

Rulemaking No.: 20-11-003
Exhibit No.: _____
Witness: J. Billinton
ALJ: Stevens
Commissioner: Batjer

Order Instituting Rulemaking to Establish
Policies, Processes, and Rules to Ensure
Reliable Electric Service in California in the
Event of an Extreme Weather Event in 2021

Rulemaking 20-11-003

**REPLY TESTIMONY OF JEFF BILLINTON
ON BEHALF OF
THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

January 19, 2021

Table of Contents

I.	INTRODUCTION	1
II.	NEED FOR AN INCREASED PLANNING RESERVE MARGIN	1
III.	CAISO STACK ANALYSIS.....	2
IV.	INTERCONNECTION CONCERNS	3
V.	CONCLUSION.....	4

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1 **I. INTRODUCTION**

2 **Q1. Have you previously provided testimony in this proceeding?**

3 **A1.** Yes, I provided opening testimony on January 11, 2021. My profession background is
4 provided therein.

5
6 **Q2. What is the purpose of your reply testimony?**

7 **A2.** My reply testimony addresses the following issues:

8 (1) The need for the planning reserve margin to include a six percent margin for
9 operating reserves;

10 (2) The need to closely review the assumptions and conclusions of the CAISO and
11 Southern California Edison Company (SCE) reliability analyses for summer 2021
12 resource needs; and

13 (3) Potential interconnection challenges and solutions for existing resources that can
14 provide additional capacity for summer 2021.

15

16 **II. NEED FOR AN INCREASED PLANNING RESERVE MARGIN**

17 **Q3. Please respond to party assertions that the planning reserve margin need not**
18 **include six percent for operating reserves.**

19 **A3.** To maintain reliability, the CAISO must comply with several North American Electric
20 Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC)
21 standards in real-time. Reliability Standard BAL-002-WECC-2a requires the CAISO to
22 carry approximately six percent of expected load as contingency reserves. In addition,
23 the CAISO needs unloaded capacity to meet operational needs like frequency response
24 and regulation under Reliability Standards BAL-003-2 and BAL-001-2.

25

26 The contingency reserves required under BAL-002-WECC-2a cannot be used for
27 operational needs other than contingencies, unless the CAISO is in an energy emergency
28 alert condition. Under these extraordinary conditions, the CAISO can designate as non-
29 spinning contingency reserves load that is not specifically designated as a demand

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1 response resource and that can be curtailed within 10 minutes if the resources normally
2 used to meet the non-spinning reserve requirement are unavailable. Although these
3 extraordinary conditions may occur in real-time operations, balancing authority areas like
4 the CAISO do not plan on moving into emergency conditions, and substituting load
5 curtailment as non-spinning reserves, as a deliberate strategy. Balancing authorities
6 cannot expect that firm load curtailment will always be available to substitute for non-
7 spinning reserves and, accordingly, the planning reserve margin must account for a six
8 percent contingency reserve requirement consistent with NERC and WECC standards.¹
9

10 In extreme situations, however, the CAISO will rely on preparing firm load for
11 contingency curtailment—if available—and firm load shedding would only be necessary
12 to preserve the 3% spinning contingency reserve.
13

14 **III. CAISO STACK ANALYSIS**

15 **Q4. California Community Choice Alliance (CalCCA) suggests the Commission hold a**
16 **workshop to reconcile the difference between the SCE and CAISO 2021 reliability**
17 **studies. Do you agree?**

18 **A4.** Yes, the Commission should hold a workshop to discuss the 2021 reliability studies. A
19 workshop will allow the CAISO and SCE to explain more fully their respective study
20 assumptions and parameters. It will also allow parties to ask questions about the analyses
21 in a forum that allows for an open exchange of information.
22

23 **Q5. Please respond to TURN’s suggestion that SCE’s loss of load expectation (LOLE)**
24 **analysis provides a more robust assessment of 2021 reliability than the CAISO’s**
25 **resource stack analysis.**

26
27 **A5.** Both the CAISO stack analysis and the SCE LOLE analysis can inform reliability needs
28 for summer 2021. The CAISO’s stack analysis assesses the existing and planned
29 resource capacity to meet the load plus an acceptable planning reserve margin (taking

¹ See January 13, 2021 Final Root Cause Analysis, pp. 22-23 (<http://www.caiso.com/Documents/Final-Root-Cause-Analysis-Mid-August-2020-Extreme-Heat-Wave.pdf>.)

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R.20-11-003**

1 into account contingency reserve requirements, load forecast variability and forced
2 outage rates) to ensure the CAISO can operate the system reliably within applicable
3 reliability criteria. Similarly, the SCE LOLE study models resource assumptions for
4 existing and planned generation, but it is significantly more complex and contains many
5 more input assumptions, which can increase uncertainty. In contrast, the CAISO stack
6 analysis examines the individual components of the planning reserve margin and the
7 resources available to meet critical hour resource needs. The CAISO's stack analysis
8 therefore provides detailed information regarding the system resource needs under the
9 most critical operating hours.

10
11 In both sets of analyses, variations in assumptions can significantly affect the outcome.
12 For example, the CAISO and SCE assumptions regarding reliance on uncontracted
13 import resources available to meet system peak conditions likely drives much of the
14 difference in the respective reliability findings. The Commission and parties should
15 review these assumptions and their importance in driving the findings of both the SCE
16 and CAISO analyses.

17
18 **IV. INTERCONNECTION CONCERNS**

19 **Q6. PG&E cautioned against relying on efficiency upgrades for summer 2021 reliability**
20 **that would result in that resource exceeding the output allowed under their**
21 **interconnection agreement unless the resource is already in the queue for**
22 **modifications to its interconnection agreement. Please explain process that may be**
23 **used to provide interconnection by summer 2021 and any steps the CAISO is**
24 **currently considering to expedite interconnection for summer 2021.**

25 **A6.** If a resource can make efficiency upgrades prior to summer 2021, these could benefit the
26 system. Regarding interconnection challenges, there are opportunities for such resources
27 to use the CAISO's independent study process to facilitate interconnection for the
28 increased energy-only resources. However, to obtain deliverability for the capacity
29 increase, the resource must utilize the CAISO cluster study process as part of the
30 Generator Interconnection and Deliverability Allocation Procedures. To address this, the
31 CAISO is considering modifications to allow resources to access interim deliverability, if

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1 available, even if the resource has not completed the interconnection cluster study
2 process.

3
4 **V. CONCLUSION**

5 **Q7. Please summarize your recommendations.**

6 **A7.** The Commission should adopt a reserve margin that adequately plans to maintain a six
7 percent operating reserve level, consistent with NERC and WECC standards. The
8 CAISO also recommends holding a workshop to consider the CAISO's resource stack
9 analysis as well as SCE's LOLE study. The workshop should inform the Commission's
10 decision to adopt a planning reserve margin adequate to meet summer 2021 needs.
11 Finally, the CAISO recommends existing facilities that can increase capacity for summer
12 2021 do so, and use existing processes to interconnect to the CAISO grid.

13
14 **Q8. Does this conclude your testimony?**

15 **A8.** Yes.
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