
**SENATE COMMITTEE ON ENERGY, UTILITIES AND
COMMUNICATIONS**
Senator Ben Hueso, Chair
2021 - 2022 Regular

Bill No: SB 839 **Hearing Date:** 3/14/2022
Author: Dodd
Version: 1/10/2022 Introduced
Urgency: No **Fiscal:** Yes
Consultant: Nidia Bautista

SUBJECT: Electricity: demand response

DIGEST: This bill expressly requires the state's largest electric utilities to administer a specific energy demand response program, the Base-Interruptible Program, requires the California Public Utilities Commission (CPUC) to implement a pilot economic demand response program, and repeals a defunct program.

ANALYSIS:

Existing law:

- 1) Establishes the CPUC has regulatory authority over public utilities, including electrical corporations. (California Constitution Article XII)
- 2) Requires each load-serving entity (LSE), defined as including electrical corporations, electric service providers (ESPs), and community choice aggregators (CCAs), to maintain physical generating capacity and electrical demand response adequate to meet its electrical demand requirements. (Public Utilities Code §380)
- 3) Requires the CPUC to ensure appropriate valuation of both supply and load modifying demand response resources. Requires the CPUC, in an existing or new proceeding, to establish a mechanism to value load modifying demand response resources, including, but not limited to, the ability of demand response resources to help meet distribution needs and transmission system needs and to help reduce a LSE's resource adequacy obligation pursuant to this section. Requires the CPUC, in determining this value, to consider how these resources further the state's electrical grid reliability and the state's goals for reducing emissions of greenhouse gases (GHG). (Public Utilities Code §380 (j))
- 4) Requires the CPUC to establish rules for how and when backup generation may be used within a demand response program and to establish reporting and data

collection requirements to verify compliance with those rules. (Public Utilities Commission §380.5)

- 5) Pursuant to existing law, the CPUC has authorized the state's three largest electrical corporations to offer reliability-based demand response programs, including the base interruptible program (BIP), which is available to qualifying nonresidential customers of an electrical corporation.
- 6) Establishes a preferred resource loading order with energy efficiency and demand response listed as first-choice resources. (Public Utilities Code §454.5)
- 7) Requires each electrical corporation to develop and offer to its customers the opportunity to participate in a demand reduction program, the Scheduled Load Reduction Program, and requires the CPUC to develop appropriate incentives for customers to participate in the program. (Public Utilities Code §760.10)

This bill:

- 1) Expressly requires each of the state's three largest electrical corporations to administer the base interruptible program, except for a large electrical corporation that had less than a five megawatts (MW) load reduction from enrolled customers (San Diego Gas & Electric).
- 2) Requires each of those large electrical corporations to make its base interruptible program available to its qualifying commercial, agricultural, and industrial customers regardless of the LSE that is those customers' supplier of electricity. Because this bill would require actions by those LSEs that are CCAs, this bill would impose a state-mandated local program.
- 3) Requires the CPUC to implement a pilot economic demand response program or optional rate design, to be administered by those large electrical corporations, in which base interruptible program participants may elect to participate, to operate for a four-year period, as specified.
- 4) Repeals the statute concerning the Scheduled Load Reduction Program.

Background

Demand response (DR). DR is defined as changes in electricity use by customers from their normal consumption pattern in response to changes in the price of electricity, financial incentives to reduce consumption, changes in wholesale market prices, or changes in electric grid conditions. DR is a way for customers to

help California manage its electricity demand. DR programs encourage customers to adjust their electricity usage (typically reducing use or shifting use to other times in the day) at certain times in response to economic incentives, price signals, or other conditions. Future DR may involve customers increasing their electricity usage when the electric grid has too much electricity generation from renewable resources, such as wind or solar resources. Effective DR programs provide California ratepayers with various economic and environmental benefits. These benefits include: avoiding the construction of new powerplants, avoiding the purchase of high-priced energy, providing greater reliability to the grid, and reducing damage to the environment from polluting resources.

DR programs have existed in different forms for many years and are considered a first-choice resource in the loading order, along with energy efficiency. Currently, DR programs are administered by California's three regulated electric IOUs: Pacific Gas & Electric (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E). Independent commercial entities known as 'aggregators' or 'Demand Response Providers' may also approach customers to offer DR services. Residential, commercial, agricultural and industrial customers can all participate in DR programs and receive incentives for their participation. The CPUC reviews the DR programs on a regular basis (every five years); the most recent decisions were on the 2018-2022 DR portfolios and budgets, D. 17-12-003, and on remaining application issues for the 2018-2022 DR portfolios, D. 18-11-029. The CPUC also sets resource adequacy requirements and refines the resource adequacy program every year; D. 20-06-031 is the most recent resource adequacy decision that addressed the topic of DR counting, with D. 19-06-026 being the previous decision.

Base-interruptible Program (BIP). BIP is a reliability emergency DR program for non-residential customers who can provide a minimum load reduction of 100 kilowatts (kw) during a grid interruption. BIP is offered by the three large electric IOUs – PG&E, SCE, and SDG&E. Most BIP participants are commercial and industrial customers involved in agriculture, mining/quarrying, and manufacturing. BIP may be called upon anytime of the year, 24 hours a day, including weekends under certain grid emergency conditions. BIP can be triggered by the California Independent System Operator (CAISO) or by local system emergencies. Participating customers receive a monthly capacity credit in exchange for a commitment to reduce energy consumption to their Firm Service Level (FSL). The FSL represents the customer's minimal operational requirements (15 or 30-minute notice of emergency events that could last up to six hours). During an event, if the customer deviates from the pre-committed load reduction amount, the customer is assessed a penalty of \$6,000/MWh they under-deliver. According to the CPUC, the IOU BIP portfolio currently has over 1,800 service accounts and 805 MW of

estimated capacity. BIP incentive rates vary by utility from SDG&E's \$6.30/kw, PG&E's \$10.50-11.50/kw, and SCE's \$12.81-19.82/kw. In 2021, the combined utilities spent nearly \$83 million on BIP payments, with the bulk coming from PG&E who spent \$22.4 million and SCE who spent \$60.5 million (SDG&E spent about \$44,000). BIP program costs are recovered through distribution rates charged to all distribution customers, therefore, borne by all bundled and unbundled customers of the corresponding electric utility.

August 2020 rotating outages. On August 14 and 15, 2020, the CAISO was forced to institute rotating electricity outages in California in the midst of a West-wide extreme heat wave. Following these emergency events, Governor Gavin Newsom requested the CAISO, CPUC, and California Energy Commission (CEC) report on the root causes of the events leading to the August outages. The rotating outages occurred after the period of gross peak demand, during the "net demand peak," which is the peak demand net of solar and wind generation resources. While there were multiple factors that led to the outages, for the purposes of this bill, BIP participants were called upon to shed load under an emergency triggered by the CAISO. BIP participants shed nearly 800 MW of load, roughly 80 percent of their participating loads. This load shed helped buffer the impacts of the rotating outages. While such an emergency is (and should be) rarely called, nonetheless, the performance of the BIP program depends on the view of whether it should be performing at 100 percent, or if an eighty percent performance is sufficient. From the perspective of a grid operator, a resource that counts towards resource adequacy, may only be triggered during an emergency, and is provided monthly capacity payments, the glass may be half empty with any performance below 100 percent. The CPUC is currently examining if financial penalties have been assessed and collected by the electric IOUs from the BIP participants over the years.

Post-August 2020 emergency actions. The CPUC has taken a number of emergency actions in preparation for summer 2021 and summer 2022 (R. 20-11-003) to reduce the risk of additional emergency electric system grid outages. As it relates to the BIP, the CPUC increased the BIP incentive levels for PG&E's customers by \$1/kw for peak months of the year (May – October) for 2022 and 2023. The CPUC also temporarily increased the cap for the program across the utilities from 2 percent to 5 percent and allowed year-round open-enrollment. In 2021, the CPUC created a new program, the Emergency Load Reduction Program (ELRP), to pilot a new DR approach to help avoid rotating outages during peak summer electricity usage periods from May thru October. The ELRP started in 2021 with commercial customer participation. In December 2021, the CPUC expanded the program to include residential customers for summer 2022 and beyond. ELRP is a five-year pilot program designed to pay electricity consumers

for reducing energy consumption or increasing electricity supply during periods of electrical grid emergencies. The purpose of the ELRP pilot is to offer a new tool for the electric grid operators and utilities for reducing energy consumption during a grid emergency to reduce the risk of electricity outages when the available energy supply is not sufficient to satisfy the anticipated electricity demand. An ELRP event is triggered or called by the IOUs only after declaration of a grid emergency by the CAISO's Alert, Warning, or Emergency process or a CAISO-issued Flex Alert, in some cases.

SB 839. This bill would codify the BIP into statute, thereby, requiring the state's largest electric utilities to continue to offer the program, except for SDG&E. This bill would also require the CPUC to establish an economic pilot demand response program for four years that would be available to BIP customers. This bill would require the CPUC to consider whether to revise the categorization of the BIP program from a supply-side program to a load-modifying program. Lastly, this bill would repeal the statute related to an effectively defunct program, the Scheduled Load Reduction Program.

Need for bill? The sponsors of this bill note their desire to ensure the BIP is maintained and continued. They express concerns that the benefits of the program for their customers, many who are energy-intensive industries, could be eliminated by a future CPUC decision to terminate the program. As a result, they would like to codify the BIP to prevent the CPUC from eliminating the program. As noted by supporters and opponents of this bill, the BIP is currently relied upon to help ensure electric grid reliability. The program's performance in the August 2020 grid emergency events, though not fully 100 percent, did help to buffer larger impacts to the grid. However, codifying the program eliminates the CPUC's discretion to ensure that DR programs are adjusted appropriately to respond to the conditions of the electric grid. As The Utility Reform Network (TURN) notes in its opposition, the evolving energy procurement portfolios and market conditions of the electric grid could mean that in the long-term the BIP is not necessary. In that respect, ratepayers could continue to pay capacity payments, at costs above wholesale energy procurement prices, for resources that may no longer be necessary. In this regard, the Legislature may wish to proceed with caution.

Pilot program needed? In addition to codifying the BIP, this bill would also require the CPUC to develop an economic pilot demand response program for four years that allows participation from BIP participants. It is unclear whether a pilot program is necessary at this time. Should this bill move forward the author may wish to allow the CPUC to make this determination as conditions of the electric grid continue to evolve. As noted above, the CPUC has recently made numerous changes to BIP, as well as other DR and related programs. It would seem wise to

allow the CPUC to continue to adjust programs, as needed, based on the benefits to all electric ratepayers and the conditions of the electric grid, among other factors.

Need for amendments. The author and committee may wish to amend this bill for additional clarity:

- *Replace “rolling blackouts” with “rotating outages,” in reference to the events of August 2020.*
- *Delete “within an hour” in Section 380.6 (a)(2), as the BIP program requires action within 15-, 20-, and 30- minutes notice, depending on the utility and the specific program.*
- *Delete “voluntary” in the definition of BIP, and reword sentence with “customers who elect to participate.”*

Prior/Related Legislation

SB 204 (Dodd, 2021) would have codify an existing reliability and emergency demand response program, known as the BIP. The bill would establish specified incentive requirements and conditions for the continued use of the program. The bill was held in Committee on Appropriations.

SB 1414 (Wolk, Chapter 627, Statutes of 2014) required utilities and regulators to include DR in resource adequacy plans, as specified.

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

SUPPORT:

California Large Energy Consumers Association, Sponsor
 California Efficiency + Demand Management Council
 California Farm Bureau
 California Manufacturers and Technology Association
 Southern California Edison

OPPOSITION:

The Utility Reform Network (TURN), unless amended

ARGUMENTS IN SUPPORT: According to the author:

Since the 1980s, industrial customers have contributed to California’s grid reliability by curtailing manufacturing when generation capacity becomes scarce or during transmission events which limit access to supply. The current

reliability or “emergency” demand response program is called the Base Interruptible Program (BIP).

The BIP is a proven insurance policy for the state, available on short notice when contingencies on the power grid occur. It is an emergency reliability program that historically is not called into use often, but it provides significant load reduction when critically needed. On August 14, 2020, California called on the BIP, and continued to call on the BIP for a total of five consecutive days, to help manage the extreme heat and electricity usage associated with the increased demand for air conditioning.

The BIP’s performance during the August and September 2020 events proves its importance and benefit to the residents of the state. BIP was also called in 2021. It makes sense to ensure the BIP is available as a necessary demand response resource for emergencies and to implement an economic demand response program to help balance the grid and reduce demand under normal conditions. Increasing demand response will be cheaper, and more efficient than over-procuring generating resources, storage, and balancing services to guard against any contingency, conceivable or not.

ARGUMENTS IN OPPOSITION: The Utility Reform Network (TURN) opposes this bill because it will enshrine the BIP in perpetuity. TURN expresses concerns that the BIP may not be necessary in the long-term as new technologies and markets become available. TURN objects to codifying the BIP program as it is one of several DR programs and because there have long been concerns regarding the cost effectiveness and design of the BIP. TURN argues that the selective treatment of the BIP is not justified except “to result in expensive bill credits for certain customers.”

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