

**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.

R. 12-03-014  
(Filed March 22, 2012)

**TRACK 1 OPENING BRIEF OF CALPINE CORPORATION**

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Pursuant to Rule 13.11 of the California Public Utilities Commission (“Commission”) Rules of Practice and Procedure, Calpine Corporation (“Calpine”) respectfully submits this opening brief addressing Track 1 local reliability issues.

**I. EXECUTIVE SUMMARY<sup>1</sup>**

The primary purpose of Track 1 is to evaluate the need for “new infrastructure for local reliability purposes”<sup>2</sup> – in particular, local reliability needs in the Los Angeles basin (“LA Basin”) and Big Creek/Ventura local areas. To the extent the Commission finds there are local reliability needs, investor-owned utilities (“IOUs”) and other load serving entities may be authorized or directed to undertake certain actions to address these needs.<sup>3</sup> Within this context, the *Scoping Memo* identifies several issues that bear directly on how local reliability needs should be determined and, if a need is identified, how the Commission should move forward in light of the need.

Establishing coherent and integrated long-term procurement planning (“LTPP”) and resource adequacy (“RA”) programs is fundamental to maintaining local and system reliability,

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<sup>1</sup> The section headings denominated in the common briefing outline are set forth in bold type. Calpine has not included headings for the sections it is not addressing in its Opening Brief.

<sup>2</sup> *Scoping Memo and Ruling of Assigned Commissioner and Administrative Law Judge (“Scoping Memo”)* at 3.

<sup>3</sup> *Scoping Memo* at 3-4.

and ensuring that environmental objectives are pursued in the most efficient, cost-effective manner. While local reliability needs have traditionally been treated as a distinct set of reliability requirements apart from system needs, the procurement of resources to meet local needs implicates much broader system issues. For example, transmission upgrades may be used to reduce local reliability requirements more cost-effectively and with less environmental impacts than constructing new local generation.<sup>4</sup> The opportunity to utilize such cost-effective options, however, may be lost if procurement decisions approach local reliability needs myopically. Thus, it is important that the Commission and the California Independent System Operator (“CAISO”) take a coordinated approach to address local and system reliability needs.

Currently, the framework used to ensure electric reliability relies primarily on the Commission’s RA and LTPP programs. While these programs are interrelated, they are not well coordinated and, as a result, are inefficient tools for identifying and ensuring the continued availability of needed resources. As Commissioner Ferron noted earlier this year:

a “hole” in [the] market and planning structure [exists] whereby there are insufficient economic incentives for generating plants which provide useful flexible attributes to cover the cost of maintaining these plant[s] in operation.

I believe that the Commission, in consultation with the CAISO, needs to *immediately work to create a coordinated approach across our own Resource Adequacy and Long Term Procurement Planning procedures and the CAISO’s system and reliability planning process to address this market shortcoming.*<sup>5</sup>

To address these “market shortcomings,” the Commission must make fundamental changes to the current RA and LTPP programs to incorporate non-discriminatory procurement

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<sup>4</sup> Exh. Calpine-1 (Barnack) at 2.

<sup>5</sup> Resolution E-4471, mimeo at 23 (Dissent of Commissioner Mark J. Ferron) (emphasis added).

practices that foster competition between new and existing resources of all types; or, alternatively, replace these programs with an integrated multi-year forward capacity market that would fully level the playing field among all capacity resource types.

In Tracks 2 and 3 of this proceeding, the Commission has begun (or will soon begin) examining issues related to system needs associated with renewable integration, such as flexible resource procurement and multi-year forward procurement requirements.<sup>6</sup> The resolution of these issues will help ensure that more efficient and cost-effective procurement decisions are made at both the local and system levels, and put the IOUs in a much better position to identify and procure the least-cost/best fit mix of resource options to satisfy all reliability needs.

Given the incomplete picture currently before the Commission (system requirements and flexibility needs have yet to be determined) and the need for LTPP and RA reforms, Calpine agrees with Southern California Edison Company (“SCE”) that “[t]he Commission should avoid making long-term commitments to new generation procurement [in Track 1] that could subsequently be rendered significantly less valuable by changed circumstances.”<sup>7</sup> Accordingly, the Commission should not authorize the procurement of any *new* resources to meet local reliability needs in the LA Basin and Big Creek/Ventura areas until, at a minimum, system reliability needs have also been determined.

With respect to the Big Creek/Ventura local area, the record demonstrates that there is no immediate need to procure any *new* resources to satisfy local reliability requirements.<sup>8</sup> While there is some disagreement regarding the need to procure some amount of new resources for the

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<sup>6</sup> *Scoping Memo* at 8-13.

<sup>7</sup> Exh. SCE-1 (Minick) at 4.

<sup>8</sup> *See e.g.*, Exh. SCE-1 (Minick) at 10; Exh. DRA-1 (Fagan) at 23; Exh. Calpine-2 (Calvert) at 5-10.

LA Basin, the record supports taking a cautious approach to mitigate the long-term adverse consequences associated with new resources that may be rendered significantly less valuable by subsequent circumstances.

To the extent the Commission authorizes the IOUs to undertake some procurement to meet local reliability needs in Track 1, it is critical that procurement rules be adopted that consider and foster direct competition among all types of resources and infrastructure investments. The goal of procurement should be to satisfy reliability needs with least-cost/best fit resources and the most effective way to accomplish this goal is to consider local and system reliability needs together, and to not limit the universe of options to meet these needs.

## **II. DETERMINATION OF LOCAL CAPACITY REQUIREMENTS (LCR) NEED IN CALIFORNIA INDEPENDENT SYSTEM OPERATOR (CAISO) STUDIES**

### **A. CAISO's LCR and once-through cooling (OTC) generation studies**

In its OTC studies, the CAISO identifies local area capacity needs for the LA Basin and Big Creek/Ventura areas under each of four renewables portfolio standard ("RPS") scenarios. Several parties in the proceeding have questioned the reasonableness of certain assumptions and inputs used by the CAISO in the OTC studies and the related results of the studies.<sup>2</sup> For purposes of Track 1, Calpine has not taken a position on the reasonableness or adequacy of the CAISO's modeling; but rather, has primarily focused on potential non-generation alternatives that may reduce or completely eliminate the need for new replacement generation identified by the CAISO. As discussed in more detail below, the record demonstrates that several alternatives exist for the Big Creek/Ventura area, including one alternative identified by the CAISO itself, that would not require significant amounts of OTC replacement generation. These same types of

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<sup>2</sup> See e.g., Exh. CEJA-3 (May) at 34; Exh. DRA-1 (Fagan) at 17; Exh. NRDC-1 (Martinez) at 4; Exh. TURN-1 (Woodruff) at 14.

alternatives could potentially be utilized to similarly reduce the need for OTC replacement generation in the LA Basin as well.

**D. Transmission and other means of mitigation**

As discussed below, the record demonstrates that transmission upgrades and other infrastructure investments may reduce or eliminate the need for OTC replacement generation. Accordingly, SCE<sup>10</sup> and the CAISO should continue to evaluate cost-effective transmission alternatives as part of any Track 1 procurement authorization.

**III. DETERMINATION OF LCR NEED SPECIFIC TO LA BASIN AND BIG CREEK/VENTURA AREA**

**A. LA Basin**

The CAISO identifies a local need for the LA Basin of between 1,870 MW - 3,896 MW of new OTC replacement generation depending on the RPS scenario modeled.<sup>11</sup> While Calpine did not undertake an analysis of the LA Basin similar to the analysis it performed with respect to the Big Creek/Ventura area (*see infra*, Section III.B), transmission upgrades and other non-generation alternatives may exist for the LA Basin that potentially could reduce the need for OTC replacement generation.<sup>12</sup> As SCE testified, however, “the CAISO has not investigated adding transmission facilities beyond the 2021 transmission configuration used in its analysis of need for [local capacity] resources in the LA Basin.”<sup>13</sup>

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<sup>10</sup> During the evidentiary hearings, SCE testified that it evaluates potential transmission upgrades on an ongoing basis. SCE/Cushnie Tr. at 751.

<sup>11</sup> Exh. CAISO-1 (Sparks) at 6.

<sup>12</sup> For example, the CAISO is considering entering into a reliability must-run contract for the conversion of Huntington Beach units 3 & 4 to synchronous condensers in anticipation of San Onofre Nuclear Generating Station units 2 and 3 being unavailable for the summer of 2013. *See* [http://www.caiso.com/Documents/Decision\\_on\\_RMRCContracts-Memo-Sep2012.pdf](http://www.caiso.com/Documents/Decision_on_RMRCContracts-Memo-Sep2012.pdf)

<sup>13</sup> Exh. SCE-1 (Cabbell) at 8.

Given that system requirements and flexibility needs have yet to be determined, the Commission should take a cautious approach with respect to new procurement in the LA Basin. As part of this approach, additional analysis should be performed to identify and evaluate transmission alternatives before the procurement of significant amounts of new OTC replacement generation is authorized. To the extent some Track 1 procurement is authorized prior to the Commission identifying system requirements and flexibility needs, it should be the smallest amount necessary to ensure reliability while further analysis is undertaken.

**B. Big Creek/Ventura area**

The record does not support the near-term procurement of any new OTC replacement generation in the Big Creek/Ventura area as part of the Commission's Track 1 decision.<sup>14</sup> As a next step in the evaluation of local reliability needs in the Big Creek/Ventura area, the Commission should direct SCE and the CAISO to perform further analysis of the Moorpark sub-area,<sup>15</sup> particularly with respect to transmission upgrades. According to SCE:

[s]ome cost effective transmission modifications could also lower the LCR need [in the Big Creek/Ventura area]. Potential transmission mitigation option need further study in order to minimize cost and possible emissions. Smaller size generation may be able to be built in 5-7 years. Therefore, the LCR solicitation for this area can most likely wait until the next LTPP regulatory cycle.<sup>16</sup>

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<sup>14</sup> See e.g., Exh. SCE-1 (Minick) at 10 (“SCE sees no immediate need to consider procurement of resources in the Big Creek/Ventura area.”); Exh. DRA-1 (Fagan) at 27 (“[W]hen considering the effect of demand-side resources there is a surplus of resources in both areas in 2021.”)

<sup>15</sup> The potential need for OTC replacement generation in the Big Creek/Ventura local area is created by the need to support reliability requirements in the Moorpark sub-area. See Exh. CAISO-1 (Sparks) at 14; Exh. Calpine-2 (Calvert) at 4.

<sup>16</sup> Exh. SCE-2 (Minick) at 20. DRA also supports further review of local reliability needs in the Moorpark sub-area before the Commission authorizes any procurement of new OTC replacement generation. See Exh. DRA-1 (Fagan) at 27.

Calpine agrees that potential transmission upgrades exist that may reduce or eliminate the need for OTC replacement generation in the Big Creek/Ventura area. Specifically, the record demonstrates there are several potentially cost-effective alternatives - including one alternative identified by the CAISO itself - that may reduce or eliminate the need for OTC replacement generation in the Big Creek/Ventura area:

Option		OTC Replacement Generation (MW)	Post-Contingency Load Shedding (MW)	Estimated Transmission Cost
	CAISO OTC Study	430	340	
1	CAISO Alternative <sup>17</sup>	100	700	unknown
2	Vincent-Santa Clara Loop-in <sup>18</sup>	215	390	\$13 Million <sup>19</sup>
3	Vincent/Pardee-Santa Clara Series Capacitors <sup>20</sup>	0	590 <sup>21</sup>	\$28 Million
4	New Pardee-Moorpark Line <sup>22</sup>	0	300	\$32-40 Million

Based on initial power flow analyses,<sup>23</sup> each of the above options would provide a similar level of system performance and local reliability as 430 MW of new OTC replacement generation<sup>24</sup> but at a fraction of the approximately \$500 million it would cost to develop and build such replacement generation.<sup>25</sup> Given the lack of any near-term need and the potential benefits to be realized from transmission and other non-generation alternatives, the Commission

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<sup>17</sup> See Exh. CAISO-1 (Sparks) at 14; Sparks/CAISO, Tr. at 104-105.

<sup>18</sup> See Exh. Calpine-2 (Calvert) at 7-8.

<sup>19</sup> Calpine/Calvert, Tr. at 1309.

<sup>20</sup> See Exh. Calpine-2 (Calvert) at 8-9.

<sup>21</sup> For Option 3, the additional retirement of Mandalay Unit 3 (130 MW combustion turbine) may be accommodated with additional shunt capacitor installations of 50 MVAR each at the Goleta and Santa Clara substations, along with a post-contingency load shedding expectation of 725 MW.

<sup>22</sup> See Exh. Calpine-2 (Calvert) at 9-10.

<sup>23</sup> See Exh. Calpine-2 (Calvert) at 2-4 (describing initial power flow analyses performed by Calpine).

<sup>24</sup> Exh. Calpine-2 (Calvert) at 5-6.

<sup>25</sup> See Exh. Calpine-2 (Calvert) at 7.



should not authorize the procurement of OTC replacement generation for the Big Creek/Ventura area at this time.

#### **IV. PROCUREMENT OF LCR RESOURCES AND INCORPORATION OF THE PREFERRED LOADING ORDER IN LCR PROCUREMENT**

##### **C. If a need is determined, how the Commission should direct LCR need to be met**

If the Commission determines that some procurement is necessary to address Track 1 local reliability needs, all types of resources and infrastructure investments should be considered, including: new generation; existing generation (including upgrades to add flexibility, increase capacity and/or extend the useful life of the resource); transmission; demand response; energy storage; and distributed generation. With respect to transmission related options, this approach will require the analysis and evaluation of such options prior to the IOUs conducting resource solicitations.<sup>26</sup> The goal of procurement should be to satisfy reliability needs with least-cost/best fit resources and the most effective way to accomplish this goal is to consider local and system reliability needs together, and to not limit the universe of options to meet these needs.

##### **D. Appropriate method(s) of procurement**

As discussed above, fundamental changes to the current RA and LTPP programs are necessary to address the market structure and procurement policy flaws noted by Commissioner Ferron. Key among these changes is the need to incorporate non-discriminatory procurement practices that foster competition between new and existing resources of all types; or, alternatively, to replace these programs with an integrated multi-year forward capacity market. Until such changes can be implemented, however, all types of resources and infrastructure

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<sup>26</sup> See SCE/Cushnie, Tr. at 750 (“So similar to certain preferred resources, transmission options that the utility would be undertaking would need to be considered outside of a solicitation process.”)

investments must be considered to the extent the Commission finds that some level of procurement is necessary to address local reliability needs as part of Track 1.

**E. Timing of procurement**

The record demonstrates that the Commission can defer authorizing the procurement of new OTC replacement generation in the Big Creek/Ventura area until at least the next LTPP cycle,<sup>27</sup> at which time system requirements and flexibility needs will have likely been determined and changes to the current RA and LTPP programs possibly implemented. If the Commission finds that some procurement in the LA Basin is necessary prior to the Commission issuing decisions on system requirements and flexibility needs, such procurement should be limited to lowest amount necessary ensure near-time reliability while further analysis is undertaken.

**V. INCORPORATION OF FLEXIBLE CAPACITY ATTRIBUTES IN LCR PROCUREMENT**

**A. If a need is determined, should flexible capacity attributes be incorporated into procurement**

The procurement of flexible capacity attributes should not be undertaken within the context of addressing Track 1 local reliability needs. As an initial matter, the need for flexible capacity is driven primarily by system requirements related to renewable integration needs. The CAISO, however, has not completed its studies of potential system flexibility requirements<sup>28</sup> and the Commission will not be considering renewable integration needs and flexible resource procurement until Tracks 2 and 3 of this proceeding. As a result, the analysis necessary to support the potential incorporation of flexible attributes into Track 1 procurement has not been completed. Furthermore, as the record shows, procuring flexible capacity attributes prior to

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<sup>27</sup> See Exh. SCE-1 (Minick) at 10-11; *see also*, Exh. DRA-1 (Fagan) at 23 (“it is not at all clear that any resource procurement authorization beyond that already in place is necessary at this time.”).

<sup>28</sup> Exh. CAISO-4 (Rothleder) at 7.

determining system needs and flexibility requirements could lead to inefficient and unnecessarily costly procurement decisions.<sup>29</sup> The Commission can reduce the risk of long-term commitments for new resources that are not needed – and the significant costs to ratepayers associated with such commitments - if the Commission waits until both local and system reliability needs have been determined before authorizing IOU procurement of flexible capacity attributes.

## **VII. OTHER ISSUES**

### **B. Coordination of Overlapping Issues between R.12-03-014 (LTPP), R.11-10-023 (RA), and A.11-05-023**

As a general matter, most, if not all, issues to be addressed in the LTPP proceeding implicate issues being addressed in the RA proceeding, including Track 1 issues. As described above, local reliability issues have traditionally been considered distinct from system issues. The procurement of resources to meet local reliability (*i.e.*, RA) needs, however, affects much broader system RA needs.

Ultimately, procurement to satisfy local and system reliability needs requires a coordinated approach across reformed LTPP and RA programs. Currently, the lack of a functioning capacity market (or other non-discriminatory procurement mechanism), the exclusion of existing resources from long-term resource solicitations, and various other procurement policies and market rules have effectively prevented the creation of a truly compensatory wholesale power market. The Commission is examining ways to address these market and policy flaws in the RA proceeding and Tracks 2 and 3 of this proceeding.<sup>30</sup>

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<sup>29</sup> See Exh. Calpine-1 (Barmack) at 3-4.

<sup>30</sup> Cf. Decision 12-06-025, mimeo at 36 (Findings of Fact No. 3) (“There is a need for refinements to the RA program to further define elements of flexibility with regard to multi-year contracts for local capacity requirements.”) with *Scoping Memo* at 8-13 (describing Track 2 and 3 issues as including consideration of  
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However, authorizing the procurement of new local resources *prior to* the Commission making necessary reforms to its RA and LTPP programs is inefficient and could potentially strand some existing resources while saddling the state with long-term commitments for others that are subsequently rendered less valuable by changed circumstances.

The current RA and LTPP programs must be changed to incorporate non-discriminatory procurement practices that advance competition between new and existing resources of all types; or, alternatively, replaced with an integrated multi-year forward capacity market. SCE supports such an approach<sup>31</sup> and recommends that the Commission “establish a proceeding in conjunction with the CAISO to implement a long-term solution by developing a forward procurement mechanism.”<sup>32</sup> Whether the Commission addresses the issue in the LTPP proceeding, RA proceeding or some new proceeding, it is critical that the Commission move forward quickly so that the IOUs and other load serving entities will be in the best position to identify and procure a least-cost/best fit mix of resources to satisfy all reliability needs.

### VIII. CONCLUSION

For the reasons discussed above, the Commission should not authorize the procurement of any *new* resources at this time to meet local reliability needs in the LA Basin and Big Creek/Ventura areas until, at a minimum, system reliability needs have been determined. To the

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procurement rules for system resources, flexible resource procurement, and multi-year forward procurement requirements.).

<sup>31</sup> Exh. SCE-1 (Cushnie) at 1 (“SCE strongly prefers procurement of new LCR generation through a new multi-year forward procurement mechanism, such as a capacity market or a new generation auction administered by the CAISO.”)

<sup>32</sup> Exh. SCE-1 (Cushnie) at 17.

extent the Commission authorizes the IOUs to undertake some procurement to meet local reliability needs in Track 1, it is critical that non-discriminatory procurement practices be adopted that will foster competition between new and existing resources of all types.

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