

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

Order Instituting Rulemaking to Oversee the
Resource Adequacy Program, Consider
Program Refinements, and Establish Forward
Resource Adequacy Procurement Obligations.

Rulemaking 19-11-009
(Filed November 7, 2019)

**COMMENTS OF PACIFIC GAS AND ELECTRIC COMPANY (U 39 E) ON
THE DRAFT 2021 LOCAL CAPACITY TECHNICAL STUDY**

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I. INTRODUCTION

Pursuant to the schedule set forth in the *Assigned Commissioner’s Scoping Memo and Ruling*, dated January 22, 2020, as modified by the *E-Mail Ruling Modifying Track 2 Schedule for Local Capacity Requirement and Flexible Capacity Requirement Issues*, dated April 2, 2020, and in accordance with the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), Pacific Gas and Electric Company (“PG&E”) respectfully submits these comments on the *California Independent System Operator Corporation Draft Local Capacity Technical Analysis for 2021*, dated April 8, 2020 (“Draft 2021 LCR Report”).

II. DISCUSSION

PG&E previously provided comments directly to the California Independent System Operator Corporation (“CAISO”) on the Draft 2021 LCR Report, on March 31, 2020. The comments below mirror those previously provided to the CAISO.

A. PG&E Requests that CAISO Provide Additional Clarity for not Applying PG&E’s Spare Equipment Strategy That Would Result in a Lower LCR MW Need While Also Meeting the Reliability Standards

Through the CAISO’s process for establishing 2021 local capacity area requirements (“LCR”) for the Greater Bay Area, the CAISO has identified that an outage of both Metcalf 500/230 kilovolt (“kV”) #11 & #12 Transformer Banks (T-1-1) results in an overload of the remaining Metcalf 500/230 kV #13 Transformer Bank. This double three-phase transformer bank outage and resulting overload increased the LCR for the Greater Bay Area by roughly 1,800

megawatts (“MW”), which resulted in a total LCR for the Greater Bay Area of 6,353 MW, as calculated by the CAISO, as compared to last year’s study results of 4,550 MW. This increase is primarily due to a change in LCR criteria, in which CAISO now considers a T-1-1 (i.e. loss of a transformer followed by the loss of second transformer) in its calculation of the LCR. This double three-phase transformer bank outage was not considered in the previous LCR criteria, and PG&E believes that this three-phase transformer bank outage criteria should not be applied at the Metcalf 500 kV substation given PG&E’s layered and robust strategy for addressing the loss of high voltage transformers at the Metcalf substation as outlined in comments provided directly to the CAISO on the Draft 2021 LCR Report.¹

On April 9, 2020, CAISO provided the following response to PG&E’s spare equipment strategy:

The CAISO operators need to readjust the system within 30 minutes in order to prepare for the next most limiting contingency and while the PG&E plan is to replace a failed Metcalf transformer bank within 24 hours, its strategy is to rely on internal resources within the Bay Area in the interim. The CAISO must include those resources as required to meet the standards and therefore included in the LCR requirement. The CAISO will continue to work with PG&E planning and operations departments to explore options that can be implemented such that within 30 minutes after the loss of the transformer bank, the flows from Metcalf are diverted to other 500/230 kV stations serving the Bay Area in a manner that will result in reduction of local capacity requirement. PG&E should move forward expeditiously with rerates for the Metcalf 500/230 kV transformer banks if technical data supports such an action.²

PG&E requests that CAISO provide additional information in response to PG&E’s spare equipment strategy. PG&E notes that the North American Electric Reliability Corporation’s (“NERC”) reliability standard contemplates that: “When an entity’s spare equipment strategy

¹ CAISO, *2021 Local Capacity Technical Study Draft Report and Study Results*, dated April 7, 2020, available at <http://www.caiso.com/Documents/Draft2021LocalCapacityTechnicalReport.pdf#search=Draft%202021%20LCR%20Report>.

² CAISO, *Stakeholder Comments 2021 and 2025 Draft Local Capacity Technical Study Meeting Draft Results March 16, 2020*, dated April 9, 2020, p. 9, available at <http://www.caiso.com/Documents/ISOResponsestoComments-2021and2025DraftLocalCapacityRequirementsTechnicalStudyResults.pdf#search=draft%202021%20LCR%20report>.

could result in the unavailability of major Transmission equipment that has a lead time of one year or more (such as a transformer), the impact of this possible unavailability on System performance shall be assessed.”³

Further, the Federal Energy Regulatory Commission (“FERC”) in Order 693 also considered this same issue and discussed the relationship between transformer outages and a spare equipment strategy:

...the consideration of planned outages is inextricably linked with spare equipment strategy. Thus, if an entity’s spare equipment strategy for the permanent loss of a transformer is to use a “hot spare” or to relocate a transformer from another location in a timely manner, the outage of the transformer need not be assessed under peak system conditions. However, if the spare equipment strategy entails acquisition of a replacement transformer that has a one-year or longer lead time, then the outage of the transformer must be assessed under the most stressed system conditions likely to be experienced.⁴

In the case of PG&E’s spare equipment strategy at the Metcalf substation, both failed transformer banks would be back in-service well within the one-year period specified in the NERC standard and as contemplated in FERC Order 693.

It is also important to provide more information about the robust design of the 500/230 kV transformer banks. A single transformer bank is made up of three single-phase units. At locations such as Metcalf that have three transformer banks, there are two single-phase spare units to support the other nine units that make up the three transformer banks in the station. This means there are eleven phases total that are isolated from one another. If the first transformer bank (i.e. all three single-phase units) are out for planned maintenance, the next unplanned transformer outage would not be the loss of another transformer bank, but the loss of a single-phase unit that could be replaced by the available spares onsite. Given PG&E’s robust and layered 500/230 kV transformer bank spare equipment strategy, in which a failure of a transformer bank could be mitigated in mere

³ NERC, *Reliability Standards for the Bulk Electric Systems of North America*, updated January 2, 2020, TPL-001-5 — Transmission System Planning Performance Requirements pp. 3, 4, available at <https://www.nerc.com/pa/Stand/Reliability%20Standards%20Complete%20Set/RSCompleteSet.pdf>.

⁴ FERC, Docket No. RM06-16-000, Order No. 693, p. 444, available at <https://www.ferc.gov/whats-new/comm-meet/2007/031507/E-13.pdf>.

hours or the loss of a second transformer bank could be mitigated in a matter of weeks while keeping two 500/230 kV transformer banks energized, PG&E requests that CAISO provide additional clarity for not applying PG&E's spare equipment strategy that would result in a lower LCR MW need while also meeting the reliability standards.

III. CONCLUSION

PG&E appreciates the opportunity to provide these opening comments to the Draft 2021 LCR Report.

Respectfully Submitted,

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