December 9, 2019

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: California Independent System Operator Corporation
Docket No. ER20-_____-000

Local Capacity Technical Study Criteria Update

Dear Secretary Bose:

The California Independent System Operator Corporation (CAISO) submits this tariff amendment[1] to update its Local Capacity Technical Study criteria. These updates align the Local Capacity Technical Study criteria with the North American Electric Reliability Corporation (NERC), Western Energy Coordinating Council (WECC) and CAISO transmission planning standards. Specifically, the proposed tariff modifications (1) align the Contingencies[2] studied in the Local Capacity Technical Study, and the associated performance requirements, with Applicable Reliability Criteria, and (2) clarify the coordination the CAISO undertakes with the California Public Utilities Commission (CPUC) to calculate and allocate Local Capacity Resource obligations to CPUC jurisdictional load-serving entities.

The CAISO respectfully requests waiver of the Commission's 60-day notice requirement to permit these tariff revisions to become effective on February 1, 2020. Good cause exists for the Commission to grant this modest waiver because it will ensure that the CAISO can meet the schedule for conducting the Local Capacity Technical Study as set forth in the relevant

[1] The CAISO submits this filing pursuant to section 205 of the Federal Power Act (FPA), 16 U.S.C. § 824d.

[2] Appendix A to the CAISO tariff defines a "Contingency" as a "potential Outage that is unplanned, viewed as possible or eventually probable, which is taken into account when considering approval of other requested Outages or while operating the CAISO Balancing Authority Area or EIM Entity Balancing Authority Area. Contingencies include potential Outages due to Remedial Action Schemes."

Business Practice Manual.[3] Pursuant to that schedule, the CAISO has approximately one month from the end of January (when comments are due from stakeholders on the study base case) to conduct the Local Capacity Technical Study. In the CAISO's experience, this study timeline is already very tight, and a delay of even a few days could result in a need to revise the entire schedule. This is particularly problematic because the CAISO's results feed directly into the CPUC's resource adequacy proceedings, and a delay in the CAISO's process could adversely impact the timing of the CPUC process. The CAISO typically files its draft Local Capacity Technical Study with the CPUC in early April and its final Local Capacity Technical Study by May 1. The CPUC needs the final Local Capacity Technical study by May 1 in order to adopt its decision allocating resource adequacy requirements by mid July. The CAISO also respectfully requests that the Commission issue an order on this amendment by no later than February 1, 2020. It is important that the CAISO have the benefit of a Commission order before commencing its Local Capacity Technical Study because it would likely need to re-start that study if the Commission were to reject the revised criteria proposed herein.

I. Background

A. The CAISO's Existing Local Capacity Technical Study and Local Resource Adequacy Process

The CAISO conducts an annual Local Capacity Technical Study under tariff section 40.3.1. The Local Capacity Technical Study determines the minimum amount of resources that must be available to the CAISO within each identified Local Capacity Area. Based on the results of the annual Local Capacity Technical Study, the CAISO then allocates local capacity area resource procurement requirements to Load Serving Entities.[4]

Load Serving Entities, through their Scheduling Coordinators, are required to provide the CAISO with annual and monthly Resource Adequacy Plans that identify the Local Capacity Area Resources procured by the Load Serving Entity to meet the local capacity area requirements.[5] The CAISO then evaluates each Resource Adequacy Plan to determine whether it demonstrates Resource Adequacy Capacity sufficient to satisfy the Load Serving Entity's allocated responsibility for Local Capacity Area Resources.

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3 Business Practice Manual for Reliability Requirements at Exhibit A-4, available at https://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Reliability%20Requirements.

4 Tariff Section 40.3.2.

5 Tariff Sections 40.2.1 and 40.2.2.4.

If the CAISO finds a Load Serving Entity's annual or monthly Resource Adequacy Plan fails to demonstrate procurement of its allocation of Local Capacity Area Resources, the CAISO can use its capacity procurement mechanism (CPM) authority to procure additional resources to meet local capacity requirements.[6] In addition, the CAISO can designate CPM capacity if the Annual Resource Adequacy Plans for all scheduling coordinators fail to ensure compliance with the Local Capacity Technical Study.[7]

B. Existing Local Capacity Technical Study Criteria

The CAISO developed the existing Local Capacity Technical Study criteria through the Local Capacity Technical Study Advisory Group (LSAG). The LSAG was an advisory group the CAISO formed to establish the Local Capacity Technical Study requirements prior to commencement of California's resource adequacy program. Based on input from the LSAG, the CAISO tariff incorporates specific study criteria, including Contingencies and performance requirements. The CAISO tariff outlines these Contingencies and performance requirements in tabular format in section 40.3.1.2. The existing Local Capacity Technical Study criteria pre-date adoption of NERC mandatory transmission planning standards and, due to the specificity in the tariff, the defined criteria do not automatically update as NERC, WECC, or CAISO transmission planning standards change over time.

Subsequent to the CAISO adopting the Local Capacity Technical Study criteria, NERC implemented its mandatory transmission planning standards, which differ in form and substance from the CAISO's currently effective Local Capacity Study Technical criteria. In addition, WECC regional standards and the CAISO's own planning standards have changed and evolved since the CAISO adopted the Local Capacity Technical Study criteria.

The CAISO conducts its annual transmission planning analyses consistent with NERC, WECC, and CAISO planning standards. Specifically, the CAISO transmission planning process ensures reliable transmission system performance over a broad spectrum of system conditions and following a wide range of probable contingencies, consistent with NERC Transmission System Planning Performance Requirement TPL-001-4. The CAISO's Local Capacity Technical Study, however, determines one-year forward resource procurement requirements based on the criteria outlined in section 40.3.1 of the CAISO tariff.

6 Tariff section 43A.2.1.

7 Tariff section 43A.2.2.

II. Proposed Tariff Changes

A. Aligning Local Capacity Technical Study Criteria With Applicable Reliability Criteria

The primary focus of the underlying initiative leading to the proposed tariff revisions was to align the Local Capacity Technical Study Criteria with Applicable Reliability Criteria, including NERC, WECC, and CAISO planning standards. This alignment will require Load Serving Entities to procure Local Capacity Area Resources consistent with how the CAISO plans for transmission system reliability in the transmission planning process. This will better align Local Capacity Technical Study procurement requirements and long-term resource planning requirements, which in turn will provide a level playing field for the development and procurement of new resources or other non-transmission solutions as alternatives to address identified transmission needs and meet the mandatory standards. Currently, if Applicable Reliability Criteria require transmission system reinforcement, but the Local Capacity Technical Study criteria do not, Load Serving Entities and Local Regulatory Authorities may not undertake resource procurement in lieu of CAISO-identified transmission alternatives, even if such procurement would be economically or environmentally preferred. Although the CAISO can direct the construction of transmission upgrades, it cannot direct Load Serving Entities to develop and/or procure generation or other non-transmission alternatives to meet reliability needs.

To address the inconsistencies between the Local Capacity Technical Study criteria and the Applicable Reliability Criteria, the CAISO proposes to remove the specified list of Contingencies studied in the Local Capacity Technical Study. The CAISO will replace the Contingency list with language requiring the Local Capacity Technical Study to "assess all the Contingencies and appropriate performance levels required by mandatory standards including, but not limited to, NERC, WECC and CAISO Planning Standards."[8]

In addition, the CAISO proposes to modify tariff Section 40.3.1.1 to clarify that the CAISO will apply methods for resolving Contingencies consistent with NERC TPL-001-4 or its successor. The current tariff provision refers to previously applicable NERC planning standards that were replaced by TPL-001-4.

The Local Capacity Technical Study criteria will maintain references to CAISO Reliability Criteria that still apply to the Local Capacity Technical Study. Specifically, tariff Section 40.3.1.1 currently provides that the CAISO Reliability criteria will (1) include a 30-minute maximum time allowed for manual operator readjustment to prepare for the next Contingency, and (2) require mitigation for

[8] Proposed Tariff Section 40.3.1.2.

voltage collapse or dynamic instability during Extreme Events, as defined by TPL-001-4. The CAISO's proposed tariff language modifies the requirement to mitigate against voltage collapse or dynamic instability by limiting its application to areas that would experience load drop of at least 250 MW. The new tariff language also allows the CAISO to propose mitigation in areas with less than 250 MW of load if there is risk of cascading beyond the area directly affected by the outage.

NERC standards require the study and consideration of extreme event contingencies, and do not require planning coordinators to identify transmission solutions to mitigate loss of load for extreme event contingencies – that judgment is left to the planning entity.[9] NERC TPL-001-4 allows for non-consequential load loss during multiple contingency events (P6 and P7 events). NERC does require the CAISO to report any uncontrolled loss of firm load in excess of 300 MW from a single incident.[10] The CAISO's proposed tariff modifications will continue to go beyond NERC minimum requirements by setting local capacity requirements in high load areas based on extreme event contingencies, specifically, the loss of a single transmission element (N-1) followed by common mode loss of two transmission lines (L-2), and will provide some limitations and greater clarity on when these requirements are applicable.

The CAISO's tariff rules for local capacity studies require mitigations to prevent voltage collapse or dynamic instability for certain extreme events, specifically, the loss of a single transmission element (N-1) followed by common mode loss of two transmission lines (L-2). Mitigation for such extreme events is necessary to prevent voltage collapse or dynamic instability that could spread beyond the studied area, thereby causing a risk to the entire interconnected system, or is otherwise unacceptable. Based on stakeholder feedback, the CAISO agreed that in local areas with larger loads, this could result in excessive amounts of load drop during these extreme events even if the risk of further cascading was minimal. To address this concern, the CAISO proposed the current language, which requires mitigation for these extreme events in local areas with load of more than 250 MW. Practically, this means that CAISO will establish local capacity requirements that will avoid loss of load during these extreme events in local areas with load in excess of 250 MW. The 250 MW threshold for requiring mitigation is consistent with the CAISO Planning Standard limit for loss of load under a single contingency.[11]

The 250 MW threshold also provides for consistency between the local capacity planning processes and actual system operations. NERC identifies any loss of load in excess of 300 MW as significant and requires balancing authorities to

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9 NERC TPL-001-4

10 NERC EOP-004-4, p. 8.

11 CAISO Planning Standards, p. 16. http://www.caiso.com/Documents/ISOPlanningStandards-September62018.pdf.

submit reports for any such load loss[12] Planning to avoid any local capacity area loss of load in excess of 250 MW will ensure that the CAISO does not plan the system to have a loss of load event that would exceed the amount that NERC considers to be significant. Establishing the threshold slightly below the 300 MW limit will also allow for minor delays of future in-service dates for new transmission projects or new resource adequacy contracts before the 300 MW limit is reached.

Taken together, the CAISO's proposed modifications to the Local Capacity Technical Study criteria will align the requirements with NERC, WECC, and CAISO planning standards, and are therefore just and reasonable.

B. Clarifying CAISO and CPUC Coordination in Calculating and Allocating Local Capacity Area Resource Obligations

The CAISO's proposed tariff amendments also clarify the existing coordination between the CAISO and the CPUC in calculating and allocating Local Capacity Area Resource obligations to CPUC jurisdictional Load Serving Entities. The CAISO proposes to amend tariff section 40.3.2(c) to clarify that the CAISO calculates individual and total Local Capacity Area Resource procurement obligations attributable to CPUC jurisdictional Load Serving Entities. The CAISO then transmits these obligations to the CPUC, which may allocate such Local Capacity Area Resource obligations to its jurisdictional Load Serving Entities based on its own methodology. This tariff language simply clarifies the existing process and will not require any modifications to CAISO procedures.

The clarifications do not modify the existing tariff provisions addressing a failure to fully allocate resource obligations to CPUC Load Serving Entities. The existing tariff provisions provide that if the CPUC's allocation methodology does not fully allocate the sum of each CPUC Load Serving Entity's proportionate share of the resource obligations, the CAISO will allocate the difference to CPUC Load Serving Entities in accordance with their proportionate share of the obligation calculated under 40.3.2(a).

III. Effective Date

For the reasons discussed in this filing, the CAISO requests that the Commission permit the proposed tariff revisions to be implemented with an effective date of February 1, 2020. The CAISO also respectfully requests that the Commission issue an order on this amendment by no later than February 1, 2020. It is important that the CAISO have the benefit of a Commission order before commencing its Local Capacity Technical Study because it would likely

[12] NERC EOP-004-4, p. 8.

need to re-start that study if the Commission were to reject the revised criteria proposed herein.

IV. Communications

In accordance with the Commission's regulations,[13] correspondence and other communications regarding this filing should be addressed to the following individuals, whose names should be placed on the official service list established by the Commission with respect to this filing:

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Anthony Ivancovich
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V. Service

The CAISO has served copies of this filing on the CPUC, the CEC, and all parties with scheduling coordinator agreements under the CAISO tariff. In addition, the CAISO has posted a copy of the filing on the CAISO website.

VI. Contents of Filing

In addition to this transmittal letter, this filing includes the following attachments:

Attachment A Clean CAISO tariff sheets for this tariff amendment;

[13] 18 C.F.R. § 385.203(b).

Attachment B	Red-lined document showing the revisions contained in this tariff amendment;
Attachment C	Board of Governors Memorandum

VII. Conclusion

For the reasons set forth in this filing, the CAISO respectfully requests that the Commission issue an order by February 1, 2020, that accepts the tariff revisions contained in this filing effective February 1, 2020.

Respectfully submitted,

/s/ Anna McKenna

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Attachment A – Clean Tariff

Local Capacity Technical Study Criteria Update Tariff Amendment

California Independent System Operator Corporation

40.3 Local Capacity Area Resource Requirements for SCs for LSEs

40.3.1 Local Capacity Technical Study

On an annual basis, pursuant to the schedule set forth in the Business Practice Manual, the CAISO will, perform, and publish on the CAISO Website the Local Capacity Technical Study. The Local Capacity Technical Study shall identify Local Capacity Areas, determine the minimum amount of Local Capacity Area Resources in MW that must be available to the CAISO within each identified Local Capacity Area, and identify the Generating Units within each identified Local Capacity Area. The CAISO shall collaborate with the CPUC, Local Regulatory Authorities within the CAISO Balancing Authority Area, federal agencies, and Market Participants to ensure that the Local Capacity Technical Study is performed in accordance with this Section 40.3 and to establish for inclusion in the Business Practice Manual other parameters and assumptions applicable to the Local Capacity Technical Study and a schedule that provides for: (i) reasonable time for review of a draft Local Capacity Technical Study, (ii) reasonable time for Participating TOs to propose operating solutions, and (iii) release of the final Local Capacity Technical Study no later than 120 days prior to the date annual Resource Adequacy Plans must be submitted under this Section 40.

40.3.1.1 Local Capacity Technical Study Criteria

The Local Capacity Technical Study will determine the minimum amount of Local Capacity Area Resources needed to address the Contingencies identified in Section 40.3.1.2. In performing the Local Capacity Technical Study, the CAISO will apply those methods for resolving Contingencies considered appropriate for the performance level that corresponds to a particular studied Contingency, as provided in NERC Reliability Standards regarding Transmission System Planning Performance Requirements (TPL-001-4 or its successor), as augmented by CAISO Reliability Criteria in accordance with the Transmission Control Agreement and Section 24.3.1. The CAISO Reliability Criteria shall include:

(1) Time Allowed for Manual Readjustment: This is the amount of time required for the Operator to take all actions necessary to prepare the system for the next Contingency. This time should not be more than thirty (30) minutes.

(2) No voltage collapse or dynamic instability shall be allowed for a Contingency in Category

Extreme Events [any P1 system readjusted (Common Structure) P7], as listed in TPL-001-4 in areas with load of 250 MW or more. For areas with less than 250 MW of load, mitigation will only be proposed if there is a risk of cascading beyond the area directly affected by the outage.

40.3.1.2 Local Capacity Technical Study Contingencies.

The Local Capacity Technical Study shall assess all the Contingencies and appropriate performance levels required by mandatory standards including, but not limited to, NERC, WECC and CAISO Planning Standards.

40.3.2 Allocation of Local Capacity

The CAISO will allocate Local Capacity Area Resource requirements to Scheduling Coordinators for Load Serving Entities in the following sequential manner:

(a) The responsibility for the aggregate Local Capacity Area Resources required for all Local Capacity Areas within each TAC Area as determined by the Local Capacity Technical Study will be allocated to all Scheduling Coordinators for Load Serving Entities that serve Load in the TAC Area in accordance with the Load Serving Entity's proportionate share of the LSE's TAC Area Load at the time of the CAISO's annual coincident peak Demand set forth in the annual peak Demand Forecast for the next Resource Adequacy Compliance Year as determined by the California Energy Commission. Expressed as a formula, the allocation of Local Area Capacity Resource obligations will be as follows: (∑ Local Capacity Area MW in TAC Area from the Local Capacity Technical Study) * (LSE Demand in TAC Area at CAISO annual coincident peak Demand)/(Total TAC Area Demand at the time of CAISO annual coincident peak Demand). This will result in a MW responsibility for each Load Serving Entity for each TAC Area in which the LSE serves Load. In no instance, however, is a Load Serving Entity obligated to commit, on a monthly Resource Adequacy Plan, Local Capacity Area Resources in a particular TAC Area in excess of the quantity of capacity needed by that Load Serving Entity to meet its applicable Demand and Reserve Margin requirements for the applicable compliance month. If the CAISO determines that a Load Serving Entity would have an obligation to

show Local Capacity Area Resources of less than 1 MW in a particular TAC Area, then the Load Serving Entity will have an obligation of zero (0) MWs for that TAC Area in that year. The LSE may meet its MW responsibility, as assigned under this Section, for each TAC Area in which the LSE serves Load by procurement of that MW quantity in any Local Capacity Area in the TAC Area.

(b) For Scheduling Coordinators for Non-CPUC Load Serving Entities, the Local Capacity Area Resource obligation will be allocated based on Section 40.3.2(a) above.

(c) For Scheduling Coordinators for CPUC Load Serving Entities, the CAISO will calculate the individual and total Local Capacity Area Resource obligations attributable to the CPUC jurisdictional Load Serving Entities and will transmit them to the CPUC. The CPUC may then allocate the Local Capacity Area Resource obligation to its jurisdictional LSEs based on a method adopted by the CPUC. However, if the allocation methodology adopted by the CPUC does not fully allocate the total sum of each CPUC Load Serving Entity's proportionate share calculated under Section 40.3.2(a), the CAISO will allocate the difference to all Scheduling Coordinators for CPUC Load Serving Entities in accordance with their proportionate share calculated under 40.3.2(a). If the CPUC does not adopt an allocation methodology, the CAISO will allocate Local Capacity Area Resources to Scheduling Coordinators for CPUC Load Serving Entities based on Section 40.3.2(a).

Once the CAISO has allocated the total responsibility for Local Capacity Area Resources, the CAISO will inform the CPUC and the Scheduling Coordinators for each non-CPUC jurisdictional LSE of the LSE's specific allocated responsibility for Local Capacity Area Resources in each TAC Area in which the LSE serves Load

40.3.3 Procurement of Local Capacity Area Resources by LSEs

Nothing in this Section 40 obligates any Scheduling Coordinator to demonstrate on behalf of a Load Serving Entity that the Load Serving Entity has procured Local Capacity Area Resources to satisfy capacity requirements for each Local Capacity Area identified in the technical study. Scheduling Coordinators for Load Serving Entities may aggregate responsibilities for procurement of Local Capacity

Area Resources. If a Load Serving Entity has procured Local Capacity Area Resources that satisfy generation capacity requirements for Local Capacity Areas, the Scheduling Coordinator for such Load Serving Entity shall include this information in its annual and monthly Resource Adequacy Plan(s).

Attachment B – Marked Tariff

Local Capacity Technical Study Criteria Update Tariff Amendment

California Independent System Operator Corporation

40.3 Local Capacity Area Resource Requirements for SCs for LSEs

40.3.1 Local Capacity Technical Study

On an annual basis, pursuant to the schedule set forth in the Business Practice Manual, the CAISO will, perform, and publish on the CAISO Website the Local Capacity Technical Study. The Local Capacity Technical Study shall identify Local Capacity Areas, determine the minimum amount of Local Capacity Area Resources in MW that must be available to the CAISO within each identified Local Capacity Area, and identify the Generating Units within each identified Local Capacity Area. The CAISO shall collaborate with the CPUC, Local Regulatory Authorities within the CAISO Balancing Authority Area, federal agencies, and Market Participants to ensure that the Local Capacity Technical Study is performed in accordance with this Section 40.3 and to establish for inclusion in the Business Practice Manual other parameters and assumptions applicable to the Local Capacity Technical Study and a schedule that provides for: (i) reasonable time for review of a draft Local Capacity Technical Study, (ii) reasonable time for Participating TOs to propose operating solutions, and (iii) release of the final Local Capacity Technical Study no later than 120 days prior to the date annual Resource Adequacy Plans must be submitted under this Section 40.

40.3.1.1 Local Capacity Technical Study Criteria

The Local Capacity Technical Study will determine the minimum amount of Local Capacity Area Resources needed to address the Contingencies identified in Section 40.3.1.2. In performing the Local Capacity Technical Study, the CAISO will apply those methods for resolving Contingencies considered appropriate for the performance level that corresponds to a particular studied Contingency, as provided in NERC Reliability Standards regarding Transmission System Planning Performance Requirements (TPL-001-~~0, TPL-002-0, TPL-003-0, and TPL-004-0~~4 or its successor), as augmented by CAISO Reliability Criteria in accordance with the Transmission Control Agreement and Section 24.3.1. The CAISO Reliability Criteria shall include:

(1) Time Allowed for Manual Readjustment: This is the amount of time required for the Operator to take all actions necessary to prepare the system for the next Contingency. This time should not be more than thirty (30) minutes.

(2) No voltage collapse or dynamic instability shall be allowed for a Contingency in Category ~~D – E~~extreme ~~E~~events ~~([~~any ~~B1-4~~P1 system readjusted (Common ~~Mode~~Structure) ~~L-2~~P7~~), ~~], as listed in ~~Section 40.3.1.2~~TPL-001-4 in areas with load of 250 MW or more. For areas with less than 250 MW of load, mitigation will only be proposed if there is a risk of cascading beyond the area directly affected by the outage.

40.3.1.2 Local Capacity Technical Study Contingencies.

~~The Local Capacity Technical Study shall assess the following contingencies:~~
~~**Contingency Component(s)**~~
~~**NERC/WECC Performance Level A – No Contingencies**~~
~~**NERC/WECC Performance Level B – Loss of a single element**~~
~~1. Generator (G-1)~~
~~2. Transmission Circuit (L-1)~~
~~3. Transformer (T-1)~~
~~4. Single Pole (dc) Line~~
~~5. G-1 system readjusted L-1~~
~~**NERC/WECC Performance Level C – Loss of two or more elements**~~
~~3. L-1 system readjusted G-1~~
~~3. G-1 system readjusted T-1 or T-1 system readjusted G-1~~
~~3. L-1 system readjusted T-1 or T-1 system readjusted L-1~~
~~3. G-1 system readjusted G-1~~
~~3. L-1 system readjusted L-1~~
~~4. Bipolar (dc) Line~~
~~5. Two circuits (Common Mode) G-2~~
~~WECC-S3. Two generators (Common Mode) G-2~~
~~**D – Extreme event – loss of two or more elements**~~
~~Any B1-4 system readjusted (Common Mode) L-2~~

The Local Capacity Technical Study shall assess all the Contingencies and appropriate performance

levels required by mandatory standards including, but not limited to, NERC, WECC and CAISO Planning Standards.

40.3.2 Allocation of Local Capacity

The CAISO will allocate Local Capacity Area Resource requirements to Scheduling Coordinators for Load Serving Entities in the following sequential manner:

(a) The responsibility for the aggregate Local Capacity Area Resources required for all Local Capacity Areas within each TAC Area as determined by the Local Capacity Technical Study will be allocated to all Scheduling Coordinators for Load Serving Entities that serve Load in the TAC Area in accordance with the Load Serving Entity's proportionate share of the LSE's TAC Area Load at the time of the CAISO's annual coincident peak Demand set forth in the annual peak Demand Forecast for the next Resource Adequacy Compliance Year as determined by the California Energy Commission. Expressed as a formula, the allocation of Local Area Capacity Resource obligations will be as follows: (∑ Local Capacity Area MW in TAC Area from the Local Capacity Technical Study) * (LSE Demand in TAC Area at CAISO annual coincident peak Demand)/(Total TAC Area Demand at the time of CAISO annual coincident peak Demand). This will result in a MW responsibility for each Load Serving Entity for each TAC Area in which the LSE serves Load. In no instance, however, is a Load Serving Entity obligated to commit, on a monthly Resource Adequacy Plan, Local Capacity Area Resources in a particular TAC Area in excess of the quantity of capacity needed by that Load Serving Entity to meet its applicable Demand and Reserve Margin requirements for the applicable compliance month. If the CAISO determines that a Load Serving Entity would have an obligation to show Local Capacity Area Resources of less than 1 MW in a particular TAC Area, then the Load Serving Entity will have an obligation of zero (0) MWs for that TAC Area in that year. The LSE may meet its MW responsibility, as assigned under this Section, for each TAC Area in which the LSE serves Load by procurement of that MW quantity in any Local Capacity Area in the TAC Area.

(b) For Scheduling Coordinators for Non-CPUC Load Serving Entities, the Local Capacity

Area Resource obligation will be allocated based on Section 40.3.2(a) above.

(c) For Scheduling Coordinators for CPUC Load Serving Entities, the CAISO will ~~allocate~~ calculate the individual and total Local Capacity Area Resource obligations attributable to the CPUC jurisdictional Load Serving Entities and will transmit them to the CPUC. The CPUC may then allocate the Local Capacity Area Resource obligation to its jurisdictional LSEs based on a method adopted by the CPUC~~based on an allocation methodology, if any, adopted by the CPUC~~. However, if the allocation methodology adopted by the CPUC does not fully allocate the total sum of each CPUC Load Serving Entity's proportionate share calculated under Section 40.3.2(a), the CAISO will allocate the difference to all Scheduling Coordinators for CPUC Load Serving Entities in accordance with their proportionate share calculated under 40.3.2(a). If the CPUC does not adopt an allocation methodology, the CAISO will allocate Local Capacity Area Resources to Scheduling Coordinators for CPUC Load Serving Entities based on Section 40.3.2(a).

Once the CAISO has allocated the total responsibility for Local Capacity Area Resources, the CAISO will inform the CPUC and the Scheduling Coordinators for each non-CPUC jurisdictional LSE of the LSE's specific allocated responsibility for Local Capacity Area Resources in each TAC Area in which the LSE serves Load

40.3.3 Procurement of Local Capacity Area Resources by LSEs

Nothing in this Section 40 obligates any Scheduling Coordinator to demonstrate on behalf of a Load Serving Entity that the Load Serving Entity has procured Local Capacity Area Resources to satisfy capacity requirements for each Local Capacity Area identified in the technical study. Scheduling Coordinators for Load Serving Entities may aggregate responsibilities for procurement of Local Capacity Area Resources. If a Load Serving Entity has procured Local Capacity Area Resources that satisfy generation capacity requirements for Local Capacity Areas, the Scheduling Coordinator for such Load Serving Entity shall include this information in its annual and monthly Resource Adequacy Plan(s).

Attachment C – Board of Governors Memorandum

Local Capacity Technical Study Criteria Update Tariff Amendment

California Independent System Operator Corporation

Memorandum

To: ISO Board of Governors

From: Keith Casey, Vice President, Market & Infrastructure Development

Date: November 6, 2019

Re: Decision on local capacity technical study criteria proposal

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This memorandum requires Board action.

EXECUTIVE SUMMARY

The local capacity technical study criteria is used annually by the ISO to establish local capacity requirements. The existing local capacity technical study criteria, which are set out in the tariff, pre-date the development of the North America Electric Reliability Corporation (NERC) mandatory standards and have remained unchanged from when they were first developed in the 2005-06 time frame. Consequently, they are not consistent with NERC mandatory standards as those standards were developed and evolved, nor with evolving standards developed by the Western Electricity Coordinating Council (WECC) and the ISO. The ISO proposes to align the local capacity technical study criteria for both the bulk electric system (BES) and non-BES with the mandatory NERC, WECC, and ISO's own planning standards.

Management recommends that the Board approve the updates to the local capacity technical study criteria described herein and in Attachment 1 to this memorandum and authorizes Management to develop the necessary tariff revisions.

Management recommends the following motions:

> ***Moved, that the ISO Board of Governors approves the proposed updates to the local capacity technical study criteria as described in the memorandum dated November 6, 2019; and***
>
> ***Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposal described in the memorandum, including any filings that implement the overarching initiative policy but contain discrete revisions to incorporate Commission guidance in any initial ruling on the proposed tariff amendment.***

DISCUSSION AND ANALYSIS

The local capacity technical study criteria was initially developed through the local capacity technical study advisory group, which was formed by the ISO to assist the ISO in its preparation for performing local capacity technical studies prior to the start of the resource adequacy program. They were subsequently included in the tariff, and approved by FERC.

The local capacity technical study criteria was established and included in the tariff before NERC mandatory standards were formed and represented a subset of the NERC voluntary standards established at the time.

Since the 2005-06 timeframe, NERC standards have become mandatory. Furthermore they have changed in form and substance. During these years the WECC regional standards and the ISO's own planning standards have also changed and evolved.

The ISO proposes to update the local capacity technical study criteria in order to align it with changes already implemented in the NERC, WECC and ISO standards over time. These include:

- Updating category definitions to align with current standards;
- Updating bulk electric system voltage level; and
- Aligning the local capacity technical criteria with mandatory NERC, WECC and the ISO's planning standards.

First, the ISO is proposing to replace the old reference and characterization (category A, B, C and D contingencies) with the new reference and characterization (planning events P0 through P7 and extreme events) to avoid confusion and more easily correlate the local capacity technical study criteria to the current applicable standards.

Second, the ISO proposes to align the local capacity technical study criteria for non-BES elements with current planning practice for the appropriate voltage levels by adjusting performance requirements for those elements to align with the ISO planning standards, rather than the NERC mandatory planning standards. NERC has adopted a new and different definition of BES than the one that was available when the local capacity technical study criteria was established. This new NERC definition of BES generally results in more elements that are *no*t defined as BES (generally <100 kV), and to which NERC does not require application of the mandatory standards. Non-BES elements in the ISO control area are now planned only to meet ISO standards, and these standards are less stringent than both the NERC mandatory standards for BES and the existing local capacity technical study criteria.

Third, the ISO proposes to fully align the local capacity technical criteria for BES facilities with more stringent mandatory standards requirements of NERC, WECC and the ISO's planning standards, consisting of aligning both the categories of contingencies to be studied, and the

associated performance requirements. As well, one local capacity technical study criterion that is more stringent than the NERC mandatory standards' minimum performance requirements will be partially relaxed and clarified. This relates to the necessity to mitigate potential voltage collapse or dynamic instability due to single contingency outages followed by common mode contingency outages that could result in voltage collapse or dynamic instability.

POSITIONS OF THE PARTIES

Between May and October 2019, ISO staff conducted two stakeholder calls and one in-person stakeholder meeting, with an opportunity to provide written comments after each step. Few stakeholders provided written comments, with the majority of comments expressing support for aligning the local capacity technical study criteria with the mandatory NERC, WECC and ISO standards. Management published the draft final proposal on September 5, 2019.

CONCLUSION

Management requests Board approval of the updates to the local capacity technical study criteria described herein and in Attachment 1. Aligning the local capacity technical study criteria with the mandatory standards will provide a higher transparency and visibility to all local requirements and will align local capacity requirements with transmission planning activities.

Difference between the mandatory standards vs. local capacity criteria.

Contingency Component(s)	Mandatory Reliability Standards	Existing Local Capacity Criteria	Proposed Local Capacity Criteria
P0 – No Contingencies	X	X	X
P1 – Single Contingency			
1. Generator (G-1)	X	X[1]	X[1]
2. Transmission Circuit (L-1)	X	X[1]	X[1]
3. Transformer (T-1)	X	X[1,2]	X[1]
4. Shunt Device	X		X
5. Single Pole (dc) Line	X	X[1]	X[1]
P2 – Single contingency			
1. Opening a line section w/o a fault	X		X
2. Bus Section fault	X		X
3. Internal Breaker fault (non-Bus-tie Breaker)	X		X
4. Internal Breaker fault (Bus-tie Breaker)	X		X
P3 – Multiple Contingency – G-1 + system adjustment and:			
1. Generator (G-1)	X	X	X
2. Transmission Circuit (L-1)	X	X	X
3. Transformer (T-1)	X	X[2]	X
4. Shunt Device	X		X
5. Single Pole (dc) Line	X	X	X
P4 – Multiple Contingency - Fault plus stuck breaker			
1. Generator (G-1)	X		X
2. Transmission Circuit (L-1)	X		X
3. Transformer (T-1)	X		X
4. Shunt Device	X		X
5. Bus section	X		X
6. Bus-tie breaker	X		X
P5 – Multiple Contingency – Relay failure (delayed clearing)			
1. Generator (G-1)	X		X
2. Transmission Circuit (L-1)	X		X
3. Transformer (T-1)	X		X
4. Shunt Device	X		X
5. Bus section	X		X

P6 – Multiple Contingency – P1.2-P1.5 system adjustment and:			
1. Transmission Circuit (L-1)	X	x	X
2. Transformer (T-1)	X	x	X
3. Shunt Device	X		X
4. Bus section	X		X
P7 – Multiple Contingency - Fault plus stuck breaker			
1. Two circuits on common structure (L-2)	X	X	X
2. Bipolar DC line	X	X	X
Extreme event – loss of two or more elements			
Two generators (Common Mode) G-2	X[4]	X	X[4]
Any P1.1-P1.3 & P1.5 system readjusted (Common Mode) L-2	X[4]	X[3]	X[5]
All other extreme combinations.	X[4]		X[4]

[1] System must be able to readjust to a safe operating zone in order to be able to support the loss of the next contingency.

[2] A thermal or voltage criterion violation resulting from a transformer outage may not be cause for a local area reliability requirement if the violation is considered marginal (e.g. acceptable loss of facility life or low voltage), otherwise, such a violation will necessitate creation of a requirement.

[3] Evaluate for risks and consequence, per NERC standards. No voltage collapse or dynamic instability allowed.

[4] Evaluate for risks and consequence, per NERC standards.

[5] Expanded to include any P1 system readjustment followed by any P7 without stuck breaker. For voltage collapse or dynamic instability situations mitigation is required "if there is a risk of cascading" beyond a relatively small predetermined area – less than 250 MW - directly affected by the outage.