DOCKETED	
Docket Number:	21-ESR-01
Project Title:	Resource Planning and Reliability
TN #:	256585
Document Title:	Rulemaking to Develop Regs for Capacity Payments
Description:	N/A
Filer:	Donnie Cox
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	5/29/2024 1:59:45 PM
Docketed Date:	5/29/2024

CALIFORNIA ENERGY COMMISSION

CALIFORNIA NATURAL RESOURCES AGENCY

California Energy Commission

STAFF REPORT

Prerulemaking for Capacity Payments

Implementation of Assembly Bill 1373

May 2024 | CEC-200-2024-009

California Energy Commission

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ABSTRACT

The California Energy Commission plans to initiate a rulemaking to implement Assembly Bill 1373 (Garcia, Chapter 367, Statutes of 2023). As required in the legislation, capacity payments will be assessed to publicly owned utilities in the California Independent System Operator balancing area that fail to meet their planning reserve margin in a month where the Electricity Supply Strategic Reliability Reserve Program resources are triggered to meet an identified reliability need. This report outlines the proposed timeline and implementation process.

Keywords: Reliability, California Independent System Operator, CEC, CPUC, California, Department of Water Resources, electricity, electricity system planning, planning reserve margin, capacity payment, load-serving entity, publicly owned utility

Please use the following citation for this report:

Yee Yang, Chie Hong and Kristen Widdifield. 2024. *Prerulemaking for Capacity Payments, Implementation of Assembly Bill 1373*. California Energy Commission. Publication Number: CEC-200-2024-009.

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EXECUTIVE SUMMARY

Assembly Bill (AB) 1373 (Garcia, Chapter 367, Statutes of 2023) creates a new penalty fee. Specifically, the bill requires the California Energy Commission (CEC) to assess payments, which is a fee collected from utilities from publicly owned utilities in the California Independent System Operator (California ISO) balancing area that fail to procure enough resources to meet customer demand and maintain adequate reserve resources for a month where the Electricity Supply Strategic Reliability Reserve Program resources were triggered to meet an identified reliability need. The Electricity Supply Strategic Reliability Reserve Program is implemented by the Department of Water Resources and provides additional generation capacity to support grid reliability. This report outlines the proposed timeline and implementation process.

Overview

As a result of the new legislation, the CEC, Department of Water Resources (DWR), and California Public Utilities Commission (CPUC) have defined their respective responsibilities regarding AB 1373 implementation. The CEC is authorized to promulgate regulations to implement the assessment of capacity payments to publicly owned utilities in the California ISO. As outlined in the legislation, the CPUC is similarly required to assess capacity payments for other load-serving entities in the California ISO balancing area. The CEC will keep its approach consistent with the CPUC as much as possible to ensure a balanced approach to the capacity payments.

Data and Method

Essential information required for the CEC to assess capacity payments includes data on whether the Electricity Supply Strategic Reliability Reserve Program was triggered for a reliability need and whether publicly owned utilities within the California ISO met their minimum planning reserve margin. DWR will inform CEC staff if the Electricity Supply Strategic Reliability Reserve Program is triggered for a reliability need for any given month. CEC staff will gather resource procurement cost data from the DWR. The monthly costs of resources procured by DWR are classified into administrative costs, DWR-owned generation costs, and costs associated with DWR-contracted generation. DWR owned resources are typically small, temporary natural gas generators, while contracted resources are utility-scale natural gas generators that had planned retirement dates before being contracted for the strategic reserve. Separately, the CEC will gather system resource adequacy showings submitted by the publicly owned utilities in California ISO territory to the California ISO as a starting point to determine whether a capacity payment to the state is warranted. The CEC may additionally collect information directly from the publicly owned utilities.

The capacity payment calculation for publicly owned utilities within the California ISO balancing area will be consistent as much as possible with the calculation for CPUC-jurisdictional load-serving entities. The calculation includes weighted monthly procurement costs for strategic reliability reserve resources, such as Enchanted Rock and Alamitos Generating Station, owned and/or contracted by DWR and each utility's system resource adequacy deficiency for the month that the Electricity Supply Strategic Reliability Reserve

Program is triggered for an identified reliability need. To calculate the unit cost, two-thirds of the weighting is allocated to costs from June through September, and the remaining one-third is allocated to costs from the remaining months. To determine each utility's capacity payment, this unit cost is then multiplied by each utility's capacity deficiency to its resource adequacy obligations during the same month the resources were used.

Implementation

The CEC will share the rulemaking process and anticipated outcomes during the May 31, 2024, prerulemaking workshop. The CEC will consider public comment and revise the regulations as appropriate before preparing the formal rulemaking documents and initiating the formal rulemaking. The CEC will assess the first capacity payments in early 2025, covering summer 2024. As outlined in statute, all capacity payments will be deposited into the DWR Local Publicly Owned Electric Utility Capacity Payment Account.

CHAPTER 1: Introduction

Background

Assembly Bill 205 (Committee on Budget, Chapter 61, Statutes of 2022) established the Strategic Reliability Reserve (SRR), a group of programs intended to support the state's electric grid during extreme and emergency events that fall outside typical planning standards. These resources may be called on by the state to provide incremental capacity additions or reduce load during an extreme event, when there could be insufficient energy resources to cover load.

The DWR manages the Electricity Supply Strategic Reliability Reserve Program (ESSRRP), which is one of three programs comprising the SRR. The CEC administers two additional programs, Distributed Electricity Backup Assets Program and Demand Side Grid Support Program. The SRR provides state funding to secure conventional generation, efficiency upgrades at existing natural gas plants, demand response[1], distributed generation[2], and long-duration storage[3]. The ESSRRP is being implemented by DWR via the Electricity Supply Reliability Reserve Fund (ESRRF) to provide additional generation capacity to support grid reliability. Actions taken by DWR to create the ESSRRP include extending the availability of existing generation plants planned for retirement and procuring temporary power generators. The combination of these ESSRRP resources provides more than 3,000 MW of generation capacity to support the grid in extreme events, such as heat waves and natural disasters.

Good utility practice includes planning for and contracting resources to meet demand under a variety of conditions. This practice is typically referred to as "resource adequacy." If load-serving entities or publicly owned utilities do not meet their resource adequacy obligations, this could threaten grid reliability, particularly during extreme events, such as excessive heat in California or westwide and wildfires that threaten transmission lines.

Assembly Bill 1373 (Garcia, Chapter 367, Statutes of 2023) established a new fee structure for publicly owned utilities (POUs) and load serving entities in the California Independent System Operator (California ISO) balancing area that fail to meet system resource adequacy

1 Demand response — Providing wholesale and retail electricity customers with the ability to choose to respond to time-based prices and other incentives by reducing or shifting electricity use, particularly during peak demand periods, so that changes in customer demand become a viable option for addressing pricing, system operations and reliability, infrastructure planning, operation and deferral, and other issues.

2 Distributed generation — A distributed generation system involves small amounts of generation located on a utility's distribution system for the purpose of meeting local (substation level) peak loads and/or displacing the need to build additional (or upgrade) local distribution lines.

3 Long-duration energy storage (LDES) is any system that is able to discharge energy at its rated power output for more than 4 hours.

requirements during a month where the ESSRRP[4] resources are triggered to meet an identified reliability need. The legislation requires the CEC to assess a capacity payment on each POU under such conditions and determine a capacity payment unit cost. The California Public Utilities Commission will determine capacity payments for its jurisdictional load serving entities. The legislation further authorizes the CEC to adopt regulations to implement these provisions and assess capacity payments by June 30, 2027.

4 Department of Water Resources. "Statewide Water and Energy," https://water.ca.gov/Programs/Statewide-Water-and-Energy.

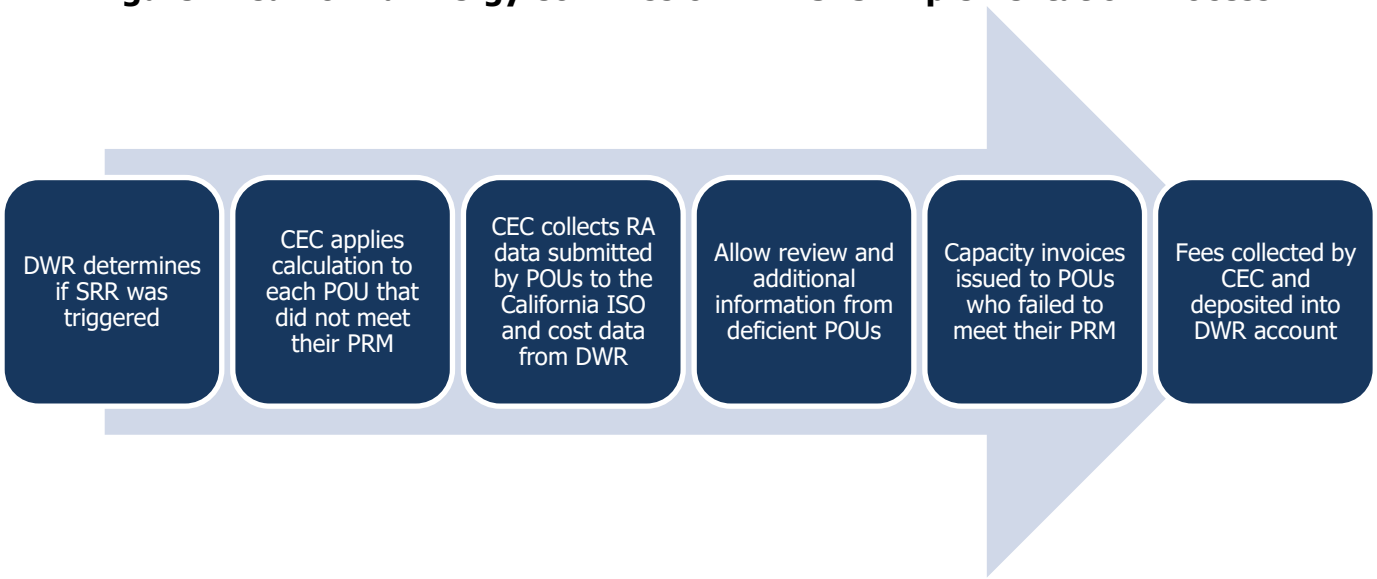
Statutory Requirements

As outlined in the legislation, three agencies have differing roles regarding implementing AB 1373. The DWR, CEC, and CPUC have defined responsibilities as follows:

- **DWR** will identify when resources have been called through the ESSRRP and if those resources are being used in a given month to meet an identified reliability need. DWR will also provide information on resource cost.
- **CEC and CPUC** are required to determine capacity payment calculation method based on the monthly cost of the resources procured using money from DWR's ESRRF relative to the capacity in which the load-serving entity was deficient in its system resource adequacy (RA) requirements on a proportional basis.
- **CEC** must assess capacity payments for each POU annually and deposit those payments into DWR's ESRRF.[5]
- **CPUC** must assess capacity payments for all CPUC-jurisdictional load-serving entities and annually deposit those payments into DWR's ESRRF.[6]

This report focuses on the CEC's responsibilities as outlined in the statute. Figure 1 provides a high-level visual of the AB 1373 implementation process.

Figure 1: California Energy Commission AB 1373 Implementation Process



Source: CEC

Proposed Implementation Timeline

5 The specific account is the Local Publicly Owned Electric Utility Capacity Payment Account.

6 The specific account is the Load-Serving Entity Capacity Payment Account.

On March 13, 2024, the CEC opened an order instituting rulemaking (OIR) to establish regulations for assessing and collecting capacity payments, as required by AB 1373. The OIR and all subsequent documentation related to this rulemaking will be made available in the CEC Docket No. 24-OIR-01. Staff will host a prerulemaking workshop May 31, 2024, to publicly share the rulemaking process, draft regulations, and anticipated outcomes. The CEC will seek feedback on the draft proposed regulations from stakeholders and may hold additional prerulemaking workshops, if necessary.

The CEC will incorporate and revise the regulations as appropriate before preparing the formal rulemaking documents and initiating the formal rulemaking. During the formal rulemaking, the CEC will accept public comment before finally submitting the proposed regulations for adoption at a future business meeting.

CHAPTER 2:
Data and Method

Obtaining Data and Applying Calculation

This chapter provides an overview of the data collection process and the method used for calculating capacity payments for publicly owned utilities within the California ISO balancing area. The subsequent sections will identify the data requirements, principles, calculation method, and opportunities for refinement.

There are two categories of information necessary for the CEC to determine whether capacity payments shall be assessed. Those categories include DWR procurement costs, and supply plans demonstrating whether POUs in the California ISO balancing area meet their RA obligation.

Costs

DWR has categorized the monthly costs of resources into three main categories: administrative costs, costs linked to DWR-owned generation, and costs associated with DWR-contracted generation. Administrative costs encompass staffing and other administrative expenses assigned to projects supported by the ESRRF. As mandated by AB 205, DWR was granted authorization to construct and own temporary and emergency generation to populate the ESSRRP, funded by the ESRRF. Lastly, DWR contracted capacity reflects the authorization granted under AB 205 to extend the operating life of existing generating facilities (for example, once-through-cooling plants) planned for retirement. DWR estimated costs assume certain performance criteria are met by contracted generators and exclude any offsets from net market revenues or capacity payments due to AB 1373. DWR staff estimate that the range of capacity payment unit cost is anticipated to be $30/kilowatt-month under a high-cost scenario for 2024.[7]

RA Showings

CEC staff will collect resource procurement cost data from DWR, and POU supply plans that each utility submitted to the California ISO. These reports and data will provide an essential baseline for the costs associated with resource procurement and development of the capacity payment. The POU supply plans, although confidential, are used specifically as a starting point for the CEC's analysis of potential deficiencies and ensuring accurate calculations. The data used to determine a deficiency and capacity payment will be made available to utilities that are found deficient for a month in which the ESSRRP is triggered to meet a reliability need. POUs found to be deficient for a given month will be allotted 30 days to provide additional information. This information could, for example, substantiate the correction of an error in the supply plan or of a contracted resource with a commercial operating date between the T-30

7 Assumes certain performance criteria are met by contracted generators and exclude any offsets from net market revenues or capacity payments due to AB 1373.

supply form submittal and the first day of the given month. The CEC may use the POU provided information to correct the calculation, if appropriate.

How Capacity Payment Is Calculated

The method for calculating capacity payments adheres to three core principles: transparency; accuracy and fairness; and consistency and accountability. Transparency is ensured through clear documentation of data sources, calculations, and adjustments, while maintaining confidential data as required. Accuracy and fairness are prioritized in data collection, calculations, and coordination with CPUC and the POUs. Consistency and accountability are maintained through the consistent application of the method across utilities and the establishment of clear accountability mechanisms, ensuring fairness in capacity payment determinations.

To start, data on the monthly costs of resources procured through DWR's ESRRF are collected. A weighted average is calculated for the capacity payment unit cost, reflecting the cost per kilowatt by month for reliability resources. Next, each utility's deficiency in its RA during the same month the resources were used is calculated. Finally, the capacity payment for each utility is determined by multiplying the capacity payment unit cost by the deficiency amount, in KW, per month The calculation is discussed in more detail below.

The calculation method for determining capacity payments per utility involves several key steps. As specified in Water Code Section 80714(b),[8] the monthly costs of resources for the entire calendar year, procured from the DWR's ESRRF, are weighed. The unit cost is by statute as a two-thirds weighting of costs incurred from June through September, with the remaining one-third to costs from the remaining months. The capacity payment unit cost will be calculated as follows:

$$Capacity\ Payment\ Unit\ Cost\ \left(\frac{\$}{kW}\right) = \frac{[(0.667 \times \sum Cost\ for\ June\ thru\ Sept.) + (0.333 \times \sum Cost\ for\ other\ months)]}{\sum Total\ Capacity\ Procured}$$

The monthly deficiency will be determined based on California ISO POU supply plans submitted by the POUs to the California ISO through the Customer Interface for Resource Adequacy for the 30-day compliance filing (T-30[9]) for each month the ESSRRP is triggered for a reliability need, as a starting point. The supply plans will be compared against total POU RA obligations to determine the magnitude of deficiency per each POU. For each month that the ESSRRP is triggered, the RA obligation is determined as the month ahead 1-in-2-year forecast[10] plus the month ahead 1-in-2-year forecast multiplied by the POU's planning reserve

8 California Water Code Section 80714(b), https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=WAT&sectionNum=80714.

9 T-30: 30 days before the compliance month.

10 A 1-in-2 forecast assumes there is a 50 percent probability that the forecasted peak will be less than actual peak load and a 50 percent probability that the forecasted peak will be greater than actual peak load.

margin minus any capacity credits. The capacity shown is defined as the sum of the net qualifying capacity of each resource included in the supply plan for that month. The monthly deficiency is calculated as the RA obligation minus the capacity shown for the month the ESSRRP is triggered. Capacity credits are any credited resources or program defined by the POU that do not have a specified net qualifying capacity. The formula for the monthly deficiency is:

$$RA\ Postion/Monthly\ Deficiency = [Total\ Shown\ RA - \left(Peak\ Demand + PRM - \sum Credits\right)]$$

In the above equation, positive RA is long or surplus, and negative RA position is short or deficient. The capacity payment unit cost and monthly deficiency are used in the below equation to determine the capacity payment for the month the ESSRRP was triggered.

$$Capacity\ Payment(\$) = (Capacity\ Payment\ Unit\ Cost)\ x\ (Monthly\ Deficiency)$$

Where, capacity payment unit cost is in ($/kW) and monthly deficiency is in (kW)

Proposed Implementation Timeline

On March 13, 2024, the CEC opened an order instituting rulemaking (OIR) to establish regulations for assessing and collecting capacity payments, as required by AB 1373. The OIR and all subsequent documentation related to this rulemaking will be made available in the CEC Docket No. 24-OIR-01. Staff will host a prerulemaking workshop May 31, 2024, to publicly share the rulemaking process, draft regulations, and anticipated outcomes. The CEC will seek feedback on the draft proposed regulations from stakeholders and may hold additional pre-rulemaking workshops if necessary. The CEC will incorporate and revise the regulations as appropriate before preparing the formal rulemaking documents and initiating the formal rulemaking. During the formal rulemaking, the CEC will accept public comment before finally submitting the proposed regulations for adoption at a future business meeting.

APPENDIX A:
Glossary

Demand response (DR)

Demand response refers to providing wholesale and retail electricity customers with the ability to choose to respond to time-based prices and other incentives by reducing or shifting electricity use ("shift DR"), particularly during peak demand periods, so that changes in customer demand become a viable option for addressing pricing, system operations and reliability, infrastructure planning, operation and deferral, and other issues. It has been used traditionally to shed load in emergencies ("shed DR"). It also has the potential to be used as a low-greenhouse gas, low-cost, price-responsive option to help integrate renewable energy and provide grid-stabilizing services, especially when multiple distributed energy resources are used in combination and opportunities to earn income make the investment worthwhile.

For more information, see the CPUC Demand Response Web page.

Electricity Supply Strategic Reliability Reserve Program

The Electricity Supply Strategic Reliability Reserve Program is part of the Strategic Reliability Reserve to provide additional generation capacity to support grid reliability. This program is administered by DWR.

Load-serving entity (LSE)

A load-serving entity is defined by the California Independent System Operator as an entity that has been "granted authority by state or local law, regulation or franchise to serve [their] own load directly through wholesale energy purchases." For more information see the California Independent System Operator's web page located at https://www.caiso.com.

Planning reserve margin (PRM)

Planning reserve margin (PRM) is used in resource planning to estimate the generation capacity needed to maintain reliability given uncertainty in demand and unexpected capacity outages. A typical PRM is 15 percent above the forecasted 1-in-2 weather year peak load, although it can vary by planning area. The CPUC's resource adequacy program is increasing the PRM requirement to 16 percent minimum for 2023 and 17 percent minimum for 2024 and beyond.

Publicly owned utility (POU)

Publicly owned utilities (POUs), or municipal utilities, are controlled by a citizen-elected governing board and uses public financing. These municipal utilities own generation, transmission, and distribution assets. All utility functions are handled by these utilities. Examples include the Los Angeles Department of Water and Power and the Sacramento

Municipal Utility District. Publicly owned utilities serve about 27 percent of California's total electricity demand.

Resource adequacy (RA)

The program that ensures that adequate physical generating capacity dedicated to serving all load requirements is available to meet peak demand and planning and operating reserves, either at, or deliverable to, locations as may be necessary to ensure local area reliability and system reliability. For more information, see the CPUC Resource Adequacy webpage located at https://www.cpuc.ca.gov/ra/.

APPENDIX B:
Acronyms and Abbreviations

AB – Assembly Bill

California ISO – California Independent System Operator

CEC – California Energy Commission

CPUC – California Public Utilities Commission

DWR – Department of Water Resources

ESRRF – Electricity Supply Reliability Reserve Fund

ESSRRP – Electricity Supply Strategic Reliability Reserve Program

IEPR – Integrated Energy Policy Report

IOU – investor-owned utility

LADWP – Los Angeles Department of Water and Power

LSE – load-serving entity

OIR – Order Instituting Rulemaking

POU – publicly owned utility

PRM – planning reserve margin

RA – resource adequacy

RPS – Renewables Portfolio Standard

SB – Senate Bill

SRR – Strategic Reliability Reserve