STATE OF CALIFORNIA — Public Utilities Commission
San Francisco

**M e m o r a n d u m**

**Date:** August 6, 2018

**To:** The Commission
(Meeting of August 23, 2018)

**From:** Hazel Miranda, Director
Office of Governmental Affairs (OGA) – Sacramento

**Subject:** **Commission Position on Energy Resource Legislation - *AB 2787 (Quirk): Long duration bulk energy storage: procurement*** *(amended 7/5/18)*

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**RECOMMENDED POSITION:** OPPOSE

**REASON:** AB 2787 (Quirk): Long duration bulk energy storage: procurement impacts the goals of the Integrated Resource Plans (IRPs) and compromises its holistic approach by favoring a specific clean energy resource. SB 350 (de Leon, Chapter 547, Statutes of 2015), requires the CPUC to adopt a process for integrated resource planning that looks for a balanced energy resource portfolio that meets California's greenhouse gas (GHG) emission reduction goals while maintaining reliability at the lowest possible costs to ratepayers. In compliance with SB 350 (de Leon), the California Public Utilities Commission (CPUC) adopted Decision 18-02-018 on February 8, 2018 formally establishing the IRP process and setting California's electric sector on a path to reducing GHG emissions 50 percent from 2015 levels by 2030.

A critical outcome of the IRP process is to better optimize clean energy resources so that GHG emission reduction targets are met at the lowest possible cost to ratepayers. Granting certain types of energy resources procurement priority works against the objective of the IRPs, specifically the requirement that the CPUC identify a "diverse and balanced portfolio of resources" (Public Utilities Code Section 454.51). Creating a pool of clean energy resources and making it as inclusive as possible is important in achieving the important legislative requirements embodied in SB 350 (de Leon).

In the its February 8, 2018 Decision (D.18-02-018), the CPUC did adopt a "Reference System Portfolio" that was the result of modeling the optimal energy resource mix to meet California's GHG goals while maintaining reliability at the lowest possible costs. That plan did not include the resource identified in this bill that is being considered by the Legislature; however, that plan is intended to be guidance to each Load-Serving Entities (LSEs) - electric investor owned utilities (IOUs), community choice aggregators (CCAs) and electric service providers (ESPs) - and not a mandate on each LSE. Each

LSE recently completed their individual IRPs and filed them with the CPUC on August 1, 2018. The CPUC is currently reviewing these plans and comparing them to one another to ensure that the combination of the plans meets California's goals and the requirements of SB 350 (de Leon). While well intended, new Legislative energy resource procurement mandates will short circuit this process and could result in an energy resource mix that does not meet the goals established in SB 350.

## SUMMARY OF BILLS & STATUS

- ***AB 2787 (Quirk): Long duration bulk energy storage: procurement*** *(amended 7/5/18)*

  Status – Senate Rules Committee (as of 7/5/18)

  1) Requires the California Independent System Operator (CAISO), to complete a process for the procurement of long duration energy storage projects that in aggregate have at least 1,000 MW capacity, but not more than 2,000 MW of capacity, except as provided.

  2) Requires the CAISO to develop a methodology for allocating the cost of that procurement (cost of service rate) to all LSEs within the CAISO-controlled electrical grid, as provided.

## CURRENT LAW

Existing law:

- Requires each electric investor owned utility (IOU) to file with the California Public Utilities Commission (CPUC) a proposed electricity procurement plan, and requires the CPUC to review and accept, modify, or reject that plan.
- The procurement plan must include, among other elements, a showing that the electric IOU will first meet its unmet resource needs through all available energy efficiency and demand reduction resources that are cost effective, reliable, and feasible. (PU Code Section 454.5)
- Requires the CPUC to: a) identify a diverse and balanced portfolio of resources needed to ensure a reliable electricity supply that provides optimal integration of renewable energy in a cost-effective manner. The portfolio shall rely upon zero carbon-emitting resources to the maximum extent reasonable and be designed to achieve any statewide greenhouse gas (GHG) emissions limit established pursuant to the California Global Warming Solutions Act of 2006; b) direct each electric IOU to include, as part of its proposed procurement plan, a strategy for procuring best-fit and least-cost resources to satisfy the portfolio needs identified by the CPUC; and c) ensure that the net costs of any incremental renewable energy integration resources

procured by an electric IOU to satisfy the need identified by the CPUC . (Public Utilities Code Section 454.51, emphasis added)

- Requires the CPUC to adopt a process for each Load-Serving Entity (LSE) – electric IOUs, community choice aggregators and electric service providers - to file an Integrated Resource Plan (IRP) to ensure LSEs meet the GHG emissions reduction targets for the electricity sector; procure at least 50 percent eligible renewable energy resources by December 31, 2030; enable each LSE to fulfill its obligation to serve its customers at just and reasonable rates; minimize impacts on ratepayers' bills; ensure system and local reliability; strengthen the diversity, sustainability, and resilience of the bulk transmission and distribution systems, and local communities; enhance distribution systems and demand-side energy management; and minimize localized air pollutants and other GHG emissions, with early priority on disadvantaged communities. (PU Code Section 454.52)
- Requires that the California Energy Commission (CEC) set statewide targets that will achieve a cumulative doubling of energy efficiency savings from all electricity and natural gas retail end-users by 2030, to the extent that is feasible, cost-effective and will not adversely impact public health and safety. (Public Resources Code Section 25310(c))
- Requires the CPUC to establish targets for all potentially achievable cost-effective electricity efficiency savings. (Public Utilities Code Section 454.55)
- Requires the CPUC to establish targets for all potentially achievable cost-effective natural gas efficiency savings; and that natural gas IOUs shall first meet their unmet resource needs through all available natural gas efficiency and demand reduction resources that are cost effective, reliable, and feasible. (Public Utilities Code Section 454.56)
- Requires each publically owned utility (POU) to adopt and regularly update an IRP substantially similar to the IRPs developed by LSEs, to be reviewed by the CEC. (Public Utilities Code Section 9621)
- Allows the CPUC to collect up to $83 million annually until December 31, 2019, and use these funds to provide incentives for distributed energy resources, including energy storage systems, until January 1, 2021. (Public Utilities Code Section 379.6)
- Directs the CEC and the CPUC, where feasible, to authorize procurement of resources to provide grid reliability services that minimize reliance on system power and fossil fuel resources and, where feasible, cost effective, and consistent with other state policy objectives, increase the use of large- and small-scale energy storage. (Public Utilities Code Section 400)
- Requires the CPUC to determine appropriate targets, if any, for LSEs to procure energy storage systems. Requires LSEs to meet any targets adopted by the CPUC by 2015 and 2020. Requires POUs to set their own targets for the procurement of

energy storage and then meet those targets by 2016 and 2021. (Public Utilities Code Section 2835 et seq.)

- Requires LSEs and POUs to comply with the Renewables Portfolio Standard and delegate's authority to CPUC and the CEC, respectively. (Public Utilities Code Sections 399.11 – 399.32)
- Requires all LSEs, including POUs, to procure 50 percent of their annual electricity retail sales from eligible renewable energy resources by 2030. (Public Utilities Code Section 399.11 et seq.)
- Requires the CPUC to evaluate the potential for all types of long duration bulk energy storage as part of a new or existing proceeding. (AB 33 (Quirk, Chapter 680, Statutes of 2016) Findings and Declarations)

## CRITICAL ANALYSIS:

The energy storage procurement mandate in AB 2787 (Quirk), if enacted, prematurely impacts the goals of the Integrated Resource Plans (IRPs) established by SB 350 (de Leon, Chapter 547, Statutes of 2015). The CPUC just adopted Decision 18-02-018 on February 8, 2018 that formally established the IRP process and set California's electric sector on a path to reducing greenhouse gas (GHG) emissions 50 percent from 2015 levels by 2030. Load-Serving Entities (LSEs) – electric investor owned utilities (IOUs), community choice aggregators (CCAs) and electric service providers (ESPs) – recently developed their individual IRPs and submitted them to the CPUC on August 1, 2018. There is no doubt that these individual IRPs have a heavy focus on clean energy resources such as renewable energy, energy efficiency, demand response, and energy storage. The CPUC's own modeling and adopted Reference System Portfolio shows a need for all LSEs to procure energy storage resources. However, any additional statutory clean energy procurement mandates will limit the ability of the CPUC, stakeholders, and sister agency partners to look at a full range of energy resource alternatives to find the optimal mix of clean energy resources needed to achieve California's pioneering GHG emission reduction goals.

A critical outcome of the IRP process is to better optimize clean energy resources so that GHG emission reduction targets are met at the lowest possible cost to ratepayers. Granting certain types of energy resources procurement priority works against the objective of the IRPs, specifically the requirement that the CPUC identify a "diverse and balanced portfolio of resources" (Public Utilities Code Section 454.51). Creating a pool of clean energy resources making it as inclusive as possible is important in achieving the important legislative requirements embodied in SB 350 (de Leon), most notably, the state's long-term GHG emission reduction goals.

This optimization of energy resources has required new modeling techniques that have been developed in the IRP proceeding to shift away from the current "siloed" energy resource procurement approach of setting goals for individual resources, specific

technologies, or specific geographic regions. A fundamental objective of the IRP process has been to generate a multi-LSE optimal resource portfolio that not only represents a technology-neutral analysis, but also accounts for the load served by both electric IOUs and other LSEs in California.

To meet the IRP requirements and objectives, the CPUC developed a Reference System Portfolio of energy resources to provide general planning direction for how LSEs and policymakers can achieve the state's GHG reduction goals at least cost, while ensuring electric service reliability. The Reference System Portfolio is to serve as "guidance" for LSEs and is not meant to be static. The inputs and assumptions (such as commercialization of new technologies, energy resource cost changes, procurement by LSEs etc.) will be updated every couple of years based on new data. The Reference System Portfolio helps identify the optimal mix of energy resources to achieve the states affordability, GHG reduction and electric service reliability goals, BUT the energy resources identified are not to be interpreted as definitive procurement mandates by LSEs, because the optimal mix of clean energy resources will likely change in future years based on new data and updates to the assumptions mentioned above.

That stated, when LSEs submit their individual IRPs, they must include at least one resource scenario that conforms to the Reference System Portfolio. However, they can also deviate from the Reference System Portfolio in their individual IRPs if they provide justification. For example, they may learn that the actual market price of an energy resource differs from that assumed in the IRP model, and adjust their portfolio accordingly. Therefore, each LSE procurement may result in an energy resource mix that differs from the Reference System Portfolio. From there, the CPUC reevaluates this portfolio every two-year IRP cycle based on new market information to help guide all LSE's in developing their individual IRPs in future years.

Thus, an energy storage procurement mandate in AB 2787 (Quirk), while laudable in its intent, actually works counter to the Legislature's foremost energy policy action from 2015 – SB 350 (de Leon). The CPUC continues to work with the CEC, California Air Resources Board and California Independent System Operator (CAISO) to coordinate IRP planning with the current joint agency forecasting and electricity system planning processes. Close and ongoing coordination with the CEC will be needed during the IRP portfolio generation process in particular, as the CEC is responsible for overseeing the IRP filing process for 16 publicly owned utilities. The CPUC will also continue to provide assumptions and energy resource scenarios to be used in the CAISO Transmission Planning Process, as electric transmission system development and/or expansion approvals could impact the optimal mix of resources in the IRPs.

## CUMULATIVE RATEPAYER IMPACT

**AB 2787 (Quirk)** would lead to substantial electric ratepayer cost increases because large bulk energy storage resources can cost in the hundreds of millions, if not, billions

of dollars to develop and operate long-term when other, likely more cost-effective, energy resource alternatives exist.

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***AB 2787 (Quirk): Long duration bulk energy storage: procurement** (amended 7/5/18) - http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB2787*