

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

Order Instituting Rulemaking to Oversee the Resource Adequacy Program, Consider Program Refinements, and Establish Annual Local and Flexible Procurement Obligations for the 2016 and 2017 Compliance Years

Rulemaking 14-10-010  
(Filed October 16, 2014)

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION  
REPLY COMMENTS ON REVISED PROPOSALS**

**I. Introduction**

In response to Administrative Law Judge Dudney’s February 17, 2016 and March 11, 2016 email Rulings, the California Independent System Operator Corporation (CAISO) provides reply comments regarding revised proposals for Track 1 of this resource adequacy proceeding.<sup>1</sup> In this reply, the CAISO addresses comments regarding its recommendation that the Commission align its local resource adequacy requirements with CAISO’s Local Capacity Technical Study.<sup>2</sup>

**II. Discussion**

The CAISO continues to recommend that the Commission adopt local resource adequacy requirements that align with the CAISO’s Local Capacity Technical Study. The fundamental reason for this recommendation is to reduce the risk that CAISO will need to use its capacity procurement mechanism (CPM) to meet reliability needs. To reduce this risk, the Commission should ensure that its load serving entities (LSEs) procure resources that are capable of meeting the Contingencies the CAISO must both plan and operate the system to meet.

**A. Planning the System Reliably Requires Taking into Account Operational Needs.**

SDG&E and the Joint DR Parties assert that the CAISO is conflating planning and operational criteria by taking into account operational requirements in its local capacity planning study. This criticism is shortsighted and misses the point and purpose of planning, which is to

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<sup>1</sup> The CAISO’s Reply Comments respond to comments filed by Comverge, Inc., CPower, EnerNOC, Inc., EnergyHub and Johnson Controls, Inc. (Joint DR Parties), San Diego Gas & Electric Company (SDG&E) and Southern California Edison Company (SCE).

<sup>2</sup> Terms not otherwise defined are used as defined in the CAISO tariff.

help ensure successful operations and meet all applicable reliability requirements. SDG&E and Joint DR Parties are essentially suggesting that if the CAISO needs three resources to meet a specific operational reliability requirement, it is satisfactory to only plan for one resource that can meet the operational need. By the same token, their argument suggests that if the CAISO needs a resource with particular characteristics or in a particular location to resolve an operational reliability requirement, it is unnecessary to plan the system to meet such reliability requirement. Obviously such an approach would be imprudent, place the CAISO at risk for reliability criteria violations, and jeopardize safe and reliable grid operations. The CAISO cannot plan the system in a vacuum that ignores operational realities and resource characteristics.

The Joint DR Parties specifically note that NERC transmission planning standards (TPL Standards) “do not dictate operational requirements, such as requiring CAISO to reposition the system after 30 minutes in advance of the next contingency.”<sup>3</sup> Instead, the Joint DR Parties note that “operational standards are contained in NERC’s TOP (Transmission Operator) Standards.”<sup>4</sup> This is accurate, but the conclusion that the CAISO conflates these standards does not follow. To the contrary, the purpose of TPL-001-4<sup>5</sup> is defined as follows:

**Purpose:** Establish Transmission system planning performance requirements within the planning horizon to develop a Bulk Electric System (BES) that will *operate reliably over a broad spectrum of System conditions and following a wide range of probable Contingencies.*<sup>6</sup> (emphasis added)

NERC’s stated purpose recognizes that planning is essential to ensuring successful operations. In the context of the Local Capacity Technical Study, the nexus between planning requirements and operational requirements is undeniably pertinent. The Local Capacity Technical Study is a short term study that determines resource needs to maintain safe and reliable operations for the following year. If resources are artificially studied as capable of meeting Contingencies but are not actually *operationally* capable of doing so, the CAISO will be at risk of violating both the NERC TOP standards and its tariff. This can result in significant penalties, potentially in the millions of dollars.

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<sup>3</sup> Joint DR Parties Revision to Phase 2 Resource Adequacy Program Proposals, p. 5.

<sup>4</sup> *Id.*

<sup>5</sup> Included as Attachment A to the Joint DR Parties Revision to Phase 2 Resource Adequacy Program Proposals.

<sup>6</sup> NERC TPL-001-4, p. 1.

## **B. NERC TOP Standards Apply to the CAISO.**

The Joint DR Parties explain that the NERC TOP Standards apply to the CAISO, not to individual resources. Again, the CAISO agrees with this statement. But this fact supports the CAISO's position, not the Joint DR Parties' position. In fact, the CAISO argued the same in its response to appeals of its business practice manual (BPM) revision related to the 20-minute local response requirement:

The CAISO is the NERC-registered Transmission Operator and Planning Authority for its balancing authority area. As a result, the CAISO alone bears the compliance obligation to meet the real-time operational requirements in TOP-004 and TOP-007. To meet these obligations, the CAISO must make reasonable planning assumptions regarding how it can effectively reposition system within the 30-minute time period after a contingency.<sup>7</sup>

The CAISO also agrees with the Joint DR Parties that it does not have the authority to “determine the resource characteristics that will qualify a resource’s capacity for resource adequacy[.]”<sup>8</sup> The Commission has the authority to designate qualifying capacity pursuant to Section 40.8 of the CAISO tariff, and the CAISO has not claimed otherwise.

However, as discussed above, the Local Capacity Technical Study ensures that the CAISO has sufficient available Local Capacity Area Resources capable of meeting identified Contingencies, including the requirement to readjust the system within 30 minutes following a first Contingency to prepare for a second Contingency. To the extent the Local Capacity Technical Study identifies deficiencies in a Local Capacity Area, the CAISO is responsible for associated NERC compliance requirements. Correspondingly, as the entity with the compliance responsibility, the CAISO has the authority to remedy identified deficiencies. CAISO's CPM authority is therefore directly tied to the results of the Local Capacity Technical Study:

The CAISO shall have the authority to designate CPM Capacity where the Local Capacity Area Resources specified in the annual Resource Adequacy Plans of all applicable Scheduling Coordinators, after the opportunity to cure under Section 43.2.2.1 has been exhausted, fail to ensure compliance in one or more Local Capacity Areas with the Local Capacity Technical Study criteria provided in Section 40.3.1.1... The CAISO may, pursuant to this Section 43.2.2, designate CPM Capacity in an amount and location sufficient to ensure compliance with the Reliability Criteria applied in the Local Capacity Technical Study.<sup>9</sup>

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<sup>7</sup> See Attachment A to the CAISO's March 25, 2016 Response to Administrative Law Judge's February 16, 2016 Ruling, p. 8.

<sup>8</sup> Joint DR Parties Revision to Phase 2 Resource Adequacy Program Proposals, p. 6.

<sup>9</sup> CAISO Tariff Section 43.2.2.

The CAISO's compliance obligation to ensure reliability is necessarily tied to its CPM authority. This supports the Commission aligning its local resource adequacy requirements with the CAISO's Local Capacity Technical Study because a failure to do so will increase the risk that the CAISO will need to resort to CPM.

**C. The CAISO is Committed to Studying the Level of Pre-Contingency Dispatch Necessary to Meet Local Capacity Area Needs.**

Both SDG&E and the Joint DR Parties argue the Commission should not align its local resource adequacy requirements with the CAISO's Local Capacity Technical Study because a resource with sufficient available energy may be "pre-dispatched" prior to a first contingency to avoid exceeding system operating limits. The CAISO agrees that resources capable of pre-contingency dispatch should count toward local resource adequacy requirements, and this is consistent with the Local Capacity Technical Study. With the help from the utilities, the CAISO has committed to undertaking a special study in its 2016-2017 transmission plan to review this issue further. As noted in the CAISO's Draft 2016-2017 Transmission Planning Process Unified Planning Assumptions and Study Plan:

In order to be effective, local capacity resources either need to be capable of assisting the system in preparing for a second contingency within 30 minutes of an initial contingency, or being sufficiently unconstrained that the resources may be dispatched whenever certain loading conditions exist and in anticipation of the first contingency actually occurring – allowing a "slower" response time in responding to a dispatch. The number of dispatches in the latter case is anticipated to be orders of magnitude higher than in the former case.<sup>10</sup>

The CAISO notes that the exact level of energy necessary for pre-contingency dispatch will vary by local area. This study will be critical in designing resource adequacy programs and determining the level of pre-contingency dispatch necessary to meet reliability requirements. However, prior to completing this study, the CAISO cannot assume a local capacity area has sufficient capacity when it knows that certain of those local resources are incapable of meeting the Contingencies identified. Doing so would be in direct contravention of the CAISO tariff, which requires that "the CAISO will apply those methods for resolving

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<sup>10</sup> <http://www.aiso.com/Documents/Draft20162017StudyPlan.pdf>, p. 51.

Contingencies considered appropriate for the performance level that corresponds to a particular studied Contingency[.]”<sup>11</sup>

**D. The 20-Minute Local Response Requirement Does Not Modify How Demand Response Resources Will be Dispatched to Address Contingencies.**

The Joint DR Parties state that due to the 20-minute response requirement, demand response resources “will not know how, when, and under what conditions the CAISO will institute the 20-minute notification [sic] requirement[.]”<sup>12</sup> The 20-minute response requirement will not affect how, when, or under what conditions the CAISO will dispatch demand response resources. It simply ensures that if a Contingency occurs, the CAISO can rely on demand response resources counted in the Local Capacity Technical Study to reposition the system within operating limits in the allotted time frame. CAISO dispatch would occur through the market or exceptional dispatch, depending on the circumstances. The CAISO cannot predict the timing of Contingencies nor can it predict the specific Contingencies that will require the dispatch of resources in the local area, but every market participant faces the same uncertainty. Furthermore, contrary to the Joint DR Parties’ assert that a 20-minute response requirement will allow the CAISO to “override any other normal market instructions received,”<sup>13</sup> but it is unclear what the Joint DR Parties mean by this statement. If the CAISO issues a market dispatch instruction to a Local Capacity Area resource prior to a Contingency event, there is no reason why the Contingency would cause a redispach of that same energy already being delivered. That resource is already delivering its energy to the benefit of the local area.

**E. Supply Side Demand Response is intended to Offset Traditional Gas-Fired Generation.**

SCE states that “[b]ecause DR is different than traditional supply side generation, RA rules should be based on the inherent capabilities of DR and what RA contributions those capabilities can fulfill.”<sup>14</sup> The CAISO agrees that there are some differences between demand response and a traditional generator; however, the fundamental value of supply side demand response is its ability to avoid “traditional supply side generation.” The CAISO recognizes supply side demand response has different attributes than a traditional generator, but to fulfill its

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<sup>11</sup> CAISO Tariff Section 40.3.1.1.

<sup>12</sup> Reply Comments of the Joint DR Parties, p. 9.

<sup>13</sup> *Id.*

<sup>14</sup> SCE’s Comments on Revised Track 1 Proposals, p. 2.

purpose and avoid building traditional gas-fired generation, a supply side demand response resource must be capable of offsetting the services the traditional generator provided to the grid, either in whole or in part. The value of supply side demand response resource must therefore be commensurate with the value of a traditional generator so it can offset those grid services in whole or in-part. Thus, SCE's statement that "[f]orcing an equivalence between DR and traditional supply side generation is not needed and could artificially diminish the value DR has on the system" dismisses the fundamental reason why the Commission is investing in supply side demand response as a preferred resource, *i.e.*, to offset traditional gas-fired generation and help California meet its clean energy goals. In any event, the CAISO needs resources that can actually address identified reliability concerns.

**F. Establishing a Process to Give Local Capacity Value to Demand Response Resources Capable of Partially Responding within 20 Minutes Warrants Further Analysis, but the Commission Should not Adopt Such Approach at this Time.**

SCE recommends the Commission modify the CAISO's recommendation to allow demand response resources with nominal response times greater than 20 minutes to count toward local resource adequacy requirements to the extent the resources can reliably provide energy reductions within 20 minutes.<sup>15</sup> The CAISO believes SCE's recommendation is worth investigating further, but the Commission should not adopt it at this time. The CAISO encourages SCE to bring this proposal to the CAISO for further review and study, including providing actual resource configurations and attributes the CAISO could review and study to ensure SCE's understanding of how demand response resources would be dispatched conforms with market rules and the technical capabilities of the CAISO's market and real-time operations systems. SCE's concept is worth exploring, but significant additional detail is needed to confirm that the CAISO can adequately model it and determine the actual extent to which it can rely on such resources to meet system needs.

Additionally, the CAISO notes that there are policy implications related to SCE's recommendation. For example, the Commission should explore the "unbundling" implications of SCE's idea. If SCE has a five MW supply side demand response resource, three MW of which can respond within 20 minutes and two MW of which can respond in 60 minutes then

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<sup>15</sup> SCE's Revised Track 1 Proposals, p. 2.

three MW would count toward local resource adequacy capacity and while the remaining two MW would count only as system capacity. The CAISO assumes this is what SCE would expect for this resource's RA treatment, however, this "splitting" of resource adequacy capacity would constitute a decoupling of a single resource into a local resource and system resource. This unbundling of system and local capacity raises significant issues for the Commission's resource adequacy program and how the CAISO would study and dispatch the resource, and how replacement capacity would be effectuated. For example, if the decoupled resource went on a forced outage or partial outage, it is unclear how replacement of such capacity would occur because the resource would have both local and system capacity (*i.e.*, if the unit had a three MW forced outage, what proportion of the resource would need to be replaced with local capacity and which portion could be replaced with system capacity). Resolution of these types of issues is necessary before this concept could proceed further.

SCE's proposal appears to rely on the premise that there is a statistical probability that a certain percentage of a demand response resource will be available within 20 minutes after a Contingency event, even though it may not be contractually obligated to do so. This statistical approach raises additional issues that require further investigation. First, as SCE noted in its presentation, there must be additional analysis that takes into account more than a single day's dispatch results.<sup>16</sup> Indeed, if such resources are to be counted in the Local Capacity Technical Study, the CAISO must be confident that such resources will actually materialize in real-time to avoid any violations. Developing an approach that provides adequate certainty is not within the scope of this proceeding and requires extensive analysis and consideration.

To the extent possible, the CAISO recommends that SCE explore resolving this issue by dividing its resources into fast responding resources and slow responding resources. Using the example above, SCE would create a three MW fast responding resource, and a two MW slow responding resource. The same capacity values would be earned by SCE, but separating the resource would not raise the policy and technical complexities described above. At this time, SCE has not provided the technical reasons why its demand response portfolio could not have both fast responding and slow responding resources to sufficiently resolve this concern.

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<sup>16</sup> SCE's Revised Track 1 Proposals, p. A-3 ("to find the actual amount of 20-minute response that can be reliably provided: ... [a]nalysis will need to be based on more than a single day's dispatch results").

### III. Conclusion

The CAISO's recommendation in this proceeding is premised on the concept that all resources procured by LSEs for resource adequacy purposes should meaningfully contribute to operating the system in a reliable manner. Parties have suggested that the CAISO's position discriminates against resources such as demand response because it limits the amount of demand response that will be procured by Commission regulated LSEs. To the contrary, the CAISO believes that demand response resources have an important role to play in reducing capacity needs, minimizing ratepayer costs and, most importantly, eliminating the need for gas-fired generation facilities. To achieve these goals, the CAISO must be able plan and operate demand response resources in a manner that ensures reliability standards are met based on system needs. Failure to adapt these resources will not change system needs, but will increase the risk that additional gas-fired generation will have to be procured to meet system needs, which is contrary to the loading order and state policy goals. The CAISO, the Commission, and stakeholders must work together to determine how demand response resources can be designed and used to meet system requirements because continuing down the path of procuring resources without regard to their operational characteristics relative to system needs is neither economic nor sustainable.

Respectfully submitted,

**By: /s/ Jordan Pinjuv**

Roger E. Collanton

General Counsel

Anthony Ivancovich

Deputy General Counsel

Anna A. McKenna

Assistant General Counsel

Jordan Pinjuv

Counsel

California Independent System

Operator Corporation

250 Outcropping Way

Folsom California 95630

Tel.: (916) 351-4429

[jpjuv@caiso.com](mailto:jpjuv@caiso.com)

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