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**PROPOSED DECISION**

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Decision PROPOSED DECISION OF ALJ DEANGELIS (Mailed 4/7/2017)

**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)

**DECISION IN PHASE 2 ON RESULTS OF SOUTHERN CALIFORNIA EDISON  
COMPANY LOCAL CAPACITY REQUIREMENTS REQUEST FOR OFFERS  
FOR MOORPARK SUB-AREA PURSUANT TO DECISION 13-02-015**

**Table of Contents**

<u>Title</u>	<u>Page</u>
DECISION IN PHASE 2 ON RESULTS OF SOUTHERN CALIFORNIA EDISON COMPANY LOCAL CAPACITY REQUIREMENTS REQUEST FOR OFFERS FOR MOORPARK SUB-AREA PURSUANT TO DECISION 13-02-015 .....	1
Summary.....	2
1.    Procedural Background .....	2
2.    Scope of Issues.....	5
2.1.    Standard of Review .....	5
2.2.    Burden of Proof .....	5
3.    Ellwood Contract .....	6
4.    Parameters of RFO in Phase 1 .....	7
5.    Existing Reliability Standard.....	8
6.    Unique System Constraints in the Santa Barbara/Goleta Area.....	9
7.    N-2 Contingency .....	11
7.1.    Ellwood does not fulfill any NERC Standard or CAISO Standard.....	12
7.2.    Probability of an N-2 Contingency .....	12
7.3.    Dropping Load is Permissible in an N-2 Contingency .....	13
7.4.    Air Permit Restrictions .....	13
7.5.    Air Permit Variance .....	15
7.6.    Short Circuit Duty .....	16
7.7.    Planned Upgrade of 66 kV Distribution System .....	17
7.8.    No Urgent Timeline .....	18
8.    CAISO Need Assessment of Local Capacity Requirement .....	19
9.    Generation Alternative to Ellwood - Mandalay Unit 3.....	21
10.   0.5 MW NRG Energy Storage Project .....	21
11.   Motions.....	22
12.   Comments on Alternate Proposed Decision.....	22
13.   Assignment of Proceeding .....	22
Findings of Fact.....	23
Conclusions of Law .....	25
ORDER.....	26

**DECISION IN PHASE 2 ON RESULTS OF SOUTHERN CALIFORNIA EDISON COMPANY LOCAL CAPACITY REQUIREMENTS REQUEST FOR OFFERS FOR MOORPARK SUB-AREA PURSUANT TO DECISION 13-02-015****Summary**

In Phase 2 of this proceeding, we reject the 54 megawatts (MW), 10-year gas-fired generation, 30-year refurbishment Ellwood contract and 0.5 MW, energy storage contract (linked to the Ellwood contract) to give the Commission an opportunity to explore a more complete portfolio of resources to meet any identified need in the Santa Barbara/Goleta area and whether any identified need can be met in a manner more consistent with the Commission's goals of reduced reliance on fossil fuel. We further find that no reliability need justifies approval of the Ellwood contract. This proceeding is closed.

**1. Procedural Background**

On November 26, 2014, Southern California Edison Company (SCE) filed Application (A.) 14-11-016 seeking approval of the results of its 2013 Local Capacity Requirements Request for Offers (RFO) in the Moorpark sub-area of the Big Creek/Ventura local reliability area (Moorpark sub-area) to meet long-term capacity requirements by 2021, as directed by the Commission in Decision (D.) 13-02-015.<sup>1</sup>

Specifically, D.13-02-015, issued on February 13, 2013, ordered SCE to procure via a RFO a minimum of 215 megawatts (MW) and a maximum of 290 MW of electrical capacity in the Moorpark sub-area to meet identified

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<sup>1</sup> D.13-02-015, *Decision Authorizing Long-Term Procurement for Local Capacity Requirements* (February 13, 2013).

long-term local capacity requirements by 2021.<sup>2</sup> The Commission found this local capacity requirement need existed, in large part, due to the expected retirement before 2021 of the Ormond Beach Units 1 and 2 and Mandalay Units 1 and 2 once-through-cooling generation facilities located in Oxnard, California.

The assigned Commissioner issued a Scoping Memo on March 13, 2015.<sup>3</sup> Evidentiary hearings were held, and parties submitted legal briefs on July 22, 2016 and August 5, 2016. On May 26, 2016, the Commission issued D.16-05-050<sup>4</sup> in this proceeding, which approved SCE's contract for the 262 MW Puente Project and, in addition, approved contracts for 12 MW of preferred resources.

The Commission, in D.16-05-050, deferred consideration of the 54 MW Ellwood project (RFO contract #447021) and a linked 0.5 MW energy storage project (RFO contract #447030) to Phase 2 of this proceeding. In deferring consideration of these two contracts, the Commission stated:

... the record in this proceeding does not appear to be fully developed enough to decide whether to approve the Ellwood contract at this time.

To determine if the Ellwood contract is reasonable, it is necessary to determine if there is a **reliability need** that it would meet. D.13-02-015 required that SCE procure new resources to fill the Moorpark sub-area reliability need. Goleta is within the Moorpark sub-area, but the current Ellwood facility was considered by the CAISO [California Independent System Operator] to be an existing operational resource in the 2012 LTPP

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<sup>2</sup> D.13-02-015 at 131 (Ordering Paragraph 2).

<sup>3</sup> On December 4, 2014, the Commission issued Resolution ALJ 176-3347 to preliminarily determine that this proceeding was ratesetting and that evidentiary hearings would be necessary. These preliminary findings were confirmed in the Scoping Memo.

<sup>4</sup> D.16-05-050 was modified on rehearing by D.16-12-030, *Order Modifying Decision (D.) 16-05-050 and Denying Rehearing, as Modified*.

proceeding in which D.13-02-015 was decided. Thus, the Ellwood peaker would not be eligible to fill the identified reliability need in the Moorpark sub-area.<sup>5</sup> (Emphasis added.)

The Commission stated, in the Findings of Fact, as follows:

**Finding of Fact 15:** The record is incomplete regarding evaluation of the reliability need for the Ellwood contract and whether the Ellwood contract is the best way to meet any such need.

**Finding of Fact 16:** Under the terms of the contracts, the energy storage contract with NRG California South, located at the site of Ellwood, is not available if the Commission refrains from approving Ellwood at this time.<sup>6</sup>

Thus, as directed by D.16-05-050, the second phase of this proceeding addresses SCE's request for approval of the 54 MW Ellwood contract and the linked 0.5 MW energy storage project with NRG California South LP (NRG).<sup>7</sup>

Earlier in this proceeding, parties filed protests. These protests addressed all the issues in the proceeding, including the issues related to the 54 MW Ellwood contract and the related energy storage project. A public participating hearing was held in Oxnard on July 15, 2015. A second Scoping Memo was issued on August 18, 2016 in Phase 2. Evidentiary hearings were held in Phase 2 on November 1 and 2, 2016. Briefs and Reply Briefs were filed on December 1,

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<sup>5</sup> D.16-05-050 at 30-31.

<sup>6</sup> D.16-05-050 at 36.

<sup>7</sup> As SCE explained in prior testimony in this proceeding, while it is seeking approval of the Ellwood Refurbishment contract in this Application, the Ellwood contract is not considered an incremental resource and does not count toward the procurement targets for the Moorpark sub-area. SCE Application 14-11-016 at 3, fn. 6. More details regarding this project are available in SCE's prepared testimony, referred to as Exhibit SCE-1 (Testimony of Southern California Edison Company on the Results of Its 2013 Local Capacity Requirements Request for Offers for the Moorpark Sub-Area - Chapter VII, Section A.1).

2016 and December 15, 2016, respectively. The evidentiary record of Phase 2 includes all materials entered into the record in Phase 1 and Phase 2.

## **2. Scope of Issues**

The issues to be determined are:<sup>8</sup>

1. Is the 54 MW Ellwood Refurbishment contract reasonable?
2. Is the 0.5 MW storage project contract reasonable?

### **2.1. Standard of Review**

We review SCE's Application and request therein under a reasonableness standard. Pursuant to D.16-05-050 and the August 18, 2016 Phase 2 Scoping Memo, the question presented in Phase 2 of this proceeding is whether the Ellwood contract and linked energy storage contract are reasonable. However, as explained in D.16-05-050, in order to determine if the Ellwood contract is reasonable, it is necessary to determine if there is a need that it will help meet. The need is described in D.16-05-050 as a reliability need.<sup>9</sup>

### **2.2. Burden of Proof**

The burden of proof is on the Applicant in this proceeding to support its request by a preponderance of evidence. In short, the preponderance of evidence burden of proof standard is met if the proposition is more likely to be true than not true. The standard is also described as being met by the evidence presented when the proposition is more likely than not.

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<sup>8</sup> August 18, 2016, *Assigned Commissioner's Ruling and Scoping Memo* at 4.

<sup>9</sup> D.16-05-050 at 30-31.

### 3. Ellwood Contract

Today's decision considers the 10-year tolling agreement for the operation of the Ellwood facility in Goleta (in Santa Barbara County), a 54 MW existing gas-fired generation peaker plant. The contract includes the refurbishment of the Ellwood plant.<sup>10</sup> The refurbishment will extend the life of the plant by an additional 30 years, to 2048. Ellwood is a combustion turbine generating unit built in 1974. Historically, Ellwood has not been a reliable resource.<sup>11</sup> The Ellwood plant is located adjacent to a residential area and school.<sup>12</sup> The people that live in this area do not, generally, support the continued operation of Ellwood.<sup>13</sup> June 2018 is the start date set forth in the Ellwood contract.<sup>14</sup> Ellwood is currently operating under a short-term contract between SCE and NRG.<sup>15</sup>

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<sup>10</sup> Phase 1 Exhibit SCE-1 at 57.

<sup>11</sup> Phase 1 Exhibit SCE-1 at 57. *See also*, ORA August 5, 2015 Reply Brief at 3, suggesting that because Ellwood has not historically been a very reliable resource, the need for Ellwood to maintain reliability is unclear and further weakens any assertion that Ellwood is necessary to maintain reliability.

<sup>12</sup> The project is located at 30 Las Amas Road, Goleta, California 93117 and the commercial operation date is June 1, 2018. Phase 1 Exhibit SCE-1 at 55. The project is located approximately 1000 ft. from a public school, the Ellwood School.

<sup>13</sup> Public Participation Hearing July 15, 2015. Also, numerous letters from the public are located in the case file.

<sup>14</sup> Phase 2 Exhibit SCE-11C at 3 (fn. 7).

<sup>15</sup> Ellwood is currently subject to a short-term bilateral contract approved by the Commission in Resolution E-4781 (May 26, 2016). The contracting parties are SCE and NRG Energy, Inc. through GenOn Energy Management, LLC. According to the Commission's Resolution, the term of the contract is August 2016 - May 2018. In approving the contract (and denying the Mandalay 3 contract), the Commission stated: "The Ellwood Peaker is needed to cure a 2016 deficiency identified by the California Independent System Operator for 42 MW in the Santa Clara sub-area, which may persist through 2018. In addition, the Ellwood Peaker serves local load in Santa Barbara County and would help meet local reliability needs in the event of an outage on the Goleta-Santa Clara 230 kV transmission lines. With the Ellwood contract in place, there is no residual need for the Mandalay 3 Peaker to meet SCE's local area or sub-area needs in 2016 or 2017."

**4. Parameters of RFO in Phase 1**

The Ellwood contract falls outside of the parameters of the RFO and the long-term local capacity requirement need determination, as defined D.13-02-015. In D.13-02-015, the Commission ordered SCE to procure a maximum of 290 MW in the Big Creek/Ventura local reliability area. The capacity of the Ellwood contract would result in SCE contracting for amounts that exceed this limitation.<sup>16</sup> D.13-02-015 set this MW limitation to reflect the maximum amount of potential costs that the Commission found reasonable to impose on ratepayers. In addition, the maximum MW amount was the limit of the local capacity requirement need, as determined by the Commission. After the Commission approved the Puente Project contract and the other smaller preferred resource projects totaling 274 MW, the remaining amount identified in D.13-02-015 is 16 MW.

Moreover, Ellwood is not an incremental resource, as required by the terms of the RFO. Under the terms of the RFO approved by the Commission in D.13-02-015, all contract capacity needed to be “incremental.” In D.14-02-040, the Commission found that only incremental capacity (i.e., new capacity or additional capacity of existing plants) or repowered plants could participate in long-term RFO.<sup>17</sup> The rationale behind this RFO requirement was to create a level playing field among bidders, which is an essential component to a well-functioning market. All parties agree that Ellwood is not new or incremental capacity.

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<sup>16</sup> ORA July 22, 2015 Opening Brief at 5.

<sup>17</sup> D.14-02-040 at 28.



However, the Commission in D.16-05-050 concluded that consideration of Ellwood in this proceeding was, nevertheless, appropriate but found that the record in Phase 1 of this proceeding did not appear to be developed enough to decide whether to approve of the Ellwood contract. Therefore, D.16-05-050 directed the Commission to revisit the Ellwood contract in Phase 2 to determine if the contract is reasonable.<sup>18</sup> To determine reasonableness, it is necessary to determine “if there is a reliability need that it would meet.”<sup>19</sup> The Commission further stated, “[i]f we determine there is an additional unmet local reliability need in the Goleta area that needs to be filled, we will consider if the Ellwood refurbishment contract is the best resource to do so.”<sup>20</sup>

## **5. Existing Reliability Standard**

In accordance with the directive in D.16-05-050, Phase 2 of this proceeding examines whether a reliability need exists for Ellwood. Based on the evidence presented, no reliability need exists that justifies the Ellwood contract.

The parties supporting the approval of Ellwood acknowledge that no existing Commission-requirement or standard exists under which consideration of this project would result in approval, including reliability.<sup>21</sup> The Commission could, on this basis alone, deny the contract in this phase of the proceeding since the contract does not meet the approval standard set forth in D.16-05-050.

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<sup>18</sup> In Phase 2, some parties continue to dispute the appropriateness of whether Ellwood should be considered in this proceeding and suggest, among other things, that the contract is more aligned with a bilateral contract and the Commission should review Ellwood under a bilateral standard. *See, e.g.*, ORA December 1, 2016 Opening Brief at 4. We do not address this argument based on the Commission’s directive in D.16-05-050 to address Ellwood here.

<sup>19</sup> D.16-05-050 at 30.

<sup>20</sup> D.16-05-050 at 32.

<sup>21</sup> SCE December 15, 2016 Reply Brief at 8.

However, SCE presented a new and different standard by which to evaluate the reasonableness of the Ellwood contract. This new standard is referred to by SCE as the resiliency standard and is purportedly based on the unique geographic area and transmission challenges related to serving the Santa Barbara/Goleta area in the event of an emergency. Our review of Ellwood does not rely on this proposed resiliency standard because no such standard has been vetted and approved by the Commission. We do, however, review Ellwood within the context of the unique geographic area and transmission challenges related to serving the Santa Barbara/Goleta area because the parties supporting Ellwood raise safety considerations related to this geographic area that may arise in the event of an emergency.

**6. Unique System Constraints in the Santa Barbara/Goleta Area**

SCE states that the purpose of its testimony in Phase 2 is to explain the “unique resiliency need in the Santa Barbara/Goleta area.”<sup>22</sup> SCE states that it needs to provide safe and reliable electric service to its customers and employees, and in doing so there may not always be a specific standard supporting SCE’s efforts.<sup>23</sup> SCE further argues that “[r]esiliency refers to the ability of the electrical system to respond to an emergency event so that customers maintain service” and SCE can provide safe service to its customers and employees.<sup>24</sup>

SCE asserts that it developed an integrated mitigation strategy to provide for resiliency in the Santa Barbara/Goleta area to address the potential shortfall

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<sup>22</sup> SCE December 15, 2016 Reply Brief at 3.

<sup>23</sup> SCE December 15, 2016 Reply Brief at 4.

<sup>24</sup> SCE December 1, 2016 Opening Brief at 12 (fn. 55).

of 105 MW<sup>25</sup> that could cause rolling blackouts in the area. The cornerstone of SCE's mitigation strategy to support this 105 MW shortfall is Ellwood.

According to SCE the 54 MW provided by Ellwood will be available when it is needed in June 2018, and that Ellwood will provide, some – but not all – of the 105 MW needed capacity and support short circuit duty, which will allow SCE to quickly clear faults and reduce the risk of electrocution to the public and its employees in a cost-effective manner. In addition, SCE's mitigation strategy includes the pursuit of cost-efficient local distributed generation resources and consideration of upgrades to the electric system.<sup>26</sup>

The CAISO supports the project, with a caveat, stating: “[t]he CAISO has not independently studied these scenarios because the reliability concerns are not related to the bulk electric system.”<sup>27</sup> The CAISO further states that, SCE's subtransmission system is unable to fully restore service to the Santa Barbara/Goleta area after an identified N-2 Contingency,<sup>28</sup> and though this issue is not within CAISO's purview, SCE should not ignore the issue and nor should the Commission.

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<sup>25</sup> The 105 MW shortfall is calculated based on the upgraded Santa Clara 66 kV distribution system scheduled to be completed in August 2018. This upgrade is discussed below in further detail.

<sup>26</sup> SCE December 1, 2016 Opening Brief at 12.

<sup>27</sup> March 8, 2016 Reply Comments of CAISO on Alternate Proposed Decision at 3.

<sup>28</sup> 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 Electric Reliability Corporation Reliability Standard TPL-001-4, which allows customer load to be dropped without a stated timeframe for restoration. Exhibit SCE-11C, 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.”).

NRG supports the arguments of SCE and CAISO and argues that continued operation of Ellwood is compatible with the development of new preferred resources, and is appropriately characterized as a reliability backstop that would help ensure local reliability during an emergency.<sup>29</sup>

While we decline to review Ellwood under SCE's proposed resiliency standard, we find that SCE provides convincing evidence that unique and localized transmission grid issues exist in this part of SCE's service territory and that, in the event of the loss of the two Goleta-Santa Clara 230 kilovolt (kV) transmission lines (also referred to as an N-2 Contingency), customers in the Santa Barbara/Goleta area will likely lose service.<sup>30</sup> The evidence further establishes that, depending on the circumstances of the outage and when it occurs, in the absence of additional resources, SCE would not be able to meet peak load, and customers could face rolling blackouts.<sup>31</sup>

Below we evaluate the arguments of the parties opposing and supporting the Ellwood contract and further evaluate the questions raised by an N-2 Contingency in the Santa Barbara/Goleta area.

## **7. N-2 Contingency**

The evidence presented during this proceeding establishes that the 54 MW provided by Ellwood offers, some – but not all – of the 105 MW needed capacity to prevent possible blackouts, together with short circuit duty which will allow SCE to quickly clear faults and reduce the risk of electrocution to the public and

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<sup>29</sup> NRG December 1, 2016 Opening Brief at 9.

<sup>30</sup> Phase 2 Exhibits SCE-1 at 6-7 and SCE-11C at 7. This area is relatively isolated and bound by the Pacific Ocean to the south and west, and the Los Padres National Forest to the north and east.

<sup>31</sup> SCE December 1, 2016 Opening Brief at 5.

its employees. The evidence is less convincing that Ellwood is the only or the best option to provide these MWs and address these service issues.

**7.1. Ellwood does not fulfill any NERC Standard or CAISO Standard**

The Office of Ratepayer Advocates (ORA) and Sierra Club argue that the need for Ellwood in the Santa Barbara/Goleta area in the event of an N-2 Contingency is not sufficient to justify approval of Ellwood in this proceeding because this need is not based on any NERC standards, CAISO standards, or Commission standards.<sup>32</sup> We agree with the undisputed fact that Ellwood does not present a solution to any unmet NERC or CAISO standard.

**7.2. Probability of an N-2 Contingency**

A critical question in evaluating the reasonableness of Ellwood is the probability of an N-2 Contingency. Helping Hand Tools (HHT)<sup>33</sup> asserts that a loss of both 230 kV transmission lines would be a “rare” event, and the local transmission system can be activated to meet 180 MW of local demand, which, according to HHT, is a reasonable solution.<sup>34</sup> In fact, all parties generally agree that the loss of both lines would be a rare event, but SCE responds that such a loss could happen.<sup>35</sup>

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<sup>32</sup> Reporter’s Transcript (RT), Vol. 6 (ORA/Li) at 1050:18-22.

<sup>33</sup> HHT filed a Motion for Party Status on October 3, 2016, describing itself as “a California non-profit organization focused on preventing community deterioration. Pollution, environmental injustice, and excessive energy costs contribute to community deterioration. 2HT has members who live, work, recreate, and pay electricity rates in Southern California Edison Company’s service territory. The Commission’s disposition of this Application will materially impact the interests of 2HT’s [HHT’s] members.” The Motion for Party Status was granted on October 6, 2016.

<sup>34</sup> HHT December 1, 2016 Opening Brief at 3-4.

<sup>35</sup> No exact probability or risk factor was presented.

The unknown but rare possibility of an N-2 Contingency event occurring makes it difficult to justify the Ellwood contract and demands consideration of other options and constraints related to Ellwood and the remote N-2 Contingency.

### **7.3. Dropping Load is Permissible in an N-2 Contingency**

In the event of an N-2 Contingency NERC permits customer load drop without a stated timeframe for restoration.<sup>36</sup> Also, simultaneous loss of both lines has not occurred for more than 4 hours.<sup>37</sup> In the past, when these rare outages occur, the duration is under 90 minutes and the existing distribution system is able to reroute power within an hour and able to meet demand in 75 percent of the annual hours (non-peak load)<sup>38</sup> where demand is under the 180 MW supplied by the 66 kV system.<sup>39</sup>

### **7.4. Air Permit Restrictions**

The second question is whether Ellwood would be available to run in the event of an N-2 Contingency. The operation of Ellwood is restricted by its existing Air Permit from the Santa Barbara County Air Pollution Control District.

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<sup>36</sup> Exhibit SCE-11 Phase 2 at 2, which states at fn. 6: 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 Electric Reliability Corporation (“NERC”) Reliability Standard TPL-001-4, which allows customer load to be dropped without a standard timeframe for restoration.

<sup>37</sup> Phase 2 Exhibit Sierra Club-2C (Data Request Sierra Club – SCE-1, Q.2d); RT 809; 1-4 (SCE, Chinn).

<sup>38</sup> Sierra Club December 1, 2016 Opening Brief at 5; HHT December 1, 2016 Opening Brief at 4.

<sup>39</sup> Sierra Club December 1, 2016 Opening Brief at 5. SCE agrees that MW from Ellwood may not be required during 75 percent of annual hours where demand is under 180 MW but states that Ellwood is still required to provide adequate short circuit duty in order to safely utilize the 66 kV tie lines from Santa Clara to supply 180 MW. SCE December 15, 2017 Reply Brief at 6.

Ellwood's Air Permit allows only 380 hours (or 16 full days) of operation per year.<sup>40</sup> The restrictions on Ellwood's operation raise questions about whether it would even be available to operate in the event of an N-2 Contingency. SCE predicts weeks (not days) of blackouts in the event of the failure of the Goleta-Santa Clara 230 kV lines.<sup>41</sup> In other words, it would need Ellwood to be available for weeks but its Air Permit only allows 16 days. NRG attempts to minimize the impact of this restriction, stating that "Having 54 MW of capacity available for dispatch for 380 hours per year is obviously better than not having the capacity available at all. Further, if it were not run continuously 24 hours per day, the Ellwood Generating Station could operate for more than 16 consecutive days, which would cover a transmission outage lasting more than two weeks."<sup>42</sup>

However, NRG's argument fails to take into account that Ellwood's availability for a 16-day transmission outage depends on whether or not Ellwood has already used its 380 annually-permitted operating hours before the failure of the Goleta-Santa Clara 230 kV lines.<sup>43</sup> In addition, while it appears probable that Ellwood would need to run in the event of an N-2 Contingency, SCE has not negotiated a price with NRG for Ellwood should it be called upon to exceed the 380 hours.<sup>44</sup>

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<sup>40</sup> Phase 2 Exhibit SCE-11C at 15-16.

<sup>41</sup> HHT December 15, 2016 Reply Brief at 11.

<sup>42</sup> HHT December 15, 2016 Reply Brief at 11, citing to NRG December 1, 2016 Opening Brief at 13.

<sup>43</sup> ORA December 1, 2016 Opening Brief at 6; Sierra Club December 1, 2016 Opening Brief at 6, 11; WBA Opening Brief at 2-3; HHT December 1, 2016 Opening Brief at 5-6.

<sup>44</sup> HHT December 1, 2016 Opening Brief at 6, citing to RT November 1, 2016 at 991:28, 992:1-6. SCE states, in response, that, while price for operating beyond the Air Permit restrictions has not been agreed upon, it expects NRG to negotiate in good faith and present a fair price. SCE December 15, 2016 Reply Brief at 14.

### 7.5. Air Permit Variance

A further question is whether NRG or SCE would be able or even attempt to seek a variance from the Santa Barbara County Air Pollution Control District for permission to operate Ellwood beyond the existing limitation of 380 hours (or 16 full days) per year. During this proceeding, NRG and SCE suggested that a variance would be the logical course of action but questions remain.<sup>45</sup>

The Santa Barbara County Air Pollution Control District has a procedure for requesting such variances but the record does not show the frequency of such requests or the circumstances under which such requests are approved.<sup>46</sup> No clear answer appears regarding Ellwood's ability to qualify and obtain a variance based on the evidence in the record.<sup>47</sup> Nevertheless, NRG and SCE suggest that a clear path to obtain a variance exists. Sierra Club, HHT, and ORA all disagree.

Moreover, Sierra Club, HHT, and ORA argue that, from a planning perspective, the need for a variance from the Santa Barbara County Air Pollution Control District to address a possible N-2 Contingency is not an optimal solution, especially due to the actual air pollution impacts that might occur by operating Ellwood for excess hours near residential communities and a school.<sup>48</sup> The

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<sup>45</sup> SCE December 15, 2016 Reply Brief at 12.

<sup>46</sup> As shown in Phase 2 Late-Filed Joint Exhibit SCE/NRG-1: "An Emergency Variance may be granted for good cause, including, *but not limited to*, breakdown conditions." Breakdown conditions can allow a variance of only 15 days, an emergency variance based on other showings of good cause (in this case, a potential reliability crisis) could be granted for up to 30 days.

<sup>47</sup> SCE December 15, 2016 Reply Brief at 12; SCE explains that the Santa Barbara County Air Pollution Control District would need to address potential health and safety risks before granting the variance.

<sup>48</sup> Ellwood is located less than 1,000 feet from an elementary school. Sierra Club December 1, 2016 Opening Brief at 6.



record reflects that Ellwood is a highly polluting resource permitted to emit as much as 103.59 pounds per hour of nitrogen oxide – which is over 20 times the normal emission rate of a modern peaking unit with modern emission controls.<sup>49</sup>

The Santa Barbara County Air Pollution Control District would likely need to balance the benefits and the harms before issuing a variance. The outcome of such an analysis and the result of a request by NRG for an Air Permit variance are not clear and weigh against concluding that Ellwood is the appropriate resource to address an N-2 Contingency event.

#### **7.6. Short Circuit Duty**

The argument is also made that Ellwood presents value, in addition to mitigating an N-2 Contingency, by providing short circuit duty. Again, any value from providing short circuit duty would need to be provided consistent with the limitations placed on Ellwood's operation under the restrictions in its Air Permit. Moreover, based on the record, it remains unclear whether a long-term contract, providing for additional 10 years of operation and an additional 30-year lifespan, can be justified based solely on the provision of short circuit duty.

In support of the value of the potential for Ellwood to provide short circuit duty, SCE claims that it strives for an approximate short circuit duty amount in the thousands of amps.<sup>50</sup> SCE further claims that, while no Commission or other standard exists to demonstrate the need for Ellwood to address short circuit

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<sup>49</sup> HHT December 1, 2016 Opening Brief at 6, citing to Phase 2 Exhibit 2HT-1 at 6, 7.

<sup>50</sup> RT 825:5-6 (SCE, Chinn).

duty, SCE has identified a need as part of its responsibility to maintain safe and reliability electrical service.<sup>51</sup>

Based on the evidence, it remains unclear whether an amount of amps lower than that approximated by SCE may be acceptable and whether other means of addressing this short circuit duty exist. The absence of a clear standard applicable to short circuit duty further complicates, rather than clarifies, this matter and weighs against concluding that Ellwood can be deemed reasonable based solely on SCE's need to address short circuit duty. That said, SCE has demonstrated the import of short circuit duty in case of an N-2 contingency. SCE is encouraged to evaluate alternative sources of short circuit duty, including both conventional sources like synchronous condensers and non-conventional sources like inverter-based technologies, energy storage, and solar photovoltaics (PV).

#### **7.7. Planned Upgrade of 66 kV Distribution System**

During the proceeding, the question arose of whether the planned upgrade to the Santa Clara 66 kV distribution system in the Santa Barbara/Goleta area would minimize or eliminate the need for Ellwood. The evidence indicates that the upgrade would minimize but not eliminate the need for additional generation in the event of an N-2 Contingency for the purpose of serving peak load.

Plans exist to improve the Santa Clara 66 kV distribution system in the Santa Barbara/Goleta area. This upgrade is known as the Santa Barbara County Reliability Project. If both 230 kV transmission lines go down, re-routing power through the 66 kV system would allow service of 100 MW of load today, this will

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<sup>51</sup> SCE December 15, 2017 Reply Brief at 8-9.

increase to 180 MW after the Santa Barbara County Reliability Project is completed in April 2018.<sup>52</sup>

However, rerouting even the full 180 MW through the 66 kV system would not allow for all of the local peak load to be entirely served. Based on SCE's estimates, a 105 MW shortfall would continue to exist, even after the 66 kV upgrade, to serve peak load in the event both 230 kV transmission lines go down.<sup>53</sup> As noted by SCE, even if 180 MW of power are rerouted through the upgraded 66 kV system, the rerouted power would not meet peak load in an N-2 Contingency,<sup>54</sup> 105 MW of peak load would remain at risk.

We find that the planned upgrades to the Santa Clara 66 kV distribution system will limit the extent of any potential service interruptions that result from an N-2 Contingency by reducing the unmet peak load need from 285 MW to 105 MW. We further find that the interruptions to service identified by SCE related to not being able to meet 105 MW of peak load could be partially addressed by Ellwood, provided compliance with the operating hour restrictions under its Air Permit or a variance. In short, the upgrade does not provide a complete solution to the need of 105 MW, but neither does Ellwood.

### **7.8. No Urgent Timeline**

While parties argue over the probability of an N-2 Contingency and the value of Ellwood in responding to an N-2 Contingency under the operating limits placed on Ellwood by its Air Permit, no party presents an urgent timeline to

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<sup>52</sup> Phase 2 Exhibit SCE-11 at 2, 9 & 10.

<sup>53</sup> Phase 2 Exhibit SCE-11 at 2, 3 & 10.

<sup>54</sup> Phase 2 Exhibit SCE-11 at 10.

resolve this potential need.<sup>55</sup> In the absence of urgency, we find that rather than extend the life of a gas-fired plant for an additional 30 years, potentially displacing preferred resources and failing to fully realize the benefits of an upgraded 66 kV distribution system, other options should be reviewed, including preferred resources, to improve upon service in the event of an N-2 Contingency.

#### **8. CAISO Need Assessment of Local Capacity Requirement**

The CAISO data presents a separate need related to Ellwood – a reliability need. The most recent assessment by the CAISO shows that, without Ellwood, a residual 29.6 MW need for local capacity resources will exist. This 29.6 MW need will arise after the retirement of Ormond Beach and Mandalay once-through-cooling units that are slated to retire before 2021 and is driven by the voltage collapse caused by the N-2 Contingency.<sup>56</sup> The CAISO explains that because the need is driven by the potential for voltage collapse in a N-2 Contingency, some types of resources, such as demand response, are not sufficient because reactive power is needed to maintain system voltage.<sup>57</sup>

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<sup>55</sup> SCE does not dispute the assertion by Sierra Club that no deadline exists to meet the 105 MW target but points out that Ellwood is essential to resolve unique issues presented in the Santa Barbara/Goleta area. SCE December 15, 2017 Reply Brief at 7.

<sup>56</sup> CAISO December 1, 2016 Opening Brief at 1-2.

<sup>57</sup> CAISO December 1, 2016 Opening Brief at 2. Reactive power is needed in when voltage collages occurs to regulate voltage. For example, reactive power is measured in volt-ampere reactive (VAR). If voltage declines on the electrical system, a generator is able to inject reactive power in the system which tends to raise the system voltage.

ORA disputes the CAISO's findings. ORA states that this estimate should have included Mandalay Unit 3 (discussed below) and inappropriately excluded certain demand response.<sup>58</sup>

The CAISO clarifies that it included demand response with less than or equal to 20-minute response time but ORA suggests that the CAISO should include demand response in a manner consistent with D.16-06-045, which might result in a greater amount of demand response being found available.<sup>59</sup> ORA states that, potentially, only 16 MW would be needed, if the CAISO relied on a different means of calculating the availability of demand response to meet local capacity reliability needs.<sup>60</sup> In addition, ORA and Sierra Club both point to recent studies of the CAISO that appear to overestimate the need in the Moorpark sub-area.

Taking these factors into consideration and giving weight to the CAISO's findings of a reliability need of 29.6 MW in the Moorpark sub-area in an N-2 Contingency, we find it is, nevertheless, premature to approve Ellwood without first evaluating the situation in the smaller Santa Barbara/Goleta area and determining whether other resources exists to address this 29.6 MW need, which is smaller than the 54 MW provided by Ellwood.

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<sup>58</sup> ORA December 1, 2017 Opening Brief at 7. According to ORA, the CAISO's analysis only included demand response with less than or equal to a 20-minute response time.

<sup>59</sup> ORA December 1, 2017 Opening Brief at 7.

<sup>60</sup> ORA December 1, 2017 Opening Brief at 7 & 8, stating that "The CAISO has identified 37.5 MW of slow DR in the Moorpark sub-area with a response time of greater than 20 minutes for a total of 55.5 MW of DR."

**9. Generation Alternative to Ellwood - Mandalay Unit 3**

While we have found that no reliability need exists for the Ellwood contract, as required by D.16-05-050, and we have further found that the operating characteristics of Ellwood do not present an optimal solution to the need presented by SCE, our review of the need for Ellwood evaluates the bigger generation picture presented by the Santa Barbara/Goleta area.

Parties presented evidence on whether other resources in the area, such as the Mandalay Unit 3, would be a better option. The evidence indicates that that the 130 MW Mandalay Unit 3 could fill the 29.6 MW need identified by the CAISO.<sup>61</sup> In fact, the CAISO testified that the 130 MW Mandalay Unit 3 - if it remains available - would satisfy the 29.6 MW need identified in the Moorpark sub-area.<sup>62</sup> No definitive evidence in the record exists that Mandalay Unit 3 will remain available for continued operation.

Therefore, until more information is known about the future of Mandalay Unit 3 and the potential for preferred resources to meet any local area need, it is reasonable to reject the long-term Ellwood contract, a 10-year contract (and 30-year refurbishment).

**10. 0.5 MW NRG Energy Storage Project**

The Commission found in D.16-05-050 that the 10-year, 0.5 MW energy storage project contract between SCE and NRG at the Ellwood site should be considered in Phase 2 of this proceeding together with the Ellwood contract. In reviewing this contract in Phase 2, we conclude that the approval of the Ellwood contract is a prerequisite for approval of the new 0.5 MW energy storage facility

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<sup>61</sup> HHT December 15, 2016 Reply Brief at 2-3.

<sup>62</sup> HHT December 15, 2016 Reply Brief at 2-3, citing to RT Vol. 6 at 1023: 3-7.

at the Ellwood site, as the two contracts were linked together by NRG as a mutually exclusive offer.

Because the Ellwood contract is not approved today, we must, under the terms of the contract, reject the linked storage contract located at Ellwood. In the future, we expect bidders to abide by the Commission's procurement rules, including the rules that prohibit offers that combine existing generation with incremental energy storage capacity. These rules, and others, function to prevent market distortions and ensure a level playing field among bidders.

### **11. Motions**

The May 11, 2017 motion by NRG is denied. The May 16, 2017 motion by SCE is denied. All outstanding motions to file pleadings confidentially are granted. NRG's and SCE's November 18, 2016, joint motion to admit into evidence a late-filed joint exhibit is granted. SCE's November 21, 2016 motion for leave to correct transcript errors is granted. The motions dated November 21, 2016 and November 29, 2016 by ORA to admit into evidence late-file exhibits and submit exhibits under seal are granted.

### **12. Comments on Proposed Decision**

The proposed decision of Administrative Law Judge (ALJ) DeAngelis in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Comments were filed on April 27, 2017, and reply comments were filed on May 2, 2017. Revisions have been made to the extent required by law.

### **13. Assignment of Proceeding**

Michael Picker is the assigned Commissioner and Regina M. DeAngelis is the assigned ALJ in this proceeding.

**Findings of Fact**

1. Pursuant to D.16-05-050 and the August 18, 2016 Phase 2 Scoping Memo, the question presented in Phase 2 of this proceeding is whether the Ellwood contract and linked energy storage project are reasonable.
2. As explained in D.16-05-050, in order to determine if the Ellwood contract is reasonable, it is necessary to determine if a reliability need exists.
3. No reliability need exists that justifies the Ellwood contract.
4. The Commission could deny the Ellwood contract since it does not meet the approval standard set forth in D.16-05-050.
5. SCE presents a new standard by which to evaluate Ellwood, referred to as the resiliency standard.
6. The resiliency standard is not relied upon because it has not been vetted and approved by the Commission.
7. The reasonableness of the Ellwood contract is reviewed within the context of the unique service issues in the Santa Barbara/Goleta area that implicate safety considerations in the event of an N-2 Contingency.
8. 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.
9. 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.
10. The undisputed fact is that Ellwood does not present a solution to any unmet NERC or CAISO standard.



11. The N-2 Contingency would be a rare event but is possible. No exact probability or risk factor was presented.

12. Options other than relying on Ellwood exist to address an N-2 Contingency, including dropping load.

13. The availability of Ellwood for an N-2 Contingency is unclear based on its existing Air Permit from the Santa Barbara County Air Pollution Control District, and the unknown price for operating beyond the hours set forth in the Air Permit.

14. A balancing of the harms may need to occur before the Santa Barbara County Air Pollution Control District issues a variance to the Air Permit, and the outcome of such an analysis is unknown.

15. It remains unclear whether an amount of amps lower than approximated by SCE may be acceptable for providing short circuit duty.

16. No clear standards applicable to short circuit duty exist.

17. Ellwood cannot be justified as reasonable based solely on SCE's need to address short circuit duty.

18. SCE is encouraged to evaluate sources of short circuit duty for the Santa Barbara/Goleta area from both conventional sources, such as, synchronous condensers, and non-conventional sources, such as, inverter-based technologies, energy storage, and solar PV.

19. No urgent timeline exists for resolving the 105 MW deficiency which could result during peak hours of an N-2 Contingency.

20. Without Ellwood, a residual 29.6 MW need for local capacity resources will exist in the Moorpark sub-area when there is a voltage collapse caused by the N-2 Contingency.

21. The 130 MW Mandalay Unit 3 could fill the 29.6 MW need.

22. No definitive evidence exists that Mandalay Unit 3 will remain available but the record indicates that continued operation is possible.

23. A 105 MW shortfall would continue to exist even after the 66 kV upgrade to serve peak load in the event both 230 kV transmission lines go down.

24. Because the Ellwood contract is not approved, the issue of whether costs are reasonable need not be addressed.

25. The approval of the Ellwood contract is a prerequisite for approval of the 0.5 MW energy storage project located at the Ellwood site.

### **Conclusions of Law**

1. The burden of proof is on the Applicant in this proceeding to support its request by a preponderance of evidence.

2. The argument that Ellwood should be approved because it presents a solution to the outages that could accompany a potential N-2 Contingency is rejected.

3. The argument that Ellwood should be approved to provide short circuit duty is rejected.

4. Ellwood is not the preferred way to resolve the safety and service problems that may arise under an N-2 Contingency.

5. It is premature to approve Ellwood for the purpose of meeting a reliability need of 29.6 MW in the Moorpark sub-area.

6. Until more information is known about the future of Mandalay Unit 3 and the potential for preferred resources to meet any local area need, it is reasonable to reject a long-term contract with Ellwood, a 10-year contract and 30-year refurbishment.

7. The upgrade to the 66 kV subtransmission system does not provide a complete solution to the need of 105 MW.

8. The Ellwood contract between SCE and NRG should not be approved.
9. SCE is not precluded from seeking Commission approval for short circuit duty solutions, particularly from alternative sources, such as, synchronous condensers and inverter-based technologies.
10. SCE is not precluded from seeking Commission approval for a contract to meet Santa Barbara/Goleta needs in the future, and is encouraged to focus any such efforts on preferred resources.
11. SCE is not precluded from seeking Commission approval for a contract with NRG or Ellwood in the future.
12. Whether the costs of the Ellwood contract are reasonable is not addressed because no need for the contract is established.
13. The 0.5 MW energy storage project of NRG, which is linked with the approval of the 54 MW Ellwood contract, should not be approved.

## **ORDER**

### **IT IS ORDERED** that:

1. The contracts between Southern California Edison Company and NRG California South LP, referred to as the Ellwood contract (RFO contract #447021, with the linked Energy Storage Project contract (RFO contract #447030), are not approved.
2. Within 6 months, Southern California Edison Company shall provide a letter 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 (referred to as an N-2 Contingency). This letter may include scenarios with Ellwood but shall include

review of scenarios without Ellwood.

3. The May 11, 2017 motion by NRG California South LP is denied. The May 16, 2017 motion by Southern California Edison Company is denied. All remaining motions are granted.

4. All rulings issued by the Administrative Law Judge during the proceeding are adopted.

5. Application 14-11-016 is closed.

This order is effective today.

Dated \_\_\_\_\_, 2017, at San Francisco, California.