

**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)

**REPLY BRIEF OF THE CALIFORNIA  
INDEPENDENT SYSTEM OPERATOR CORPORATION**

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**REPLY BRIEF OF THE CALIFORNIA INDEPENDENT  
SYSTEM OPERATOR CORPORATION ON TRACK 1 ISSUES**

The California Independent System Operator Corporation (ISO), and numerous other parties to this proceeding, submitted initial Track 1 briefs on September 24, 2012. In this reply brief, the ISO responds to arguments submitted by other parties regarding the ISO's once-through-cooling (OTC) study and the need for new resources in the LA Basin and Big Creek/Ventura local areas. The ISO has eliminated sections from the standard briefing outline for which it has no further comments or responses.

**I. EXECUTIVE SUMMARY**

Despite the length and volume of briefs submitted in this Track 1 proceeding, the ISO largely responded to the arguments advanced by the parties in its reply testimony, cross-examination testimony and opening brief. Although parties have criticized the ISO's OTC study methodology and the applicable transmission planning criteria that provides the framework for the study, no one has proposed a valid alternative methodology to identify future local capacity needs in the LA Basin and Big Creek/Ventura areas. The ISO's study methodology included a robust evaluation of transmission alternatives and the record does not support additional analysis prior to making a determination of local needs.

The ISO's load forecast study assumptions were appropriately based on the CEC's 2009 IEPR and included embedded amounts of committed energy efficiency and combined heat and power. The trajectory renewable scenario, upon which the ISO's recommended local capacity needs are based, contain a reasonable level of forecasted distributed generation. The Commission should not arbitrarily adjust the ISO's input assumptions based on anticipated levels of uncommitted preferred resources, thereby reducing local area needs and potentially jeopardizing grid reliability.

The ISO recommends that the Commission authorize procurement in the LA Basin up to 2370 MW (or more depending on resource location) and 430 MW in the Big Creek/Ventura area and looks forward to working with the Commission and other parties to develop a procurement process in which non-generation preferred resources can compete to fill these local area needs.

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

The fundamental issue in this proceeding can be summarized very simply. The ISO conducts its transmission planning studies for the purposes of complying with NERC and WECC reliability requirements and providing California ratepayers with adequate and reliable electric transmission service. These planning studies identify probable reliability deficiencies based on forecasted operating conditions, and they allow the ISO to timely develop cost effective and efficient mitigation solutions. Where the most feasible and cost efficient solutions are generation resources, the ISO looks to the Commission to authorize their procurement. If sufficient resources are not procured, the ISO must take whatever action is necessary- including exercising its backstop

procurement authority, assuming generation resources are actually available, to maintain the integrity of the grid.<sup>1</sup> The ISO considers using its backstop authority only as a “last resort” procurement option and, therefore, carefully considers all reasonable mitigation solutions in its transmission and planning studies. However, for the local capacity studies (including the OTC study at issue in Track 1) where the ISO considers needs in transmission-constrained local capacity areas, there are few non-generation alternatives that can supplant the embedded generation resources in the local area and still provide the same level of energy provision and security required; in other words, local capacity areas must rely on the generating resources within the local area to serve its energy needs and to timely resolve any transmission contingency in that area within 30-minutes per NERC and WECC reliability standards.

Parties to this proceeding have attempted to portray the ISO’s studies as “not definitive,” not “comprehensive,” based on a “clearly limited analysis of the options,”<sup>2</sup> and have gone so far as to suggest that the “granularity of the analysis” is not appropriate for procurement decisions.<sup>3</sup> Other parties seem to consider the ISO’s local need determinations to be suggestions or guidelines, recommending that the results be artificially reduced or realigned to reflect preferred resource assumptions.<sup>4</sup> The ISO cautions the Commission against following such an approach because the adverse consequences (reliance on ISO backstop or service disruptions) are far worse than the possibility that the forecasted local area needs or potential transmission emergencies

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<sup>1</sup> See ISO Tariff Section 43.

<sup>2</sup> CLECA opening brief, pages 3- 5.

<sup>3</sup> CEJA opening brief, page 13.

<sup>4</sup> For example, TURN recommends that the Commission assume that 50% of uncommitted resource are achieved (opening brief, page 5); Vote Solar arbitrarily suggests 800-1700 MW, based loosely on the OTC sensitivity analysis (opening brief, pages 3-5); other parties argue that the ISO study results should be completely disregarded and that there are no local capacity needs (CEJA, Recommendation No. 1, page vii).

planned for do not actually materialize. Furthermore, SCE, the ISO and other parties have suggested the appropriate approach, which is to authorize procurement up to the levels recommended by the ISO and then develop a procurement process that allows all resources (not just gas-fired thermal resources) to compete in a non-discriminatory solicitation process to meet the required operational needs.<sup>5</sup> Under this type of procurement process, the Commission, the ISO, state agencies, and stakeholders can best analyze- and better forecast- which preferred resources [like demand response (DR) and energy efficiency (EE)] can displace the need for generation resources. Despite the voluminous arguments advanced in this Track 1 proceeding, the Commission should not “prejudge” the results of the procurement process by arbitrarily adjusting the ISO’s study assumptions.

The ISO’s opening brief included a detailed description of the OTC and local capacity requirements (LCR) study methodologies, the purpose of these studies, NERC/WECC reliability standards and responses to arguments raised in testimony.<sup>6</sup> Not surprisingly, many of the same arguments the ISO addressed in its brief were raised in opening briefs submitted by other parties. For the purposes of brevity, in responding to these arguments, the ISO will simply refer to its opening brief in instances where no further discussion is required or parties failed to effectively rebut the ISO’s positions.

**A. The ISO’s Local Capacity Requirements (LCR) And Once-Through Cooling (OTC) Generation Studies**

While most parties raised issues about the ISO’s OTC study assumptions, particularly assumptions about uncommitted resources, DRA questioned whether the

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<sup>5</sup> In addition to the testimony provided by SCE and the ISO, see, *e.g.* Alliance for Nuclear Responsibility, opening brief, page 24, IEP opening brief, page 9. The procurement path forward is also being addressed in workshop comments and the ISO is actively participating in that phase of the case.

<sup>6</sup> ISO brief, pages 3-24.

OTC study should be used for the purposes of identifying local area resource needs, or whether a more simplistic spreadsheet analysis would be more appropriate. The ISO addressed DRA's spreadsheet analysis in its opening brief, noting, in particular, that this approach is unsuitable and lacks the appropriate depth and technical discipline needed to effectively evaluate local capacity needs.<sup>7</sup> DRA's opening brief seems to have backed off from that position and focused more on the conclusions set forth on Mr. Fagan's tables, based on increased amounts of preferred resources, rather than on specific concerns with the LCR/OTC study methodology.<sup>8</sup>

CEJA submitted lengthy direct and reply testimony taking issue with various aspects of the ISO's OTC/LCR studies, and the ISO effectively and comprehensively responded to these arguments in reply testimony, responses to cross-examination questions and in its opening brief. Most of the arguments put forth in testimony were repeated in the CEJA opening brief. In general, CEJA has raised no new arguments that provide any informed credibility to the idea that the ISO's OTC/LCR study should not be used as the basis for making a local need determination in Track I.

Other parties generally questioned ISO's allegedly "conservative" and "overly stringent" planning assumptions, including the ISO's grid planning standards and the extent to which adherence to these standards, as well as the LCR methodology, could affect consumer costs. In particular, the California Large Energy Consumers Association

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<sup>7</sup> *Id.*, pages 21-24.

<sup>8</sup> DRA opening brief, page 10:

"Notwithstanding DRA's use of a load and resource table rather than power flow modeling to estimate new resources needed in the LA Basin and Big Creek/Venture in 2021, the main driver in the different residual LCR need resulting from the CAISO's methodology and DRA's methodology was not the analytical tool. Instead, the primary driver was DRA's use of different (the) input assumptions: DRA included reasonable amounts of uncommitted preferred resources in analyzing future LCR needs."

(CLECA) roundly criticized the ISO's study methodology and applicable planning standards, but also seems to support the ISO's recommendation that up to 2370 MW be authorized for procurement in the Western LA Basin.<sup>9</sup> For the most part, the ISO effectively addressed these criticisms in its reply testimony and briefly addresses them below.

### **1. NERC/WECC Reliability Criteria, ISO Planning Standards and LCR Study Methodology**

The record and opening briefs contain much discussion about whether the transmission planning standards used by the ISO in conducting the OTC study are "more strict" than the federal requirements. These parties also point to SCE testimony that purportedly comes to the same conclusion, despite the fact that SCE also supports the ISO's study conclusions.<sup>10</sup>

There is no question that the ISO uses its own transmission planning standards as well as the NERC/WECC planning criteria to conduct transmission planning studies. Information about all of the applicable planning standards was provided in Mr. Millar's testimony and the ISO submitted its grid planning standards as an exhibit in this proceeding.<sup>11</sup> The ISO is authorized by its FERC-approved tariff to adopt such criteria, and once adopted, the ISO is required by the Federal Power Act to abide by them.<sup>12</sup>

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<sup>9</sup> CLECA opening brief, pages 9-19, 25. CLECA's comments with respect to the level of local capacity that should be authorized are somewhat confusing; at page 3 CLECA opines that the Commission should not adopt the ISO's "assertion that 2370 or more MW plus another 430 MW of additional gas-fired generation should be procured..." but at page 25 CLECA states that this phase should set an "up to" level of need and that the ISO has proposed a maximum amount of 2370 MW.

<sup>10</sup> SCE opening brief, page 4.

<sup>11</sup> Ex. ISO- 19.

<sup>12</sup> See, e.g. tariff section 24.2(a) which states that the ISO will assess the transmission needs of the balancing authority area "in accordance with Applicable Reliability Criteria and CAISO Planning Standards..." CAISO Planning Standards are defined in tariff appendix A as "Reliability Criteria that (1) address specifics not covered in the NERC and WECC planning standards; (2) provide interpretations of the NERC and WECC planning standards specific to the CAISO Controlled Grid; and (3) identify whether specific criteria should be adopted that are more stringent than the NERC and WECC planning standards."



Contrary to CLECA’s misinformed statements<sup>13</sup>, the ISO clearly could be subject to monetary penalties if it did not follow its own grid planning standards in the transmission planning process. Indeed, FERC recently evaluated the extent to which the ISO complied with its own planning standards, a subject that was raised in a complaint by third party developers seeking to have certain projects approved in the ISO’s transmission planning process.<sup>14</sup> In that case, the complainants asserted that the ISO violated its grid planning standards by approving interim operating procedures for certain Category B contingencies. In reviewing the ISO’s assessment of those projects and compliance with the planning standards, FERC found that the ISO did not violate its tariff requirements and left no doubt that compliance with ISO grid planning standards is not an optional exercise.<sup>15</sup>

CLECA questions whether the Commission-approved LCR criteria “are in the best interests of ratepayers,” but fails to provide any basis for this opinion or a substantive alternative that equally satisfies the grid planning standards. CLECA also notes that “end-use customers face regular outages due to problems on the distribution system,” a comment that is not tied to any particular ISO conclusion or recommendation,<sup>16</sup> and concludes the discussion by stating that “not every contingency can be prevented by adding resources.” This observation does not further the record and fails to substantiate the need to lower local capacity requirements, or provide guidance to

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<sup>13</sup> At page 9 CLECA questions the “accuracy” of the ISO’s testimony that violating its own reliability standards are like violating the law.

<sup>14</sup> *Transmission Technology Solutions, LLC and Western Grid Development, LLC v. CAISO* 135 FERC ¶61, 077 (April 27, 2011).

<sup>15</sup> *Id.* at Section C, pages 12-17.

<sup>16</sup> *Id.*, page 18.

the Commission. All in all, CLECA's unsubstantiated concerns regarding ISO compliance with NERC/WECC and ISO grid planning standards should be disregarded.<sup>17</sup>

The Sierra Club similarly states that the ISO's planning standards are "policy choices and not required by NERC," citing cross examination testimony by SCE witness Ms. Cabbell.<sup>18</sup> This is not an entirely accurate portrayal of Ms. Cabbell's comments; she noted that the ISO has its own planning standards "on top of" the NERC standards and that NERC allows entities to have more stringent criteria depending on application to their system.<sup>19</sup> At any rate, as discussed above, the ISO's planning standards are FERC-approved and mandatory, not a "policy choice" that can be disregarded. Furthermore, Sierra Club's statement on the same page that "NERC does not require a ten-year look" has nothing to do with the ISO's grid planning standards and also is incorrect.<sup>20</sup> Finally, although the Sierra Club states that the ISO's ten-year local capacity modeling is a "first-time endeavor that needs major refinement,"<sup>21</sup> the Sierra Club presented no study alternative. Indeed, despite considerable rhetoric, it appears that, similar to DRA, the Sierra Club's principal concerns about the ISO study are focused on the level of uncommitted resources embodied in the study assumptions.

The ISO notes that TURN, in initial testimony, argued that the ISO appeared to be applying a criteria "more stringent than NERC requirements" with respect to the LCR criteria where a single contingency followed by voltage collapse common mode outage

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<sup>17</sup> CLECA's apparent general agreement with the ISO's study results for the Western LA Basin, discussed above, is encouraging.

<sup>18</sup> Sierra Club opening brief, page 9.

<sup>19</sup> Tr. 813:10-814:4.

<sup>20</sup> See Ex. ISO-13, TPL-001 through TPL-004 at R.1.2 [transmission assessments must be conducted for the near-term, 1-5 years, and the longer-term, 6-10 years].

<sup>21</sup> *Id.* page 5.

(Category D) becomes the limiting contingency.<sup>22</sup> The ISO addressed this concern quite extensively in its reply testimony and opening brief.<sup>23</sup> Apparently in light of the ISO’s explanation, TURN in its opening brief simply raises this “concern” in one brief sentence regarding the Ellis subarea but does not engage in further discussion of the applicable planning criteria.<sup>24</sup>

CEJA also criticized the ISO’s study methodology as being “too conservative” and, in the process, has inappropriately confused concepts from the transmission planning requirements, resource procurement requirements, and local capacity analysis.<sup>25</sup> The ISO anticipated these arguments in its opening brief and addressed them in the section entitled “Apples and Oranges.”<sup>26</sup> For example, CEJA states that “the Commission does not need to apply the more stringent year-ahead grid criteria to its long-term planning requirements” because “the NERC and WECC operating requirements at issue in the RA context do not apply in the ten year context.”<sup>27</sup> CEJA then confuses the reserve requirements imposed by the Commission with the NERC and WECC planning requirements by claiming that “NERC and WECC standards do not require CAISO to hold certain reserves on a long-term basis, and these standards only require reserves necessary to protect against a single contingency scenario.”<sup>28</sup> In addition, as highlighted by the cross-examination exchange set forth below, CEJA apparently remains under the mistaken impression that the system operating reserve requirements, embodied in the NERC/WECC balancing authority (“BAL”) standards, are applicable to local

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<sup>22</sup> Ex. TURN-1 pages 10-12 (woodruff initial)

<sup>23</sup> See ISO opening brief, pages 10-13.

<sup>24</sup> TURN opening brief, page 13.

<sup>25</sup> CEJA opening brief, pages 8-14.

<sup>26</sup> ISO opening brief, page 19, Section 4.

<sup>27</sup> CEJA opening brief, page 11. This comment really makes no sense.

<sup>28</sup> *Id.*, pages 13-14.

transmission requirements. During questioning by counsel for CEJA, Mr. Millar explained in great detail the differences between real-time operating reserve requirements and transmission planning standards,<sup>29</sup> but CEJA fails to acknowledge this testimony and does not even attempt to rebut this in its brief, :

Q. (by Ms. Behles) Are there any WECC regional criteria that require CAISO to hold reserves for a double contingency scenario in the local area?

A. (by Mr. Millar) Referring to it as reserves actually takes me back to the very first thing I commented on today, which was some apparent confusion between reserve criteria that are applied on a system-wide basis where we're looking at generation resources that may rely to some extent on some import capability, so transmission gets mentioned in those criteria, compared to transmission performance requirements inside an area where the transmission system capabilities into a subarea may be augmented by some generation.

Those are two completely different analyses. And the reserve criteria that are applied on a system-wide balancing of loads and resources, those criteria don't apply on a local area basis. When we're looking at the local area, then the transmission criteria augmented by some local generation resources are the measures that we use to assess if we have enough local resources, and that's following the normal transmission planning processes that we've established.<sup>30</sup>

The Commission should not make determinations regarding local resource needs based on CEJA's disregard of the record and unfounded conclusions based on misunderstandings and/or misinformation.

## **2. Gas-Fired Generation**

Another criticism of the OTC study -- which is based on a mischaracterization of the ISO's testimony -- is the oft-repeated statement that the ISO is "biased toward new fossil-fueled resources" and that "CAISO's declaration of flexibility requirements to

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<sup>29</sup> Tr. 385:17-392:27.

<sup>30</sup> Tr. 391:20-392:18

justify procurement of natural gas plants for LCR need should be rejected.”<sup>31</sup> This argument inappropriately twists the ISO’s rational position regarding needed flexibility attributes:

As Mr. Sparks indicated yesterday and I believe Mr. Rothleder as well, we're looking -- actually, I may have it the other way around. Mr. Rothleder spent a bit more time on this topic. We are looking for the characteristics. We don't have an assessment of how much should be -- of that resource requirement should be met from natural gas-fired generation or other types of resources. We are open to resources that provide the appropriate characteristics like natural gas-fired generation. But what we do know is that if we don't move on a timely basis and start this process, at this point one of the few options that we see that provides those characteristics would run out of lead time.<sup>32</sup>

In a follow-up response, Mr. Millar noted that, at the time the OTC study was conducted, the ISO was not aware of specific of resources, other than thermal generation, capable of meeting all requirements. This is a far cry from being a “mantra” that only gas-fired generation can be procured. The Commission should disregard such innuendo.

### **3. “Maximizing” Import Flows**

Another example of CEJA’s failure to acknowledge the technical details of the OTC study is the section of its brief regarding import flows.<sup>33</sup> CEJA erroneously claims that “had the ISO assumed the same level of imports” [in each scenario], its LCR need would have been 100s of MWs less, despite the fact that Mr. Sparks explained, repeatedly, that import flows are not inputs into the ISO study. Rather, as Mr. Sparks explained in the cross examination exchange below, they are outputs that vary depending on the location of the generation assumed in the scenario. Flattering as CEJA’s

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<sup>31</sup> Sierra Club opening brief, page 11. See also CEERT opening brief, pages 14-15: “To propose, as the CAISO does, that this ‘reliability LCR need’ be met with new, replacement base loaded or nearly base loaded gas combined cycle plants is akin to cracking a walnut with a sledgehammer.”

<sup>32</sup> Tr. 460:3-19.

<sup>33</sup> CEJA opening brief, pages 37-39.

assumption might be, the ISO is not capable of controlling the laws of physics, including import flows:

Q. (by Ms. Behles) Mr. Sparks, how does the level --what is the difference between the level of import that DRA assumed with the level of import that CAISO assumed in the sensitivity analysis?

A. (by Mr. Sparks) Well, I have to correct myself from what I think I stated earlier. I think if you look at DRA's testimony, they provide the resulting import levels from the ISO analysis which we provided in a data response. The ISO doesn't use import level in its LCR analysis. It is simply just a resulting value that is really not a consideration. But the number that they use, if I remembered, was from the [base] portfolio, not the environmental scenario. So the difference between DRA's import level and the ISO, they are using import level as an input. It is simply a by-product of the ISO analysis. And that by-product coming out of the ISO analysis in in the environmental scenario is a different level import than was used by DRA, but then just underscores the idea that the amount of import that occurs before you hit the criteria violation varies quite a bit, depending on which generation you remove from within the area.

Q. Is that because of the voltage stability on the line?

A. It is because of the effectiveness factors, which is a thermal property as opposed to a -- the current flowing to the line heats up the line, they sag.

Q. It is the thermal property of the line that changes the import values?

A. The thermal limit of the line.

Q. Just one final question, and I had asked this earlier: Do you agree that if the import value is increased LCR needs will be increased?

MS. SANDERS: I object. First of all, he has explained the relationship between import level and LCR need the way the ISO does it. Secondly, I don't know what this has got to do with this table.

MS. BEHLES: It is a general question.

MS. SANDERS: It doesn't have any foundation.

ALJ GAMSON: What is the point of the general question?

MS. BEHLES: To say that if the imports had been changed, if the import results had changed in the CAISO's analysis that they would have gotten a different results.

MS. SANDERS: I object. There is no foundation for that, and it is outside the scope of his testimony right now.

ALJ GAMSON: Say the question one more time. Not to the witness, but to me.

MS. BEHLES: Okay. Do you agree that if the import value is increased the LCR needs would be decreased.

ALJ GAMSON: I'm going to sustain the objection.<sup>34</sup>

Despite CEJA's comment that "it is unclear why CAISO did not maximize the imports of all the lines in this analysis,"<sup>35</sup> the record couldn't be clearer-- the ISO did not "set" the import flows and made little use of these study results for the purposes of identifying local area needs. Therefore, any notion that somehow "increasing" import values would lower LCR needs has no basis in fact. CEJA's continued repeating of this incorrect conclusion does not validate it. CEJA's conclusion is erroneous and should be disregarded by the Commission.

**B. Consideration Of Preferred Resources, Including Uncommitted Energy Efficiency, Demand Response, Combined Heat and Power, and Distributed Generation, In Determining Future LCR Needs**

Similar to the discussion above regarding the validity and appropriateness of the ISO's study methodology, the ISO has already thoroughly addressed this issue in its testimony and opening brief. There little to add at this point, nor is it necessary to do so.<sup>36</sup> Although the opening briefs contain volumes of arguments about uncommitted resources, the ISO finds no remotely compelling basis that would support adjustments to the CEC assumptions used in the ISO OTC study. For the purposes of this reply brief, the ISO will only discuss parties' misunderstandings and mischaracterizations.

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<sup>34</sup> Tr. 1349:20- 1351:28.

<sup>35</sup> CEJA opening brief, page 38.

<sup>36</sup> See ISO opening brief, pages 24-30.

For example, EnerNOC claims that the ISO made an effort “to diminish or discredit DR’s value or capability in reducing an LCR need.” This claim is not supported by the record.<sup>37</sup> In particular, EnerNOC points to Mr. Millar’s cross examination testimony and ascribes to him the statement that “he did not think customers would be either interested in or capable of providing DR services.”<sup>38</sup> Here is what Mr. Millar actually said:

Q. (by Ms. Myers) So again, I guess like storage, demand response could in theory provide local reliability, but we may need some refinement of the rules and, you know, resources that can actually meet those requirements?

A. (by Mr. Millar) I think there is to some extent three components. One is having the rules in place and the identification of the criteria. Two is having the communication systems and protocols available that allow the utility to monitor how much demand response can be counted on on a minute-by-minute basis, which is very important to the operators. The operators need to know how much will respond following a contingency event because the standards place very tight timelines on repositioning the system for the next event. Operators don't have the flexibility. I touched on this in my testimony, but operators do not have the flexibility of waiting to see what shows up and then starting other measures after.

And I think the third issue is, are there the kinds of loads that either can or want to participate in the kinds of programs given the more stringent requirements, given the more stringent performance requirements. On a broad resource adequacy basis it's much more loose about we initiate the program, we see what responds, we take action then to accommodate what didn't. In a local resource requirement area responding to a transmission contingency we would have to be much less forgiving about failure to comply, prompt sharing of information and so on.

So I do see the requirements being more stringent, and it largely depends on whether or not they're the types of loads, recognizing the California -- the nature of the loads in California, if they are actually interested in participating in those programs.<sup>39</sup>

There is no basis for EnerNOC’s claim that these comments, supporting the ISO’s DR study assumptions, are “unfounded and wrong,” particularly when EnerNOC

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<sup>37</sup> EnerNOC opening brief, page 10.

<sup>38</sup> *Id.*, page 8.

<sup>39</sup> Tr. 350:28-352:13.



admits that California is lagging behind several other markets that use DR “to provide some of the very LCR attributes identified by the CAISO.”<sup>40</sup>

Similarly, there is no basis for EnerNOC’s unfounded statement that the ISO witnesses elected to “pile on” the barriers to consideration of DR to meet an LCR need, questioning whether the bar for DR resources is higher for local needs than other generating capacity.<sup>41</sup> Nowhere in Mr. Millar’s comments does he state that the “bar” for meeting needs is higher for DR than other resources, nor does EnerNOC cite to any specific statements to support their claim. Accordingly, EnerNOC’s unsupported assertions should be disregarded.

The Sierra Club claims that the ISO “turns the loading order upside down by creating a framework that favors local conventional generation over preferred resources, the exact opposite of what is required by the loading order.”<sup>42</sup> Obviously, this is not what the ISO did with its studies. As explained, repeatedly, the ISO used the 2009 CEC IEPR load forecast, which contained embedded levels of EE, CHP and DG, as well as making reasonable assumptions about uncommitted preferred resources. The Commission should use these assumptions as a starting point for procurement, including preferred resource procurement.

CLECA claims that the ISO “prematurely concluded that preferred resources cannot provide LCR support,” and points to testimony provided by Mr. Rothleder on cross examination about DR modeled in the ISO studies. In addition, citing to a DR settlement signed by the ISO and adopted by the parties in D.10-06-034, CLECA states that the ISO’s “lack of knowledge of the locational dispatch aspect of DR programs is

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<sup>40</sup> EnerNOC opening brief, page 9.

<sup>41</sup> *Id.*, page 10.

<sup>42</sup> Sierra Club opening brief, page 13.

surprising.”<sup>43</sup> CLECA’s statements miss the mark. First, the cited cross examination testimony of Mr. Rothleder does not support a conclusion that preferred resources “cannot” provide LCR support as long as they have certain operating characteristics. As far as DR is concerned, the ISO has argued numerous times in the Commission DR dockets that these programs must meet ISO requirements and be integrated into the ISO market to be counted as supply-side resources. This is entirely consistent with the ISO’s position and the Reliability-Based Demand settlement adopted in D.10-06-034.

Indeed, the settlement has as its objective “...the integration of emergency triggered DR into the wholesale market design.”<sup>44</sup> Core to the settlement was creation of the Reliability Demand Response Product, a new resource type to be modeled as a supply-resource in the ISO’s market and systems. What CLECA fails to mention is that the DR settlement requires the full integration of DR into the ISO market, which requires locational dispatch and is consistent with the resource requirements addressed in Mr. Rothleder’s testimony.<sup>45</sup>

CLECA is correct in its explanation that NERC standard TPL-003-0a allows for the controllable interruption of customer Demand.<sup>46</sup> However, CLECA overlooks the fact that the ISO must satisfy all applicable operating standards. The ISO can only incorporate into its planning studies controllable demand that can satisfy all other elements of the NERC and WECC standards, and in particular, the ability to restore operations to respect proven reliable power system limits within 30 minutes.<sup>47</sup> A vast majority of demand response programs, especially those not directly controlled or

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<sup>43</sup> CLECA opening brief, page 20-21.

<sup>44</sup> See page 1 of Appendix A to D.10-06-034.

<sup>45</sup> See settlement Sections A.4.m. and n.

automated cannot satisfy the 30-minute timing requirement specified in NERC TOP-004-2 Transmission Operations.

CLECA argues that the Base Interruptible Program (BIP) has a 15-minute response time option, which should satisfy the 30-minute transmission contingency response time.<sup>48</sup> However, contrary to CLECA’s assertion, even a 15-minute interruptible demand response program, like BIP, which is not automated and relies on manual and human interactions, cannot reasonably satisfy this standard’s timing requirement. Demand response programs that are not under direct or automated load control require set-up and communication time on the operator and customer side, which can take 10 minutes according to IOU demand response program managers. Thus, even a “very fast” 15-minute program would, in reality, equate to a 25-minute program before full load shedding occurs when factoring in all operator and customer interactions.<sup>49</sup> Given that NERC TOP-004-2 transmission standard allows the ISO 30-minutes to resolve a transmission contingency,<sup>50</sup> even a “very fast” non automated 15-minute demand response program, like BIP, would not be sufficiently responsive to address a transmission contingency. The ISO and its neighboring balancing area authorities cannot wait for nearly 30-minutes to see if the expected load relief actually materializes; the problem must be fully and satisfactorily resolved in 30-minutes. Thus, relying on demand response programs that are not under direct control will likely have response

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<sup>46</sup> CLECA opening brief, page 19.

<sup>47</sup> NERC standard TOP-004-2—Transmission Operations — states “If a Transmission Operator enters an unknown operating state (i.e. any state for which valid operating limits have not been determined), it will be considered to be in an emergency and shall restore operations to respect proven reliable power system limits within 30 minutes.”

<sup>48</sup> See CLECA at pg. 21

<sup>49</sup> Direct load control programs such as air conditioning cycling, pump cycling, underfrequency load shedding or fast AutoDR would be more appropriate demand response resources to address a transmission contingency.

<sup>50</sup> See, e.g. NERC reliability standard TOP-004 (R4).

times that are generally not compatible with the time allotted to resolve transmission contingencies. Direct load control and fast automated demand response programs that are integrated into the ISO market are the types of demand response resources that would be appropriate and suitable to incorporate into transmission contingency planning scenarios.

Finally, CEJA claims that not including DR programs into the LCR analysis is “inconsistent with state and national policies.” CEJA then states that “[t]he Public Utilities Code further requires that utilities ‘first meet unmet resource needs through all available...demand reduction resources’.”<sup>51</sup> The ISO agrees with CEJA that the Loading Order, as specified in the Energy Action Policy II (EAP), describes a policy priority for satisfying increasing energy needs in California with preferred resources.<sup>52</sup> However, what CEJA fails to understand in its simple interpretation of the Loading Order is that it must be pursued in the spirit of maintaining or enhancing system reliability. It is not a policy that naively promotes the presupposition that a megawatt is a megawatt. Offsetting flexible and high availability factor conventional generation units with use-limited and restricted availability resources will likely result in a lower level of service reliability, which will quickly erode public trust and safety. Thus, fulfillment of the Loading Order means the Commission must ensure that investments in the portfolio of preferred and conventional resources provide ratepayers with the same level of reliability and security as the existing resources they offset.

### **C. Appropriate Assumptions Concerning Retirement of OTC Generation**

The ISO agrees with TURN’s comments that the Commission should make a “good faith and serious effort to address reliability issues consistent with the adopted

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<sup>51</sup> CEJA at pg. 17.

<sup>52</sup> Energy Action Plan II, September 21, 2005, pg. 2

retirement schedule.”<sup>53</sup> This is consistent with the ISO’s position. DRA also seems to agree that state agencies and the industry should work together to maintain reliability during the transition period to meet the compliance deadlines.<sup>54</sup> The ISO does not agree, however, with DRA’s general premise that the OTC deadlines and generator compliance plans provide opportunities to delay resource procurement, nor that allegedly “shorter lead time resources” also provide a basis to defer procurement decisions.<sup>55</sup>

#### **D. Transmission And Other Means Of Mitigation**

The ISO not only considered transmission alternatives as part of the OTC study but, as noted by Mr. Sparks, the ISO has been working with its participating transmission owners over the past 14 years to enhance the transmission system and reduce the need for local generation. Accordingly, the ISO sees absolutely no reason to delay a decision in Track 1 regarding local resource needs based on speculation that more studies might produce resource deficiency reductions.<sup>56</sup> SCE’s opening brief also highlights the difficulties associated with siting transmission in local areas, and the impact that additional transmission could have on line flows and critical contingencies.<sup>57</sup> Nonetheless, the ISO agrees to work with SCE to evaluate any possible transmission fixes that could reduce local needs prior to procurement and, of course, will continue to participate, throughout the procurement process, to assess procurement plans to ensure that they meet the local reliability needs.

TURN suggests that SCE be directed to consider synchronous condensers as part of the solicitation process for new or repowered generation, including the retiring

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<sup>53</sup> TURN opening brief, page 11.

<sup>54</sup> DRA opening brief, page 22.

<sup>55</sup> *Id.*, page 23.

<sup>56</sup> See ISO opening brief, pages 30-32.

<sup>57</sup> SCE opening brief, pages 6-8.

Huntington Beach units. TURN also raised concerns regarding the timing of the ISO's SONGS studies and the impact on procurement in Track 1.<sup>58</sup> The ISO notes that its SONGS studies are ongoing and are being conducted as part of the 2012/2013 transmission planning process. Thus, the timing of these study results will align with the local procurement process that will take place during 2013, and the ISO does not anticipate any "stranded investment" issues. Furthermore, it seems illogical that the Commission should direct less procurement, as suggested by TURN, because of the ISO's continuing studies, since the OTC study contains the optimistic assumption that SONGS will be online throughout the planning horizon.

CEJA, CEERT, DRA and Sierra Club each generally argue that the Commission should defer procurement authorization until a "thorough analysis of transmission fixes" is conducted.<sup>59</sup> For the most part, these parties cite to each other's testimony, particularly the CEJA testimony regarding the Mira Loma 600 MW load transfer and the testimony presented by Calpine regarding the Moorpark sub-area.

It appears that CEJA is still confused about the Mira Loma 600 MW load transfer, despite the ISO's attempts to provide an explanation as to how this possible "fix" was included in the OTC study. At pages 29-30, CEJA suggests that although Mr. Sparks testified that the 600 MW transfer on SCE's distribution system could reduce local needs in the LA Basin by 2000-3000 MWs,<sup>60</sup> the ISO "did not reduce the OTC need numbers."<sup>61</sup> This is simply incorrect, as shown in the second row of tables 2-5 in Mr.

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<sup>58</sup> TURN opening brief, pages 11-13.

<sup>59</sup> See *e.g.* Sierra Club opening brief at page 19.

<sup>60</sup> Ex. ISO-1, pages 9-10.

<sup>61</sup> This is CEJA's statement:

Sparks' initial testimony and discussed in his reply testimony.<sup>62</sup> CEJA also mischaracterizes Mr. Sparks' cross-examination testimony with regard to other transmission upgrades not reflected in the study. CEJA states that "CAISO is currently considering several transmission upgrades that were not considered in its analysis here," but this is what Mr. Sparks said in the transcript pages cited in CEJA's brief:

Q. (Ms. Lee) Okay. I want to address a few of the other specific constraints today. Going back to your table -- I'm sorry -- going back to your testimony, ISO Exhibit 1, Tables 2 through 5, I see there that there are a few other 230 kV line constraints of concern. And to me those look like Eagle Rock to Sylmar, La Fresa to Hinson are two constraints for limiting contingencies in those tables. And then I see there's a voltage collapse concern with the Ellis subarea, and in the Big Creek Ventura local area there's a voltage collapse constraint, a remaining Sylmar-Pardee 230 kV line constraint, and a transformer constraint at the Antelope Substation, which is actually Table 7 through 10. Do you see those?

A. (Mr. Sparks) You went through them fairly quick, but they all sound familiar.

Q. Thank you. Do you know specifically if there are mitigation options for these constraints such as 230 kV circuit upgrades, transformer upgrades or additions, or some form of reactive support options to mitigate the voltage concerns?

A. In my testimony I referenced several options to mitigate some of the LCR needs.

Q. I guess I just want to know, Mr. Sparks, if there's any other upgrades or options that might not be in your testimony. And so for example, do you know if there's enough room at the Antelope Substation for installation of another 500/230 kV transformer?

A. I do not.<sup>63</sup>

Clearly the ISO did not testify that additional transmission mitigation solutions are being considered except for those specifically addressed in testimony. In essence,

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<sup>62</sup>For instance, CAISO did not reduce the OTC LCR need numbers after including the 600 MW transfer because it said that the project does not reduce need in the Western LA Basin' (citing to CEJA testimony and an ISO data request response).

<sup>62</sup> Ex. ISO-3, page 4.

<sup>63</sup> Tr. 172:5-173:12.

there is no specific record evidence supporting the need for additional transmission alternative analysis before the Commission makes a determination as to local area needs.

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

#### **A. LA Basin**

The recommended local capacity need in the LA Basin ranges from 0 MW (CEJA) and 169 MW (DRA) to the ISO's 2,370 – 3,741 MW local area deficiency determination (supported by SCE, PG&E, SDG&E, Alliance for Nuclear Responsibility, IEP and, apparently, CLECA [at 2,370 MW]). Other parties either urge the Commission to reject the ISO's OTC study and order additional analysis, or, as discussed at the outset of this reply brief, recommend that the Commission adopt arbitrary assumptions about uncommitted resources, thereby reducing local needs in the LA Basin.

The Commission should use the ISO's OTC study to make procurement decisions in Track 1. Although parties have presented volumes of testimony about the future role of uncommitted resources in reducing local capacity needs, at the end of the day the ISO must reliably plan and operate the grid in accordance with federal requirements and standards. No party has presented credible testimony disputing the validity of the ISO's local capacity need analysis for the LA Basin or effectively rebutted the ISO's evidence, and therefore the record supports the ISO's conclusions and recommendations.

#### **B. Big Creek/Ventura**

Both Calpine and SCE questioned the need for immediate procurement of the ISO's recommended 430 MW in the Big Creek/Ventura area. Based on their testimony, other parties apparently have agreed that the Commission should not direct local resource



procurement in that area.<sup>64</sup> The ISO responded to both Calpine's and SCE's concerns in its initial brief at pages 35-38 and would simply repeat that prudent planning supports a finding of need for this area. Should newer technologies or non-generation alternatives become available, these resources can be reflected in the ISO's procurement evaluation.

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

The Commission is addressing these issues through workshops and comments submitted on the record, and the ISO has provided detailed suggestions and responses to the questions in the September 14 ACR. The ISO looks forward to working with the Commission and the parties to develop a procurement process that will allow preferred resources to compete on the same basis as generation resources to fill local and system needs.

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

##### **A. If A Need Is Determined, Should Flexible Capacity Attributes Be Incorporated Into Procurement**

It seems that many parties agree that local area resources should have, in some form, the flexibility attributes required by the ISO to respond to local contingencies. There are related issues upon which the parties disagree, particularly the timing of a Commission determination with respect to flexibility attributes, and the docket in which these characteristics will be developed. For example, DRA notes that because stakeholders are developing flexibility characteristics in R.11-10-023, the Commission should allow (but not direct) SCE to move forward with procuring flexible resources and

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<sup>64</sup> See, e.g. TURN opening brief, page 14; CEERT opening brief, pages 30-31; Sierra Club opening brief, page 25.

evaluate the value of this flexibility in the procurement process.<sup>65</sup> TURN similarly notes that “flexible operation” may be a desirable attribute, but that it will be a serious challenge to establish values for different dimensions of flexibility.<sup>66</sup> The ISO agrees that resource flexibility will be evaluated as part of the procurement process and that operating characteristics needed for resources to successfully compete in an RFO are being developed in the workshop phase of this proceeding. However, as Mr. Rothleder explained, the Commission should be mindful that when local resources are flexible, their flexibility will ultimately add to the residual flexibility required by the overall system.<sup>67</sup> So building flexible capacity in the local areas now will reduce the amount of additional flexible capacity needed by the system in the future. The ISO agrees with the CLECA comment that “keeping the lights on in the West LA Basin contributes to keeping the lights on in the rest of SCE’s service territory,”<sup>68</sup> which underscores this important interplay between local and residual system capacity needs.

## **VI. CONCLUSION**

As Mr. Millar explained, California is faced with many complex issues as the state transitions towards meeting multiple policy goals impacting the electric industry, including retirement of OTC units, renewable generation integration, and increased reliance on non-generation resources.<sup>69</sup> A fundamental threat to achieving these goals is a failure to provide reliable service during this transition, which will be a distinct possibility if the Commission were to authorize procurement at the extremely low deficiency need levels advocated by CEJA and DRA. On the contrary, this is the

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<sup>65</sup> DRA opening brief, page 34.

<sup>66</sup> TURN opening brief, page 19.

<sup>67</sup> ISO opening brief, pages 50-51.

<sup>68</sup> CLECA opening brief, page 2.

<sup>69</sup> Ex. ISO-6, page 18.

opportune time for the Commission to make prudent and pragmatic decisions that will preserve the safety and security of the grid and, in particular, transmission constrained local areas, enabling the electric industry to move forward without distraction towards meeting its goals.

Respectfully submitted,  
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