Date of Hearing: July 12, 2023

ASSEMBLY COMMITTEE ON UTILITIES AND ENERGY
Eduardo Garcia, Chair
SB 664 (Stern) – As Amended July 3, 2023

SENATE VOTE: 40-0

SUBJECT: Energy: reliability planning assessment: integrated energy policy report

SUMMARY: Requires the California Energy Commission (CEC) and the California Public Utilities Commission (CPUC) in their Joint Reliability Planning Assessment (JRPA) to account for the status of transmission projects, the status of approvals for new energy infrastructure projects, and the use of fossil fuels by certain facilities under contract with the Department of Water Resources (DWR). This bill among other requirements requires the CEC to publish on its internet website a tracking energy development dashboard that synthesizes and publishes the information included in the assessment.

Specifically, **this bill**:

1) Requires the JRPA to include the status of transmission upgrades and grid infrastructure capacity, CPUC approvals of applications for certificates of public convenience and necessity (CPCN) and permits to, applications for permits for projects from the CEC, the project queue at the California Independent System Operator (CAISO).

2) Requires the assessment to report on the use of fossil fuel by certain facilities constructed by, purchased by, or under contract with DWR as part of the Strategic Reliability Reserve, as specified.

3) Requires the CEC to ensure that the demand forecasts in the integrated energy policy report (IEPR) account for multiday extreme and atypical weather events.

EXISTING LAW:

1) Requires CEC on a biennial basis, to adopt an IEPR containing an overview of major energy trends and issues facing the state. The IEPR includes an assessment and forecast of system reliability and the need for resource additions, efficiency, and conservation that considers all aspects of energy industries and markets that are essential for the state economy, general welfare, public health and safety, energy diversity, and protection of the environment. (Public Resources Code § 25302)

2) Requires the CEC and the CPUC on or before December 15, 2022, and quarterly thereafter, the commission and the CPUC shall submit a JRPA to the Legislature. The assessment shall identify estimates for the electrical supply and demand balance, for the forward 5- and 10-year periods, under high-, medium-, and low-risk scenarios. The assessment shall identify loads and resources online and loads and resources expected by reliability year ending September 30. (Public Resources Code § 25233)

3) Establishes the Electricity Supply Strategic Reliability Reserve (SRR), maintained by DWR, to expand the resources capable of managing or reducing net-peak demand during

extreme events. The SRR provides funding to secure conventional generation, efficiency upgrades at existing natural gas plants, demand response, distributed generation, and long-duration storage. (Water Code §§ 80710-80712)

4) Creates the Strategic Reliability Reserve Fund, a continuously appropriated fund, for purposes of adding resources to the electrical grid to ensure electrical grid reliability and support the clean energy transition. Existing law authorizes the CEC to approve a contract, grant, or loan entered into for those purposes. (Public Resources Code § 25793)

FISCAL EFFECT: Unknown. Pursuant to Senate Rule 28.8, this bill did not receive a hearing in the Senate Committee on Appropriations due to a determination that any state costs of the bill are not significant. Recent amendments taken in the Assembly add new requirements for state agencies to update their quarterly assessment, which may impact previous cost estimates.

BACKGROUND:

Extreme Weather Events. Energy reliability in California is increasingly impacted by highly variable and extreme weather events driven by climate change. In 2020, two extreme heat waves impacted the western United States and strained electric system operations in California.[1] One of the heatwaves resulted in two days (August 14-15) of rotating outages in the CAISO territory. These outages marked the first time in nearly 20 years that such rotating outages occurred in California.[2] In 2021, dry conditions resulted in a wildfire in Oregon that impacted transmission lines that the state depends on for reliability, resulting in a loss of 3,000 megawatts (MW) of imports to the CAISO territory and 4,000 MW of overall import capacity to the state.[3] In 2022, California experienced record-high temperatures between August 31 and September 9. Specifically, on September 6, 2022, CAISO recorded a new record on energy demand, despite significant efforts to reduce load during this peak period.[4] Last year's budget included programs and funding to support electric grid reliability needs during extreme events when demand for electricity is high and supply may be limited, as has been experienced in recent years.

Clean Energy Reliability Investment Plan (CERIP, $1 Billion). Senate Bill 846 (Dodd, Chapter 239, Statutes of 2022) requires the CEC to develop a $ 1 billion investment plan—$100 million in 2023-24, $400 million in 2024-25, and $500 million in 2025-26—to support projects that would accelerate the deployment of clean energy resources to meet greenhouse gas (GHG) goals, support demand response, assist ratepayers, and address near- and mid-term reliability needs. Additionally, SB 846 requires the CEC and CPUC to develop a quarterly joint agency reliability planning assessment. The assessment is required to include estimates of supply and demand for the next 10 years under different risk scenarios, information on existing and new resources and delays, and a description of barriers to timely deployment of resources. The details of the CERIP are still being discussed as part of the 2023 budget package.

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[1]Berardelli, Jeff, "Another record-breaking heat wave is building in the West," CBS News, September 3, 2020; https://www.cbsnews.com/news/labor-day-weekend-heat-wave-forcast-western-united-states/
[2] Pg. 3, CAISO, CPUC, and CEC; "Preliminary Root Cause Analysis: Mid-August 2020 Heat Storm"; October 6, 2020; http://www.caiso.com/Documents/Preliminary-Root-Cause-Analysis-Rotating-Outages-August-2020.pdf
[3] Pg. 1, CEC: "Clean Energy Reliability Investment Plan"; https://www.energy.ca.gov/publications/2023/clean-energy-reliability-investment-plan; March 2023
[4] Ibid

*Provisions in AB 205.*AB 205 (Committee on Budget, Chapter 61, Statutes of 2022) contained a series of provisions that include:

- *Strategic Reliability Reserve program (SRR, $2.2 Billion).* In June 2022, AB 205 (Committee on Budget, Chapter 61, Statutes of 2022), AB 178 (Ting, Budget Act of 2022, Chapter 45, Statutes of 2022), and AB 180 (Ting, Budget Act of 2021, Chapter 44, Statutes of 2022) were signed into law. These three pieces of legislation collectively established the Electricity Supply Strategic Reliability Reserve Program (SRR),[5] which set forth new responsibilities and activities for DWR, separate from the State Water Project, to procure—or even outright own and operate—energy resources to provide backstop reliability for the CAISO balancing area. These resources are meant to operate "outside" of CAISO's market, meaning they do not regularly schedule into the market, and only operate during grid emergency events, as specified.

  For 2022 (which only encompassed 6 months of program development, given the June passage of the statute), DWR procured approximately 1.6 gigawatts (GW) of imported energy and 202 MW of emergency and temporary power generators,[6] with an allocated combined budget of roughly $249 million for the year.[7] The 2023 activities of the SRR include up to 171 MW of procured emergency and temporary power generation, as well as ongoing negotiations to include retiring once-through cooling natural gas powerplants into the SRR portfolio. Procurement of resources in the SRR is currently paid for through budget appropriation, with the Governor's January 2023 budget requesting an additional $800 million over 4 years after $1.5 billion was authorized in 2022 to stand up the program.[8] However, the longevity of such appropriation, and the longevity of the SRR itself, remains a topic of ongoing discussion.

- *Distributed Electricity Backup Assets (DEBA, $700 Million).* This program, administered by the CEC, provides incentives for certain distributed energy resources that can be used to support the state's electrical grid during extreme events. The CEC is still developing the program, which is intended to support zero- or low-emissions technologies such as fuel cells and energy storage at both existing energy facilities and new facilities, and efficiency upgrades to existing power generators. This program requires resources funded to be available to respond during an extreme event to support grid reliability.

- *Demand Side Grid Support (DSGS, $295 Million).* This program, administered by the CEC, provides customer incentives to reduce net electricity load during extreme events. In the summer of 2022, utilities began enrolling participants in the program, which pays customers to reduce their energy usage during summer peak evening hours when the electric grid is strained. The Administration reported in March 2023 that approximately

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[5] Confusingly, the administration uses the term Strategic Reliability Reserve (SRR) as an umbrella term for three programs – the Electricity Supply Strategic Reliability Reserve program mentioned here, the Demand Side Grid Support program, and the Distributed Electricity Backup Assets program.
[6] 202 MW represents total from both the 82MW from the ">5 MW" generator bucket and the 120MW from the State Power Augmentation Program.
[7] DWR, *Progress Report: Electricity Supply Reliability Reserve Fund*, January 31, 2023.
[8] Cornett, Sarah; LAO, *The 2023-24 Budget: Proposed Energy Policy Changes*, March 2023; https://lao.ca.gov/reports/2023/4735/Proposed-Energy-Policy-Changes-031023.pdf

300 MW had been enrolled over the summer into the program, with $14 million of the funds committed.

Integrated Energy Policy Report (IEPR). The CEC conducts an IEPR to forecast all aspects of energy industry supply, production, transportation, delivery, distribution, demand, and pricing. The CEC is then required to use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety. To carry out these assessments, "the Commission may require submission of demand forecasts, resource plans, market assessments, and related outlooks from electric, natural gas utilities, transportation fuel and technology suppliers, and other market participants."[9] The CEC is also required to publish a strategic plan for California's transmission grid and include it in the IEPR.[10] The CEC adopts the IEPR every two years with updates every other year.

Changes to IEPR after Extreme Weather Events. The CEC has instituted a number of changes to its demand forecasts since the August 2020 West-wide extreme heat wave when CAISO was forced to institute rotating electricity outages for its balancing authority area. Part of these efforts includes the CEC incorporating one-in-two-year weather events, one-in-five-year weather events, one-in-10-year weather events, and one-in-20-year weather events to better account for the impacts of climate change on electricity peak demand. For the 2023 IEPR forecast, the CEC is exploring shifting to a methodology that uses climate projections to develop the one-in-X peak demand forecast. The climate change projections account for the increasing frequency and intensity of extreme heat, and an increase in the number of consecutive days with extreme temperatures. As a longer-term project, the CEC is also looking into the electricity output impacts of extreme heat on generation resources, including solar photovoltaic and wind energy.

COMMENTS:

1) *Author's Statement*. According to the author, "Abundantly clear are that the worsening effects of climate change on California are resulting in more frequent and sustained extreme weather events. Most notably, the past three summers have resulted in searing temperatures across the West and all across California placing a tremendous strain on our energy grid, almost to the brink of collapse. Ensuring we have a resilient grid requires thoughtful planning, analysis and accurate modeling. The California Energy Commission (CEC) is tasked with developing an annual energy forecast with resource planning and capacity expansion modeling using hourly demand forecasts based on 1-in-2 weather years. However, in today's energy grid, atypical weather magnifies reliability risks because the availability of generation is increasingly weather-dependent. Essential to grid reliability, is ensuring the CEC includes in its demand forecasts an account for multiday extreme and atypical weather events."

2) *New Requirements.* As indicated in the background, energy planning processes span various state agencies to support timely deployment of clean resources. In the wake of weather-related extreme events over the last few years, additional funding has been authorized to increase energy planning and shore up additional resources needed during

[9] California Public Resources Code Section 25301(a)(2)
[10] California Public Resources Code Section 25324

the most extreme grid scenarios. One aspect of this increased focus on reliability planning has been the requirement of the CEC and CPUC to issue a joint report, the JRPA, detailing the various aspects of the energy market that impact system reliability. This bill adds new requirements to what the agencies need to report as part of reliability assessment and requires the assessment and related information to be published online by the CEC to provide greater public transparency and access. As such, this bill seems to reiterate efforts at various state agencies to gain greater access and insight into energy system information—especially as it pertains to reliability and resource development.

3) *Prior Legislation*

AB 205 (Committee on Budget), among its many provisions, established the SRR at DWR to fund procurement of backstop resources to provide reliability to CAISO's grid. Status: Chapter 61, Statutes of 2022.

SB 846 (Dodd) among its provisions required the development of the CERIP. Status: Chapter 239, Statutes of 2022.

SB 1020 (Laird) established interim targets to reach SB 100 clean energy goals and required state agencies to purchase 100 percent zero-carbon electricity by 2035 to serve their load, including obligations on State Water Project. Chapter 361, Statutes of 2022.

SB 423 (Stern) required the CEC to submit to the Legislature an assessment by December 31, 2023, of firm zero-carbon resources that support a clean, reliable, and resilient electrical grid and will help achieve the existing statutory goal of ensuring renewable energy and zero-carbon resources supply 100 percent of all retail sales of electricity to California customers by December 31, 2045. Chapter 243, Statutes of 2021.

SB 100 (De León) established the 100 Percent Clean Energy Act of 2017 which increases the RPS requirement from 50%by 2030 to 60%, and created the policy of planning to meet all of the state's retail electricity supply with a mix of RPS-eligible and zero-carbon resources by December 31, 2045, for a total of 100%clean energy. Chapter 312, Statutes of 2018.

REGISTERED SUPPORT / OPPOSITION:

Support

Clean Power Campaign
Elders Climate Action, Norcal and Socal Chapters
Fervo Energy
Form Energy

Other

California Municipal Utilities Association
Sempra Energy and Its Affiliates: San Diego Gas & Electric Company and Southern California Gas Company

Opposition

None on file.

COMMENTS:

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