

**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 2019 and 2020 Compliance Years

Rulemaking 17-09-020  
(Filed September 28, 2017)

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION  
COMMENTS ON LOCAL CAPACITY REPORT**

The California Independent System Operator Corporation (CAISO) is providing comments on the 2019 Final Local Capacity Technical Analysis (Final LCR Study) pursuant to the Assigned Commissioner and Administrative Law Judge’s Joint Ruling Modifying Track 1 Schedule (Ruling). The CAISO’s comments respond to San Diego Gas & Electric Company’s (SDG&E) comments on the Draft Local Capacity Technical Analysis filed on May 4, 2018, in this proceeding. The CAISO takes this opportunity to clarify concerns raised by SDG&E.

SDG&E’s comments to the Commission on the draft local capacity requirement (LCR) results primarily relate concerns regarding the CAISO’s approach to studying the San Diego-Imperial Valley (SD-IV) and Los Angeles (LA) Basin local areas. In these comments, the CAISO addresses each of the recommended findings proposed by SDG&E,<sup>1</sup> which are reproduced below.

*SDG&E Recommended Finding 1: The CAISO should perform additional separate studies for the Greater SD-IV area and LA Basin area.*

Based on input from the stakeholders during last year’s local capacity study process, the CAISO created two study cases for the 2019 local capacity studies: (1) one reflecting LA Basin peak demand with corresponding simultaneous load for SD-IV; and (2) another that reflects SD-IV peak demand with the corresponding simultaneous load for the LA Basin. The CAISO used the California Energy Commission’s (CEC) hourly demand forecast as the basis for determining the peak hours for the LA Basin and the SD-IV areas. Creating two separate study cases based

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<sup>1</sup> SDG&E Comments, p. 5.

on the time of peak demand for each individual local area improves the accuracy in determining the local capacity requirements for each service area based on its peak demand.

As discussed on the CAISO's May 1, 2018 stakeholder call on the Final LCR Study results, the CAISO noted that SDG&E's transmission system is interconnected with other neighboring utilities within the Western Interconnection. As such, transmission studies are needed to be evaluated under an interconnected network system and not an "isolated system" in which the SDG&E system is separate from the other systems. Within an interconnected system, the SDG&E system benefits from the support of other systems under critical contingency conditions. For example, if the SDG&E system is "separated" from the LA Basin, the SD-IV area would not benefit from import flows that go through the LA Basin to support SDG&E's loads under an N-1-1 overlapping contingency of the ECO-Miguel and the Ocotillo-Suncrest 500kV lines. If the SD-IV area is studied as a separate system from the LA Basin area under that contingency (*i.e.*, with no support from the LA Basin), the LCR need for SDG&E would be 4,415 MW (*i.e.*, all of SDG&E's loads), in excess of the total need of 4,026 MW identified in the Final LCR study.

*SDG&E Recommended Finding 2: The CAISO should indicate all reasons for the slight reduction in local capacity need for the Greater SD-IV area despite a larger reduction in load forecast.*

As the CAISO mentioned in the Final LCR Study, there is only a slight reduction in 2019 LCR need for the SD-IV area compared to 2018 LCR need—despite a significant drop in the demand forecast—because the capacity values for solar generation resources in the SD-IV area are significantly lower than previous years. In the Commission's 2017 resource adequacy decision, it used an effective load carrying capacity (ELCC) to assign a capacity value to wind and solar resources. This ELCC methodology allocates a lower capacity value to solar generation resources (approximately 33.4% during the September peak load) because solar output declines during the peak demand hours that occur at a later time of the day and later month of summer. The lower capacity values for solar resources are particularly relevant in the SD-IV area because there are a significant amount of solar resources that are located at highly effective locations to mitigate the critical constraint that affects the LCR need for the overall SD-IV area.

To study the impact of the new ELCC values on the SD-IV LCR, the CAISO performed a sensitivity assessment with higher solar capacity values (using a 75% capacity value, similar to the value used prior to ELCC) and demonstrated that at that capacity value SD-IV LCR need would be reduced by 239 MW from the 4,026 MW in the Final LCR Study. This demonstrates that higher capacity values for generating resources in the most effective locations help reduce overall LCR need.

Another factor that increases the SD-IV LCR need is the significant expected generation retirement at Mandalay and Ormond Beach, as well as refined dispatch of resources based on contractual data.<sup>2</sup> In an interconnected power system network, significant changes in one area could potentially affect the other areas when there is not sufficient resource capacity in the most effective area to mitigate identified reliability concern in that local area. If there is sufficient resource capacity in the most effective area, that area would not be dependent on the changes in the other less effective areas.

*SDG&E Recommended Finding 3: The CAISO should use all available DR [Demand Response] in the final LCR Report.*

The CAISO notes that this an ongoing process that both the CAISO and the Commission are working to address. In the interim, the CAISO has agreed not to use its annual capacity procurement mechanism to backstop for deficiencies that are the result of differing CAISO and Commission methodologies for counting slow-responding demand response toward local resource adequacy requirements.

*SDG&E Recommended Finding 4: The CAISO should use maximum reliable phase shifter flow to minimize LCR.*

The phase shifter was installed to mitigate overloads on the El Centro Nacional de Control de Energía (CENACE<sup>3</sup>) controlled 230 kV lines west of La Rosita following the loss of the parallel 500 kV lines in the CAISO controlled system. The phase shifter is highly effective at mitigating these overloads, and this results in a substantial reduction in LCR. Currently, the LCR in the SD-IV area is needed to mitigate overloads on the Imperial Irrigation District (IID)-owned S-Line following the loss of the North Gila-Imperial Valley 500 kV line. The

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<sup>2</sup> Under the CAISO's LCR methodology, Qualifying Facilities and Municipally owned units are dispatched first, followed by units under long-term contracts, and finally units without long-term contracts.

<sup>3</sup> CENACE is the grid operator for Mexico's National Electricity System.

effectiveness of the phase shifter on reducing the flow on the S-line is minimal, and the CAISO market and operating practice for the phase shifter is to utilize it for mitigating flows on facilities where it is significantly effective. This is to avoid excessive readjustment of system flows on the CENACE and CAISO systems. Use of the phase shifter to change the direction of the natural flow of power on the CENACE controlled transmission lines through the CENACE balancing area to marginally reduce the S-line flow is beyond the current operating practice of using it only when it is significantly effective and would require CENACE concurrence. The CAISO will further consider this option, but it will not change the Final LCR Study.

*SDG&E Recommended Finding 5: The CAISO should provide all necessary non-confidential data to allow load-serving entities to run a separate LCR study.*

The CAISO provided this data to SDG&E in response to direct inquiries during the study process. The CAISO provided SDG&E with information regarding:

- Modeling the study cases with separate LA Basin and SD-IV area peak loads;
- Explanation for additional achievable photovoltaic (AAPV) figures provided as part of the CEC's managed peak load forecast;
- Details regarding renewable generation modeling in the SD-IV area;
- Details regarding how the CAISO modeled S line upgrades in the 2023 study case;
- Details regarding CAISO references to maximum import capacity (MIC) values used as study case assumptions; and

The CAISO has provided SDG&E with sufficient information to understand the results of the Final LCR Study. In addition, the CAISO also reviewed a separate study case prepared by SDG&E and provided feedback regarding on the differences between it and the CAISO's study case. The CAISO believes that it has sufficiently addressed SDG&E's informational concerns at this time.

Respectfully submitted,

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