates that it is possible to provide synchronous "generation" without combustion and that it is possible to supply energy to the system through existing resources and the procurement of additional preferred resources. In short, the Preferred Resources Alternative relies on:

- A proven combination of short duration (~ 1 hour) battery storage paired with existing so-called "slow response" demand response to create an LCR qualified product that neither resource on its own can provide;
- Long duration (4+hour) battery storage;
- Distributed energy resources (DER) using preferred resource technology;

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<sup>1</sup> SCE Motion to Strike at p. 4.

<sup>2</sup> CAISO's discussion of this matter can be found at approximately minute 52 of the May 1 hearing of the CAISO Board at the following link: <https://im.csgsystems.com/cgi-bin/confCast> Conference ID: 408747.

<sup>3</sup> SCE Opening Comments on Proposed Decision at 3-5.

- Retrofit of the existing McGrath gas peaking plant with Enhanced Gas Turbine (“EGT”) technology; and
- If necessary, installation of synchronous condensers to supply voltage support, transient stability, and short circuit current duty to the Moorpark area grid that would now be without significant synchronous generation.

To allow the transition to take place over time, the Preferred Resources Alternative relies on short term contracting of the Ellwood and Mandalay 3 existing peaking plants and temporary conversion of the existing Mandalay 1 and 2 units to operate as synchronous condensers.

As proposed, the Preferred Resources Alternative notes that roughly one-half of this ultimate suite of resources is either already operating or has been approved for procurement by the CPUC for reasons not related to the specific Moorpark area LCR need. SCE’s motion to strike focuses primarily on this element of the proposal. For the reasons set forth below, SCE’s assertions regarding this piece of the proposal are either incorrect or easily addressed.

**A. The Orange County and Goleta RFOs Sought LCR Qualified Resources.**

SCE’s first criticism of the Preferred Resources Alternative is the characterization of SCE’s Second Preferred Resource Pilot (“PRP2”) RFO and its suspended Goleta RFO as “LCR RFOs.”<sup>4</sup> While it is true that the word “LCR” does not appear in the title of either RFO, both RFOs explicitly seek LCR qualified projects that SCE intends to count towards its local, flexible and/or system Resource Adequacy obligations. SCE’s Application for approval of the contracts resulting from the PRP 2 RFO states it is designed to procure LCR resources:

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<sup>4</sup> SCE Motion to Strike at p. 4-5.

In addition to these primary purposes [piloting of distributed preferred resource procurement processes and resilience of the grid in the Johanna/Santiago region of Orange County], the procurement may also offset 124.9 MW of SCE's current residual 169.4 MW Local Capacity Requirements (LCR) procurement requirement (which is contingent on the outcome of a pending California Independent System Operator (CAISO) analysis) with resources sited in the local J-S Region.<sup>5</sup>

Indeed, the CAISO in its latest Transmission Plan is now modeling the RFO results as qualifying for LCR purposes.<sup>6</sup>

SCE's intention to procure LCR resources through the Goleta RFO is demonstrated by the following statement from the RFO instructions:

SCE will establish the amount of RA capacity (including system, local, and potentially flexible) attributed to each resource under the guidance of the current NQC counting rules of the CPUC's Qualifying Capacity Methodology Manual.<sup>7</sup>

The only reason that the Goleta RFO is not titled an "LCR RFO" is that the Goleta area N-2 contingency these resources are intended to mitigate is not an explicit tariff requirement of the CAISO's "Local Capacity Requirements," and thus does not establish an official "LCR need" in the CPUC Resource Adequacy proceeding. However, these resources would operate in precisely the same fashion to mitigate the "unofficial" Goleta N-2 contingency, and would count towards SCE's LCR obligation for the Moorpark area N-1-1 contingency.

**B. The Santa Paula/Wakefield Battery Facility Remains a Feasible Element of the Preferred Resources Alternative.**

SCE's next criticism of the Preferred Resources Alternative is that "the referenced [Santa Paula/Wakefield] energy storage contracts have been terminated, thus the

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<sup>5</sup> A.16-11-002 at p. 2.

<sup>6</sup> Board Approved 2016-2017 Transmission Plan, March 17, 2017 at p. 382.

<sup>7</sup> Goleta Area RFO Instructions\_v2-4 at p. 2.2.

referenced 5 MW installation has not been energized.”<sup>8</sup> SCE does not state the reason for contract termination and it is unclear whether just the 5 MW contract or the entire 15 MW of contracts have been cancelled. However, the CPUC approved 10 MW of contracts with a 2020 in service date from this facility in D.16-09-004. It also approved SCE’s Advice Letter 3545-E for the 5 MW contract with a 2017 in service date in Resolution E-4804 (issued 9/16/16).<sup>9</sup> These approvals demonstrate that even if this specific project itself is not built, the potential to procure 20 MW/80 MWH of battery storage interconnected at the primary side of the Wakefield substation or any of the other similar substations in the Moorpark area remains and could be picked up using either the CPUC prior authorization or in a subsequent RFO.

**C. The Preferred Resources Alternative Does Not Count Existing Capacity from the McGrath Peaker.**

SCE’s next criticism of the Plan is that “the McGrath peaker, and its net qualifying capacity of 47.2 MW is already counted as an available resource for the Moorpark sub-area LCR.”<sup>10</sup> However, the Preferred Resources Alternative does not rely on this existing capacity. Instead the Alternative identifies the battery pack associated with SCE’s proposed Enhanced Gas Turbine (EGT) retrofit at McGrath as providing the bridge to allow the existing slow response DR to count for LCR. Given that SCE has already proposed this retrofit on two of its other existing peakers whose technology is identical to McGrath, it can be feasibly relied upon to support DR that already exists in the Moorpark subarea.

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<sup>8</sup> SCE Motion to Strike at p. 5.

<sup>9</sup> <http://docs.cpuc.ca.gov/publisheddocs/published/g000/m167/k245/167245981.pdf>

<sup>10</sup> SCE Motion to Strike at p. 6.

**D. Conversion of Existing Generation to Synchronous Condenser Operation is a Feasible and Cost Effective Solution to Lack of Rotating Mass Required for Grid Stability.**

SCE's final criticism of the Preferred Resources Alternative is that "the conversion of conventional power plants, such as Mandalay 1 & 2 to synchronous condensers would not cost less than \$1 M. It is SCE's understanding that the cost of conversion would be, at a minimum, over \$10M."<sup>11</sup> SCE did not state the basis for its "understanding," and the City is skeptical of that figure given the scope of the project. Although SCE is in a better position to understand the full scope of the process, regardless of whether the cost is \$1M or \$10M, immediate retirement of Mandalay 1 & 2 and conversion to synchronous condenser operation is extremely cost effective in that it:

- Reduces the Moorpark LCR need by supplying dynamic reactive voltage support to mitigate voltage collapse during the N-1-1 scenario that sets the current Moorpark LCR need. This is not only valuable for the absolute LCR need reduction itself, but converting the limiting condition from voltage collapse to thermal overloading of the remaining transmission lines into Moorpark buys precious time after the N-1 event and expands the range of mitigation options for the N-1-1 event.
- Avoids the criteria pollutant emissions, once through cooling damage to local fisheries, and the visible plume from operation of Mandalay 1&2 as conventional generation.
- Provides critical rotating mass to the Moorpark sub-area grid to ensure transient stability, consistent operation of the current generation of smart inverters in the region and significant short circuit current duty for safety during the transition from reliance on conventional generation to preferred resources.

SCE makes no criticism of the Preferred Resources Alternative plan itself. Instead, it claims only that the one-half of the Preferred Resources Alternative that Oxnard had maintained was either already in service or already authorized for cost recovery by the CPUC had significant issues and could not be considered reliable.

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<sup>11</sup> SCE Motion to Strike at p. 6.

Indeed, the rejection of a long term refurbishment contract for Ellwood, the suspension of the Goleta RFO, and the cancellation of some or all of the Santa Paula battery storage contracts all need to be addressed. However, none of these events strikes at the heart of the Preferred Resources Alternative itself. Ellwood can be retained as an LCR resource through a short term RA contract at considerable savings since it will require neither the full ten years of the long-term contract nor full “refurbishment” to ensure another twenty plus years of operating life. Instead of suspending the Goleta RFO, it can be expanded to include the entire Moorpark subarea accelerating an essential RFO for the Preferred Resources Alternative. Termination of the Santa Paula/Wakefield storage facility contract(s) allows them to be resurrected with a low cost option to install additional smart inverters to allow the 80 MWH of energy storage to be discharged faster allowing additional “slow response” demand response to be made available to recharge the batteries and reduce overall costs. In short, each of SCE’s criticisms can be addressed in a way that strengthens the proposal.

## **II. The Need For Oversight In Implementation of the Preferred Resources Alternative Does Not Demonstrate It Is Infeasible.**

The Preferred Resources Alternative—unlike the Ellwood refurbishment or the Puente Project—is not a pre-packaged solution. The City understands it will require oversight and study to ensure effective implementation. However, the Preferred Resources Alternative is ultimately more cost-effective and more consistent with state laws mandating procurement of renewable resources and avoiding environmental impacts and unnecessary conflicts local land use policies.

Oxnard completely understands that the details of the Plan will require ongoing project oversight as conditions unfold. There are three principal uncertainties. First, is



the magnitude of the reduction in LCR need upon the conversion of Mandalay 1&2 to synchronous condenser operation. The larger the difference between the voltage collapse limit before the conversion to a thermal overload limit after the conversion, the lower the ultimate cost of the ultimate plan. A power flow and short circuit current duty engineering study by the CAISO and SCE is required to make this determination. At its May 1, 2017 Board Meeting, the CAISO Staff confirmed its ability to conduct such a study in a timely manner, and the Board expressed support for that undertaking.<sup>12</sup>

Second, is the actual result of a re-instituted and expanded Goleta RFO for the Moorpark area. The precise nature of the bid responses and their costs is required to set a specific project budget and decide whether it is necessary to procure either additional preferred resources or a “smaller peaker at an inland site” as is currently under consideration by the CEC. Finally, the first two uncertainties need to be resolved before a final design of the permanent “rotating mass” required to ensure safety and reliability of both the Moorpark subarea without Puente and Mandalay 3 and the Goleta sub-subarea without Ellwood can be determined. At this point, we only know the outer bounds of this requirement. Since both the CAISO and SCE agree that the area grid meets safety and reliability considerations with the 262 MW Puente plant and the 54.5 MW Ellwood plant with battery storage, the worst case is replacement of these facilities with stand alone synchronous condensers of equivalent size (316.5 MW). However, depending on the precise nature of the facilities coming out of the preferred resource RFO procurement and any subsequent residual procurement; the results of the engineering study of the removal of the voltage collapse limit; and the results of on-going R&D on a new generation of

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<sup>12</sup> May 1 hearing of the CAISO Board at the following link:  
<https://im.csgsystems.com/cgi-bin/confCast> Conference ID: 408747.

“smarter than smart” inverters capable of consistent operation under weak grid conditions and whether those new inverters will be available for commercial operation in time to be installed here, the “final answer” will be some fraction of 316.5 MW of stand alone synchronous condensers. Even under a worst case scenario—one that assumes the need for a small inland peaker, no drop in battery storage prices, and little reduction in LCR need with the removal of the voltage collapse limit—the cost of the Preferred Resources Alternative would be approximately one-half of the \$300 million price tag for Ellwood and Puente. This fact alone is reason to deny the Ellwood contract and require SCE to reinitiate and expand the Goleta Area RFO.

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SHUTE, MIHALY & WEINBERGER LLP

By: /s/ Ellison Folk

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ELLISON FOLK

EDWARD T. SCHEXNAYDER

Attorneys for the City of Oxnard

ELLISON FOLK

EDWARD T. SCHEXNAYDER

SHUTE, MIHALY & WEINBERGER LLP

396 Hayes Street

San Francisco, California 94102

Telephone: (415) 552-7272

Facsimile: (415) 552-5816

folk@smwlaw.com

schexnayder@smwlaw.com

895243.3