

Date of Hearing: April 26, 2023

ASSEMBLY COMMITTEE ON UTILITIES AND ENERGY

Eduardo Garcia, Chair

AB 1358 (Muratsuchi) – As Amended April 6, 2023

SUBJECT: Renewable energy generation: transmission planning: report

SUMMARY: Requires the state energy agencies, as part of their joint report reviewing and evaluating the statewide 100% clean energy policy (SB 100, De León, Chapter 312, Statutes of 2018), to develop a statewide transmission plan to facilitate the timely attainment of the SB 100 Policy and the California Renewables Portfolio Standard (RPS) program targets. Requires the plan include a comparison of existing transmission with the transmission needed to achieve these policies; a description of the approximate amount and location of new transmission needed to achieve these policies; and any barriers to new transmission.

EXISTING LAW:

- 1) Establishes as the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of all retail sales of electricity to California end-use customers by December 31, 2045 and 100% of electricity procured to serve all state agencies by December 31, 2035 (SB 100 policy). Requires the California Public Utilities Commission (CPUC), in consultation with the California Energy Commission (CEC), the California Air Resources Board (CARB), and all California balancing authorities (BAs), to issue a joint report to the Legislature by January 1, 2021, and every four years after, reviewing and evaluating the 100% clean energy policy. (Public Utilities Code § 454.53)
- 2) Requires retail sellers and publicly owned utilities to increase purchases of renewable energy such that at least 60% of retail sales are procured from eligible renewable energy resources by December 31, 2030. This is known as the RPS. (Public Utilities Code § 399.11 et seq.)
- 3) Requires the CEC and CPUC to submit quarterly reports including information on existing and expected resources, including updates on interconnection status for renewable projects and delays. (Public Resources Code § 25233 (a)(5))
- 4) Requires the CEC, in consultation with the CPUC, California Independent System Operator (CAISO), transmission owners, users, and consumers, to adopt a strategic plan for the state's electrical transmission grid to ensure reliability, relieve congestion, and meet future growth in load and generation. (Public Resources Code § 25324)
- 5) Requires every investor-owned utility that owns transmission to annually identify and report to the CPUC any electrical transmission facility, upgrade, or enhancement that is reasonably necessary to achieve its Renewables Portfolio Standard (RPS) requirements looking out five years. (Public Utilities Code § 399.13 (a)(2)(A))
- 6) Requires the CPUC to consider the role of existing renewable generation, grid operational efficiencies, energy storage, and distributed energy resources in helping to ensure load-serving entities (LSEs) meet energy and reliability needs during peak demand, while reducing the need for new electricity generation resources and new

transmission resources in achieving the state's energy goals at the least cost to ratepayers. (Public Utilities Code § 454.52 (a)(2)(B)(3))

- 7) Establishes the CAISO as a nonprofit public benefit corporation and requires the CAISO to ensure efficient use and reliable operation of the electrical transmission grid consistent with achieving planning and operating reserve criteria. (Public Utilities Code § 345.5)

FISCAL EFFECT: Unknown. This bill is keyed fiscal and will be referred to the Committee on Appropriations for its review.

BACKGROUND:

The Integrated Resource Plan (IRP) (mid- to long-term procurement) – Since 2015, with the passage of SB 350 (De León, Chapter 547, Statutes of 2015), California regulators have worked to identify a diverse mix of resources to achieve our RPS goals. SB 350 requires the CPUC to adopt a process for each LSE to file an IRP starting in 2017 and for each publicly-owned utility (POU) to file an IRP by January 1, 2019. The goal of the IRP is to reduce the cost of achieving greenhouse gas (GHG) emission reductions by looking broadly at system needs, rather than at individual LSEs or resource types, in order to identify generation that reduces GHGs, improves reliability, and reduces overall cost. Compliance with the RPS program occurs separately, but in concert with, the resource mixes selected by LSEs' IRP filings.

The IRP operates on a 2-year planning cycle, and forecasts system needs 10 years into the future. The most recent IRP analysis identified almost 86 gigawatts (GW) of new resources needed by 2035,¹ arising from a mix of geothermal, land-based wind, offshore wind, solar, battery storage, pumped storage, and demand response.² This portfolio represents a more than doubling within 12 years of the current nameplate capacity on the system; an enormous goal.

SB 100 Report (long-term procurement planning) – While the IRP focuses on what energy mix is best suited to meet our GHG and reliability goals 10 years into the future, the Joint Agency SB 100 Report looks at a planning horizon 22 years out, to determine how best to implement the 100%-clean-electricity-by-2045 policy enacted under SB 100 (De León, Chapter 312, Statutes of 2018).³ The first SB 100 report was finalized in March 2021, and included analyses of many pathways to achieve the state's 2045 clean energy goal.⁴ The SB 100 Report will be updated every four years, with future work focused on system reliability,⁵ among other considerations.

Transmission Planning Process (TPP) – Each year, the CAISO conducts its TPP to identify potential system limitations as well as transmission projects in need of upgrades or new

¹ Pg. 47; 30 MMT scenario resource stack; CPUC, *Decision Ordering Supplemental Mid-term Reliability Procurement (2026-2027) and Transmitting Electric Resource Portfolios to CAIS for 2023-2024 TPP*; D. 23-02-040; February 23, 2023. <https://docs.cpuc.gov/SearchRes.aspx?DocFormat=ALL&DocID=502956567>

² Pg. 48; CPUC, D. 23-02-040; *Ibid.*

³ CEC, CPUC, & CARB; *2021 SB 100 Joint Agency Report: Achieving 100 Percent Clean Electricity in California: An Initial Assessment*; March 2021.

⁴ Pg. 12, *2021 SB 100 Report*.

⁵ Pg. 1, *2021 SB 100 Report*.

infrastructure in need of construction to improve reliability and efficiency.⁶ The TPP fulfills the CAISO's core responsibility to identify and develop solutions to meet the future needs of the electricity grid. The TPP relies on the CPUC's IRP process⁷ to identify the optimal mix of system-wide resources capable of meeting greenhouse gas planning targets for the electric sector.⁸ CAISO receives the IRP results as inputs into its TPP. In February 2022, the CPUC transferred the electric resource portfolios to the CAISO to begin the CAISO's 2022-2023 TPP.⁹ The CAISO also receives the CEC's demand forecast of electricity and natural gas sales, consumption, and peak and hourly electricity demand.

The development of the TPP entails an annual public stakeholder process that is conducted pursuant to the CAISO's FERC-approved tariff. It includes a three-phase process that leads to annual CAISO Board of Governors' approval of a transmission plan and associated transmission projects. There are three main categories of CAISO approved transmission projects:

- Reliability projects to meet federal standards;
- Policy projects to meet state policy goals (i.e., RPS-needed projects);
- Economic projects that reduce congestion, production costs, transmission losses, capacity requirements or other electric supply costs.

Following the CAISO Board's approval of a TPP, new projects that are identified as necessary go through a competitive solicitation process. Transmission developers – which may be public or investor-owned utilities or private, for-profit entities – apply for the project solicitation and those applications are evaluated on a number of qualifying criteria, including cost. The CAISO recently issued its draft 2022-2023 TPP on April 3, 2023,¹⁰ and identified 46 projects – at an estimated \$9.3 billion – needed for reliability and to meet state policy goals; four of these projects are eligible for competitive solicitation.¹¹ The draft plan is currently under stakeholder review, and requires CAISO board approval before any transmission is authorized.

CAISO's 20-Year Outlook – In early 2022, the CAISO published a study outside their normal TPP cycle to explore the longer-term grid requirements and options for meeting the State's GHG

⁶ There are other transmission planning efforts, including local capacity requirements, special studies, interregional transmission project, and others that are not mentioned here for sake of clarity.

⁷ Called for under SB 350 (De León, Chapter 547, Statutes of 2015)

⁸ Via the Reference System Plan (RSP) and Preferred System Plan (PSP). The CPUC creates the Reference System Plan (RSP) to meet the electric sector target informed by the California Air Resources Board Climate Change Scoping Plan. The CPUC uses this RSP to establish filing requirements for the load-serving entities. The second year considers the procurement each load-serving entity proposes to meet these GHG targets. As each load-serving entity has its own local constraints to consider, each files its own plan. The CPUC reviews, modifies, and aggregates these individual load-serving entities' plans into a preferred system plan (PSP). Based on the approved PSP, the CPUC considers authorizing load-serving entities to procure resources within the next 1-3 years to meet GHG planning targets.

⁹ D. 22-02-004 *Decision Adopting 2021 Preferred System Plan*; R. 20-05-003; issued February 15, 2022; <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M451/K412/451412947.PDF>.

¹⁰ CAISO 2022-2023 *Draft Transmission Plan*.

¹¹ Pg. 7 CAISO 2022-2023 *Draft Transmission Plan*.

reduction and RPS objectives reliably and cost-effectively.¹² The CAISO embarked on this study to evaluate what transmission needs would be necessary to meet new resource development as required under SB 100 and the increase in demand from electrification of transportation and other industries. The CAISO noted the projected “transmission needs will range from high-voltage lines that traverse significant distances to access out-of-state resources, as well as major generation pockets, including offshore wind and geothermal resources located inside the state. Given the lead times needed for these facilities primarily due to right-of-way acquisition and environmental permitting requirements, the CAISO has found that the longer-term blueprint is essential to chart the transmission planning horizon beyond the conventional 10-year timeframe,”¹³ as used in the TPPs. The CAISO collaborated with the CEC and CPUC on the analysis. The resulting plan estimated over \$30 billion in cost would be needed to meet our 2045 clean energy goals; \$10.7 billion for upgrades to existing infrastructure, \$8.1 billion for offshore wind integration, and \$11.6 billion for out-of-state wind integration.¹⁴ The CAISO noted the *20-Year Outlook* would provide a baseline to guide long-term planning, but cautioned that resource planning and procurement will likely differ over the years relative to the assumptions made in the report.

Tracking Energy Development (TED) Task Force – The TED Taskforce is a recent joint effort of the CPUC, CEC, CAISO, and Office of Business and Economic Development (GO-Biz) to track new energy projects under development. According to the CPUC, the objective is to build on the success of ad hoc 2021 efforts to provide energy resource project development support, as appropriate, and identify barriers and mitigation strategies to accelerate energy project development. These include project tracking, interconnection tracking and support, and status updates on transmission development. Currently, the TED Taskforce is focused on near-term projects, with roughly 200 contracted projects needed for summer reliability in 2022 and 2024.

As part of the work of the TED Taskforce, the Transmission Development Forum, a CAISO-led initiative, began in 2022 to provide timely updates to generator developers, LSEs, and interested stakeholders about the status of specific transmission upgrades. As part of the Forum, the CAISO and CPUC host quarterly calls to increase understanding of transmission projects in the pipeline and likely in-service dates.

COMMENTS:

- 1) *Author’s Statement.* According to the author, “As California moves towards a renewable energy future, we must dramatically increase transmission buildout in the state. Some estimates have found that California will need to triple its transmission capacity by 2040 – a goal that is unattainable through the current transmission facility approval process. Many Californians have already begun to feel the effects of a strained grid through recent

¹² CAISO *20-Year Transmission Outlook*, January 31, 2022; <http://www.caiso.com/InitiativeDocuments/Draft20-YearTransmissionOutlook.pdf>

¹³ Pg. 1, *Ibid.*

¹⁴ Pg. 3, *Ibid.*

Public Safety Power Shutoffs and, in 2020, the first rolling blackouts in nearly 20 years. AB 1358 is an important step in understanding the actions that must be taken to achieve our renewable energy goals in a timely manner.”

- 2) *A New Plan.* This bill calls for the CPUC, CEC, and CARB to develop a statewide transmission plan to facilitate the timely attainment of the SB 100 Policy and the California Renewables Portfolio Standard (RPS) program targets. The plan would be submitted as part of the four-year SB 100 Report, which will next be delivered in 2025. Transmission development, as noted in the CAISO *20-Year Outlook* and the work of the TED Taskforce, is a key element in ensuring our statewide clean energy goals are met. The plan called for under this bill seems to align with these objectives.

Even the 2021 SB 100 report acknowledged the need, by noting future SB 100 reports would incorporate findings and outcomes from transmission planning and development efforts.¹⁵ However it is unclear why this bill calls for the transmission planning development to occur outside of CAISO, especially when CAISO has already begun the efforts with its *20-Year Outlook*. Statute requires the SB 100 Report to be developed “in consultation with all California balancing authorities (BAs)” which would be inclusive of CAISO, as well as other California BAs like Los Angeles Department of Water and Power and the Balancing Authority of Northern California. Perhaps collaboration is sufficient; or perhaps the author might consider modifying this bill to make explicit the state agencies can fully rely on the transmission planning expertise at CAISO and other BAs to develop any future transmission plans.

- 3) *Related Legislation.*

SB 319 (McGuire) would require the CEC, CPUC, and CAISO to jointly develop and recommend an expedited permitting roadmap that describes timeframes and milestones for a coordinated, comprehensive, and efficient permitting process for electrical transmission infrastructure. Status: *pending hearing* in the Senate Committee on Energy, Utilities and Communications.

- 4) *Prior Legislation.*

AB 2696 (Garcia, 2022) would have required the CEC, in consultation with other agencies, to conduct a study to review potential lower cost ownership and alternative financing mechanisms for new transmission facilities. Status: Died – Senate Committee on Appropriations.

SB 529 (Hertzberg) requires the CPUC to update its rules to allow each electric IOU to use an accelerated process for approval to construct an extension, expansion, upgrade or other modification to its existing electric transmission facilities. Status: Chapter 357, Statutes of 2022.

SB 100 (De León) established the 100 Percent Clean Energy Act of 2018 which increases the RPS requirement from 50% by 2030 to 60%, and created the policy of planning to

¹⁵ Pg. 21 2021 SB 100 Report.

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. Status: Chapter 312, Statutes of 2018.

REGISTERED SUPPORT / OPPOSITION:

Support

City of Culver City
Clean Power Campaign

Oppose

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

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