
**SENATE COMMITTEE ON ENERGY, UTILITIES AND
COMMUNICATIONS**

**Senator Steven Bradford, Chair
2023 - 2024 Regular**

Bill No:	AB 2368	Hearing Date:	7/2/2024
Author:	Petrie-Norris		
Version:	6/10/2024 Amended		
Urgency:	No	Fiscal:	Yes
Consultant:	Nidia Bautista		

SUBJECT: System reliability and outages

DIGEST: This bill makes various changes to the resource adequacy (RA) program and integrated resources plan (IRP) at the California Public Utilities Commission (CPUC) in order to address challenges with electricity supply reliability.

ANALYSIS:

Existing law:

- 1) Establishes and vests the CPUC with regulatory authority over public utilities, including electrical corporations. (Article XII of the California Constitution)
- 2) Requires the California Independent System Operator (CAISO), as a nonprofit, public benefit corporation, to conduct its operations consistent with applicable state and federal laws and consistent with the interests of the people of the state. (Public Utilities Code §345.5)
- 3) Requires the CAISO to ensure the efficient use and reliable operation of the transmission grid, as provided. (Public Utilities Code §345)
- 4) Requires the CAISO to perform a review following a major outage that affects at least 10 percent of customers of the entity providing the local distribution service, as provided. (Public Utilities Code §349)
- 5) Requires the CPUC, in consultation with the CAISO, to establish RA requirements for all load-serving entities (LSEs) and requires the CPUC in establishing those requirements to ensure the reliability of electrical service in California. Requires the RA program to facilitate the development of new generating, nongenerating, hybrid capacity and retention of existing generating, nongenerating, and hybrid capacity that is economical and needed for reliability. (Public Utilities Code §380)

- 6) Requires the CPUC to adopt a process for each LSE to file an IRP and schedule periodic update to the plan and require that LSEs ensure system and local reliability and require sufficient, predictable resource procurement and development to avoid unplanned energy supply shortfalls, as provided. (Public Utilities Code §454.52)
- 7) Defines “ex parte communication” to mean any oral or written communication between a decisionmaker and an interested person concerning any matter before the CPUC, as provided. Defines “interested person.” (Public Utilities Code §1701.1)

This bill:

- 1) Makes several findings and declarations regarding the need to ensure energy reliability as the state transitions to 100 percent zero carbon energy resources and renewable energy by 2045, including the challenges of climate change, the constrained market for energy resources, the need for improved reliability standards, and need for coordinated assessment and planning.
- 2) Authorizes the CAISO to amend its tariff, as deemed necessary and subject to approval by the Federal Energy Regulatory Commission (FERC), to be consistent with the efficient use and reliable operation of the transmission grid.
- 3) Requires the CAISO, if it finds that the primary cause of a major outage that affects at least 10 percent of customers of the local distribution service is the insufficient procurement of generation resources, to post the finding and recommendations for the procurement of necessary resources on its internet website and share the finding and recommendations with the CPUC, the State Energy Resources Conservation and Development Commission (California Energy Commission (CEC)), and the Legislature.
- 4) Requires the CPUC, in coordination, rather than in consultation, with the CAISO, to establish RA requirements for LSEs and would require the CPUC to ensure the reliability of electrical service in California sufficient to maintain a one-day-in-10-year loss-of-load expectation.
- 5) Requires the RA program to facilitate the development of new generating, nongenerating, and hybrid capacity and retention of existing generating, nongenerating, and hybrid capacity that is economical, needed for reliability, and needed to achieve the state state’s policy of achieving 100 percent renewable energy and zero-carbon resources by 2045.

- 6) Requires the CPUC in establishing RA requirements to assess if there is sufficient capacity available for procurement in the short-term and mid-term, defined as the period between two and five years in the future, by all LSEs to meet their requirements. Requires where supply sufficiency is inadequate to meet the RA requirements providing phase-in periods to align increases in RA requirements with increases in available supply, prioritizing resource development or retention consistent with facilitating development and retention of generating and non-generating resources needed for reliability.
- 7) Requires the CPUC, on a biennial basis, to assess short-term, midterm, and long-term reliability by conducting specified modeling and reviewing the results of the reliability modeling in a public proceeding.
- 8) Excludes from the definition of “interested person,” within a CPUC proceeding, the CAISO, when the CAISO consults with the CPUC on matters of reliability or when sharing market-sensitive or confidential data.

Background

Resource adequacy (RA). Following the California energy crisis of 2000-01, the California Legislature enacted legislation to prevent future incidents of widespread blackouts and rolling brownouts due to lack of electric generating capacity. Among the reforms adopted in response to the crisis was the adoption of Public Utilities Code §380 as an effort to better ensure reliability of electric supply. The statute directs the CPUC, in consultation with the CAISO, to establish RA requirements for all LSEs, including electric IOUs, electric service providers (ESPs), and now includes community choice aggregators (CCAs), which did not exist at the time of the crisis. The current RA program consists of system, local, and flexible requirements for each month of a compliance year. In October of each year, LSEs must demonstrate that they have procured 90 percent of their system RA obligations for the five summer months (May-September) of the following year, as well as 100 percent of their local requirements, and 90 percent of their flexible requirements for each month of the coming compliance year. The CPUC has adopted changes to RA program in recent years, including increasing the planning reserve margin from 15 percent to 17 percent by 2024 for all LSEs and in the case of electric IOUs upwards of 20-22 percent effective planning reserve margin. The CPUC has required a multi-year local capacity RA requirement and recently adopted local capacity requirements for the upcoming three years. The CAISO conducts a *Local Capacity Technical Analysis* to identify the minimum local resource capacity required in each local area to meet energy needs used a 1-in-10 weather year and N-1-1(emergency) contingency. The CPUC also assesses

penalties on the LSEs who fail to satisfy their RA obligations, including limiting the expansion of CCAs if they are deficient in their RA requirements. The CPUC is also in the midst of a significant change to the RA program by implementing a slice-of-day framework that assesses the hourly use of resources. The CPUC has been developing the slice-of-day structure for a few years and is now on the cusp of rolling out the new framework for 2025's RA program. Just this month, the CPUC adopted a 17 percent planning reserve margin for the slice-of-day framework, consistent with previous planning reserve margins.

SB 100 (De León, 2018). SB 100 established the state's target to meet 100 percent of the state's electricity retail load with renewable and zero-carbon resources by 2045. SB 1020 (Laird, Chapter 361, Statutes of 2022) established interim goals to meeting the SB 100 target, specifically requiring 90 percent of retail sales by 2035, 95 percent by 2040 to be met with renewable and zero-carbon energy resources. SB 100 Joint Agency Report evaluates the challenges and opportunities in implementing SB 100. It includes an initial assessment of the additional energy resources and the resource building rates needed to achieve 100 percent clean electricity, along with the associated costs. It uses a computer model to analyze these factors under various conditions and technologies. The report is scheduled to be updated every four years. The first report issued on March 2021 identified preliminarily that on average the state may need six gigawatts of new renewable and energy storage annually to meet the SB 100 goals.

IRP process. SB 350 (De León, Chapter 547, Statutes of 2015) required each LSE to file a biennial IRP for approval or certification by the CPUC. The CPUC combines all LSEs' IRPs to ensure the state is on its path to meet its clean energy procurement goals. Public owned utilities (POUs) are required to file their own IRPs with the CEC. The goal of the IRP is a two-year planning process to ensure that LSEs are meeting targets that allow the electricity sector to contribute to California's economy-wide greenhouse gas (GHG) emissions reductions goals and that helps to reduce overall costs. In most recent IRP decision, the CPUC adopted a 2023 portfolio that reduces 25 million metric ton (MMT) of GHG emissions by 2035, as compared to the previously adopted 38 MMT by 2030 planning target. The IRP is intended to forecast needs on a 10-year horizon. In this regard, the IRP is a forward-looking activity. As part of the IRP process, the CPUC has issued several procurement orders on LSEs (summarized in the table below) to address near-term and mid-term procurement needs. Within the procurement orders, the CPUC has directed central procurement for local RA and mid-term reliability by electric IOUs for customers, including those of other LSEs.

CPUC IRP Procurement Order	Total MW	Time Horizon (Calendar Years)
D. 19-11-016	3,300 MW	2021-2023
D. 21-06-035 Mid-Term Reliability (MTR)	11,500 MW	2023-2028
D. 23-02-040 Supplemental	4,000 MW	2026-2027
Cumulative Procurement	18,800 MW	2021-2028

Recent budget and other energy “insurance” actions. In response to energy capacity challenges during extreme heat events, including the rotating outages in August 2020, the Legislature, in collaboration with the Newsom Administration, adopted several measures throughout 2022, in addition to previously adopted measures, to continue to help shore-up California’s electricity supply against the impacts from extreme events. These measures include authorizing the extension of the Diablo Canyon Nuclear Power Plant, establishment of an Electricity Supply Strategic Reliability Reserve Program administered by the Department of Water Resources with nearly \$2.4 billion budget to procure capacity for extreme emergency events, additional reliability Demand Side Grid Support and Distributed Electric Backup Assets programs at the CEC, and development, if not appropriation, for a \$1 billion Clean Energy Reliability Investment Plan. Additionally, just last year, the Legislature and Governor authorized Department of Water Resources (DWR) to serve as central procurement entity if requested by the CPUC for specified long-lead time resources.

Comments

Need for this bill. According to the author: Our planning has not evolved to meet our rapidly changing climate and its impact on electric load, and the grid is not keeping pace with the rapid adoption of electric vehicles, heat pumps, and other electrification initiatives. ...A reliable grid is essential for meeting the state’s ambitious decarbonization goals and for supporting the growing electrification of transportation and buildings. ... AB 2368 addresses the fundamental issue of California's energy grid struggling to meet peak demand reliably, exacerbated by aging infrastructure and increased strain from climate-induced extreme weather events. The transition to 100% clean energy required by SB 100 has the potential to create reliability challenges unless it is managed methodically. The RA framework and the IRP process operate on different timelines using different planning standards and metrics, leading to a huge gap in assessing reliability. This disconnect hampers the California Independent System Operator's (CAISO) ability to ensure grid reliability, contributing to the state’s vulnerability to power outages during critical times.

Planning standard. This bill would indicate a need to establish a one-in-ten-year loss of load expectation (LOLE) planning standard within the RA program. The author and proponents contend that this is a common standard adopted across many other jurisdictions and also adopted within the IRP process. They note challenges of the CPUC affirming a particular standard for the RA program, relying more on a planning reserve margin that varies and where proponents struggle that the underpinnings are unclear. While this bill does not require the use of the one-in-ten LOLE, it does not require the 1-in-10 LOLE, it does give strong indication towards its use. While none of the comments have raised concerns with this particular standard, the Legislature may need to continue to monitor to ensure as the bill moves forward a clearer understanding of its application may be provided by the CPUC. Currently, the CPUC is undergoing the previously mentioned changes to RA with slice-of-day framework, stating they intend to use a 17 percent planning reserve margin. To the extent a 1-in-10 LOLE might further constrain the RA market, including driving up prices, the author and committee may wish to revisit this standard.

Medium-term supply assessment within RA program. As currently drafted this bill would require an assessment of supply sufficiency for midterm (two-five years out) within the RA program. Many stakeholders have raised concerns that such an assessment and related provisions signal mid-term procurement requirements. The author and proponents of the bill suggest they are not requiring procurement and have added intent language to this bill to clarify. However, the intent language does not seem to satisfy the concerns. Currently the CPUC has the authority to direct midterm procurement (and has within the IRP). Adding this assessment and related provisions in the RA program has raised many concerns which may be resolved by housing this assessment within the IRP. *Therefore, the author and committee may wish to amend this bill to move this assessment within the IRP and delete the related provisions.*

CAISO vs. CPUC role. Though not explicit, this bill attempts to tip the planning for RA towards a stronger role for the CAISO. The author and proponents are valid concerns to address supply reliability, including those actions identified after the 2020 rotating outages. However, caution is warranted to ensure the state retains the role to drive policy and reliability, including RA by having the CPUC maintain clear jurisdiction of this role. Unlike the CAISO, the CPUC is a state agency and one where costs to ratepayers are a prime consideration of policies, including RA. Additional provisions that give the CAISO exemption from ex parte rules at the CPUC do not seem necessary, as SB 1020 (Laird, Chapter 361, Statutes of 2022) already authorizes the CPUC and CAISO to share confidential information. *As such, the author and committee wish to delete provisions of the bill that unnecessarily shift some of the responsibility to the CAISO, including affording the*

CAISO exemption from ex parte rules within CPUC proceedings. The author and committee may adopt additional clarifying amendments to further clarify the findings and declarations.

Prior/Related Legislation

AB 1373 (E. Garcia, Chapter Statutes of 2023) made numerous changes to electricity policy, most notably, authorized the DWR to serve as a central procurement entity to procure energy resources in order to help the state meet its renewable and zero-carbon energy resources and reliability goals. The bill also includes numerous related and additional provisions.

AB 205 (Committee on Budget, Chapter 61, Statutes of 2022), among other things, authorized the DWR to contract for, purchase, finance or otherwise secure electrical generation to create additional capacity during extreme energy grid events, and established the Strategic Reliability Reserve to fund these actions.

SB 1158 (Becker, Chapter 367, Statutes of 2022) among its provisions, required the CPUC as part of the RA program to require every LSEs to annually report information regarding the sources of electricity and the emissions of greenhouse gases associated with those sources of electricity for RA requirements.

SB 1136 (Hertzberg, Chapter 851, Statutes of 2018) revised existing statute that required the CPUC, in consultation with the CAISO, to establish RA requirements for the state's electric "LSEs".

SB 618 (Bradford, Chapter 431, Statutes of 2017) required, explicitly, the IRPs of all LSEs to contribute to a diverse and balanced portfolio of resources needed to ensure a reliable electricity supply, meet certain environmental goals, and prevent cost shifting among LSEs.

SB 350 (De León, Chapter 737, Statutes of 2015), among other things, increased the RPS and directed the CPUC to develop a process by which LSEs submit IRPs to the CPUC for review or for certification.

FISCAL EFFECT: Appropriation: No Fiscal Com.: Yes Local: Yes

SUPPORT:

Clean Energy Buyers Association, Sponsor
Eco Equity
Environmental Defense Fund

Equinix, INC.
General Motors LLC
Independent Energy Producers Association, if amended
Microsoft Corporation
Prime Data Centers
Salesforce
Silicon Valley Leadership Group

OPPOSITION:

Alliance for Retail Energy Markets
NRG Energy

ARGUMENTS IN SUPPORT: Microsoft Corporation states:

California's electric grid has had multiple close calls over the past four years. We observe that California's ability to provide a reliable power source is at risk due to climate change and load growth, therefore creating a need to reform the framework that governs the planning and procurement of electric generation in California. We are pleased to see AB 2368 introduced to address how best to modernize the Resource Adequacy program at the Public Utilities Commission (CPUC) to meet the needs of our evolving grid. We support AB 2368 because our Resource Adequacy programs should provide certainty to the grid operator so that it can maintain reliability under all but the most extreme conditions. California is an outlier amongst modern electric grids in that we do not use a transparent planning standard, such as the widely adopted "one-in-ten loss-of-load expectation." This bill's adoption of such a standard would be a major step for California. California's grid is predicted to have critical capacity shortfalls for the next 3-5 years, yet the state does not have a formalized planning process to evaluate reliability within this time frame. We appreciate that this bill is aimed at this gap, which under the status quo could lead to grid emergencies and even blackouts. AB 2368 represents a vital step forward in ensuring grid reliability.

ARGUMENTS IN OPPOSITION: The Alliance for Retail Energy Markets states opposes the bill, stating:

AB 2368, however, risks unintended consequences of exacerbating coordination challenges by expanding the scope of the RA program under Pub. Util. Sec. 380 to include a new midterm assessment. A midterm reliability assessment within the RA program would duplicate midterm

needs assessments and associated requirements under the IRP process thereby exacerbating process overlaps and inter-proceeding conflicts. To address this concern, we propose the following amendment as a new subdivision under Pub. Util. Sec. 380: "Nothing in this section requires the commission to establish midterm resource adequacy requirements."

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