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Joint Agency Reliability Planning Assessment

SB 846 Third Quarterly Report

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ABSTRACT

The *Joint Agency Reliability Planning Assessment* (Reliability Planning Assessment) addresses requirements for electric system reliability reporting in Senate Bill 846 (Dodd, Chapter 239, Statutes of 2022). The report provides the third quarterly review of the demand forecast, supply forecast, and risks to reliability in the California Independent System Operator territory from 2023 to 2032, as required by SB 846. The report includes an updated analysis for summer 2023.

Keywords: Reliability, Reliability Planning Assessment, Diablo Canyon, SB 846, California ISO, CEC, CPUC, California, electricity, supply and demand, extreme weather, electricity system planning, stack analysis, summer reliability, resource procurement

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EXECUTIVE SUMMARY

Senate Bill 846 (Dodd, Chapter 239, Statutes of 2022) mandated the California Energy Commission (CEC) and California Public Utilities Commission (CPUC) to develop a quarterly joint agency reliability planning assessment. The assessment is required to provide the Legislature with updates on electric system demand and supply for the next 10 years, including an assessment of electric system reliability under different risk scenarios. The report is also required to provide information on the status of new resources and any delays or barriers to the resources being available to support reliability.

This document is the third quarterly report. The report provides only an update on the status of demand and new electricity supply for summer 2023 for the California Independent Operator (California ISO) territory and the resulting update to the summer 2023 reliability outlook analysis, including different risk scenarios. This report does not update the 5- and 10-year-forward projections or any additional recommendations to the Legislature.

Projected system conditions for this summer have varied from quarter to quarter as projects either come online earlier or later than projected. The conditions projected in this report have improved slightly since the February report but have declined by about 170 megawatts (MW) from the May report. For July and August 2023, the analysis shows surplus capacity under average and extreme weather conditions, such as those witnessed in the August 2020 heat wave (2020 equivalent event) and the September 2022 heat wave (2022 equivalent event). For September 2023, improvements in system conditions increase the surplus of resources expected under average conditions. Under a 2020 equivalent event, the September shortfall decreases to 400 (MW). In a 2022 equivalent event, the September shortfall decreases to 2,000 MW. Under similar extreme conditions this summer or if unanticipated issues arise in the energy markets that result in an energy supply- and demand imbalance, a grid emergency could likely be managed with contingency resources and additional real-time market procurements projected for September. However, if there is a coincident fire, which is an unplanned fire that impacts transmission assets and results in reduced electricity imported to California, the state could face an additional 3,000–4,000 MW loss of resources.

CHAPTER 1:

Third Quarterly Update

Introduction

This report provides an update to reliability-related activities and developments since publishing the second report May 16, 2023. The report provides updates by topic area called for by Senate Bill (SB) 846 and provided in the first report.

Demand Forecast

The second quarterly report summarized adoption of the *2022 Integrated Energy Policy Report Update (2022 IEPR Forecast Update)*, changes to forecast results, and adjustments to pump load, which is the amount of electric capacity needed to move water from lower elevation to higher elevation reservoirs, for reliability analysis. CEC staff are currently preparing energy demand forecast models and data for the upcoming 2023 IEPR Forecast. There are two IEPR Demand Forecast workshops scheduled for August 2023. These workshops will cover forecast inputs and assumptions and updates to the distributed generation forecast, and additional achievable energy efficiency, additional achievable fuel substitution, and additional achievable transportation electrification scenarios. The draft 2023 IEPR Forecast results will be presented at a workshop in December 2023, and final results will be proposed for adoption at a January 2024 CEC Business Meeting.

Supply Forecast

New Resource Additions to Date

Table 1 below provides an update of the resources that have come on-line since the first and second quarterly SB 846 reports were issued in February and May 2023, respectively. Since those reports were issued, California has added a few notable new resources in the California ISO's footprint, including:

- Five new storage projects, adding 315 MW of storage nameplate capacity (megawatts [MW]).
- 11 new solar projects, adding 350 MW of solar nameplate capacity.

As of the end of May 2023, more than 40 additional resources were approaching the final stages of completion in the California ISO's New Resource Implementation (NRI) process, representing more than 2,000 MW in nameplate capacity. Many of these resources are expected to reach commercial operation throughout the summer.

Table 1: Cumulative Resource Additions, January 2020 Through May 26, 2023

Technology Type	Nameplate Capacity (MW)	Estimated Sept. Net Qualifying Capacity (NQC) MW	Number of Projects
Storage	4,097	3,621	56
Solar	3,652	301	56
Hybrid (Storage/Solar)	998	456	16
Wind	700	94	19
Geothermal	41	31	1
Biogas, Biomass, Hydro	34	1	8 (2,2,4)
Subtotal SB 100 Resources, In-California Independent System Operator	9,522	4,504	156
Natural Gas, incl. Alamitos & Huntington Beach	1,477	1,474	12
Total Resources, In-California Independent System Operator	10,999	5,978	168
New Imports, Pseudo-Tie ¹ or Dynamically Scheduled	1,689	727	13
Total Resources, Including Imports	12,688	6,689	181

Source: CPUC staff²

Estimates of Resources Under Contract to CPUC-Jurisdictional Load-Serving Entities (LSEs)

This section updates the estimated MWs under contract to CPUC-jurisdictional LSEs through 2026. Tables 2 and 3 include resources being developed for compliance with Integrated Resource Planning (IRP) procurement orders as well as procurement for LSE compliance with Renewables Portfolio Standard (RPS) and procurement the CPUC approved in the Emergency

1 A *pseudo-tie* is a mechanism that allows a resource that connects to transmission in one balancing authority area (BAA) to be a supply resource for another BAA.

2 All data shown derived from California ISO Master Generating Capability List, and CPUC NQC lists with on-line dates between January 1, 2020, and May 26, 2023. Nameplate Capacity is shown as "Net Dependable Capacity" in the California ISO Master Generating List file. Data shown exclude imports, except where specified. All NQC values are "September NQC" and subject to change based on counting rules. "Project" is defined as a unique California ISO resource ID. "Natural Gas" includes Alamitos Unit 7 (675 MW) and Huntington Beach (674 MW) added in February 2020.

Reliability proceeding.³ All totals provided below represent the cumulative LSE-reported September net qualifying capacity (NQC) under contract to CPUC-jurisdictional LSEs. Developers often aim to bring projects on-line in advance of contractual obligations. The data underlying the expected projects can be challenging to track. A new resource can have:

- Several expected on-line date changes.
- Multiple off-takers.
- Several on-line dates for different tranches of a project.
- Multiple technologies in various configurations.
- Changes to project sizing.
- Multiple California ISO resource identification numbers, once they come on-line.

Furthermore, LSE procurement activity is still ongoing to meet existing CPUC IRP procurement orders; some of the existing contracts will be delayed, and other contracts will be added, which is consistent with the cycle of energy project development. The authors emphasize that Table 2 and Table 3 does not include all known resources in development in California, nor in all of California ISO's footprint, and represents only resources known to be under contract to CPUC-jurisdictional LSEs between 2023 and 2026, current as of April 2023. These totals are subject to change as the CPUC receives new data reports from LSEs, fields calls with developers and investor-owned utilities' (IOUs) interconnection departments, and continues to evaluate the data. Moreover, Table 2 and Table 3 do not comprehensively track new MWs already on-line; for that information, see Table 1. There are more than 10,000 MW of new NQC scheduled to come on-line, according to LSE contracting, between 2023 and 2026. These projects represent close to 15,000 MW of new nameplate capacity. The CPUC posts this information on its Tracking Energy Development ([TED](#)) [Task Force website](#).

The volume of new projects that LSEs are reporting as coming on-line to serve the peak summer season — considered as coming on-line before June 30, 2023 — is slightly less than reported in the prior, May 2023 quarterly report.⁴ There are nearly 300 contracts represented within this data for hundreds of resources under development. Changes reported in Table 2 and Table 3 reflect projects that are experiencing delays and the results of CPUC data cleaning efforts and new projects coming on-line, which are tracked via Table 1. The projects facing delays have been delayed to future quarters but are expected to come on-line in the future.

Table 2: Expected Cumulative New September NQC (MW) by Resource Type, Based on LSE-Contract Data for 2023 and 2024

³ See [R.20-11-003](#) for more information about this proceeding.

⁴ The reported MWs under contract in the quarterly reports will often differ because of CPUC data cleaning efforts and because of new information the CPUC receives from the jurisdictional LSEs.

Resource Type	2023 Q1	2023 Q2	2023 Q3	2023 Q4	2024 Q1	2024 Q2	2024 Q3	2024 Q4
Solar	-	88	109	147	131	173	194	204
Battery	171	832	1,751	1,931	2,561	5,104	5,543	5,753
Paired /Hybrid	2	254	562	1,020	1,191	1,888	1,963	2,324
Wind	-	14	14	14	14	14	14	14
Geothermal	21	21	21	21	21	64	64	81
Biomass /Biogas	-	48	123	123	123	123	123	123
Total	194	1,257	2,580	3,256	4,041	7,366	7,901	8,499

Source: CPUC staff, data as of April 2023

Table 3: Expected Cumulative New September NQC (MW) by Resource Type, Based on LSE-Contract Data for 2025 and 2026

Resource Type	2025 Q1	2025 Q2	2025 Q3	2025 Q4	2026 Q1	2026 Q2	2026 Q3	2026 Q4
Solar	211	229	229	229	231	231	231	231
Battery	6,587	6,587	6,587	6,587	6,602	6,798	6,795	6,795
Paired /Hybrid	2,622	2,717	2,717	2,717	2,729	2,729	2,729	2,804
Wind	14	31	31	31	31	31	60	60
Geothermal	82	119	156	156	157	214	214	217
Biomass /Biogas	123	123	123	123	123	123	123	123
Total	9,639	9,806	9,834	9834	9,873	10,126	10,152	10,230

Source: CPUC staff, data as of April 2023

Tracking Project Development

Trends in Resource Development

Since the second quarterly SB 846 report was released in May 2023, the CPUC continues to see the same major themes in new resource development: high levels of LSE contracting for new resources and challenges to bringing resources on-line in the immediate term. Broadly, CPUC-jurisdictional LSEs continue to report new contracts for their compliance with IRP orders, leading to an overall increase in new expected MW expected to come on-line in the midterm horizon – 2023-2028. In the coming months, CPUC staff will release a public report about CPUC jurisdictional LSEs' compliance with IRP procurement orders based on the compliance filings they submitted February 1, 2023. On August 1, 2023, the CPUC received the next round

of LSE compliance filings. Information on the IRP's procurement track is available at the CPUC's website: [IRP Procurement Track \(ca.gov\)](https://www.cpuc.ca.gov/IRP/ProcurementTrack).

The main trend in resource development continues to be challenges with interconnection, supply chain, and local permitting. The first quarter of 2023 had heavy rains that caused project delays because of flooding or work stoppages. Throughout the second quarter, developers worked to accelerate project timelines and recover from the project delays.

Few projects came on-line in the first quarter of 2023 because of these weather challenges. Furthermore, there is a general development trend to bring projects on-line in the summer months, so the lack of new on-line projects in the first quarter of 2023 is consistent with historical trends and contract expectations. However, by late May, there were more than 40 California ISO resource IDs, with more than 2,000 MW nameplate capacity that were striving to reach on-line status near the end of the second quarter or beginning of the third quarter.

Tracking Energy Development Efforts

The Joint Agency TED Task Force, which includes staff from CPUC, CEC, California ISO, and the Governor's Office of Business and Economic Development, continues to track new energy projects being developed in the state and bring state policy makers information about issues facing energy development in the state.

The TED Task Force continues to have regular, ongoing check-in meetings with developers, typically monthly, to review the status of near-term (1–3 year) projects. Additional ad-hoc meetings are scheduled to review specific project challenges and, when applicable, for the TED Task Force to coordinate actions across member agencies. The TED Task Force has identified more than 80 developers working on bringing hundreds of projects on-line throughout the state. There are projects in development throughout California, as well as some in Nevada, Arizona, and New Mexico. The counties with the largest amount of development in terms of nameplate MWs are Kern, Riverside, San Bernardino, Tulare, Fresno, San Diego, and Los Angeles Counties.

Related to the TED Task Force's efforts, the California ISO, in conjunction with the CPUC, hosts Transmission Development Forums to provide stakeholders with updates on transmission projects and related information. These meetings are held every quarter. The most recent meetings were held April 25, 2023, and July 25, 2023, the next Transmission Development Forum meeting will be held in October 2023. Information on the Transmission Development Forum is available on the [CAISO's User Group and Recurring Meeting page](#).

Queue Network Upgrades⁵

Table 4: Sample Information on SCE Network Upgrades

ID	Network Upgrades	Status	Current Expected Construction Start	Expected CPUC Application	Original Estimated ISD ⁶	Expected ISD Q1 2023 TDF	Current Estimated ISD	Aggregate MW in Queue with Executed LGIA
SCE-C9C10-N	Windhub AA Bank CRAS - monitoring infrastructure	Construction	22-Jun	N/A	Nov-22	Mar-23	Apr-23	1,800
SCE-C11P2-N-L1	Pardee - Pastoria - Warne 220 kV T/L Rating Increase	Design	Apr-23	N/A	Oct-22	Apr-24 ⁷	Jun-23	110
SCE-C12P2-N-R3	Moorpark CRAS: monitoring infrastructure	Design	Pending	N/A	Jul-24	Jul-24	Pending ⁸	635
SCE-C10P2-E-R3	WOCR CRAS Inland/Devers Extension - Monitoring infrastructure	Construction	Jan-21	N/A	Oct-21	Jun-23	Sep-23 ⁹	3,688

Source: SCE, Q2 2023 Transmission Development Forum (TDF), [Approved Transmission Planning Projects and Queue Network Upgrades, April 25, 2023](#)

⁵ Only the network upgrades with changed in-service date or a major change in status (e.g., New, Cancelled, or Completed) are shown. Workbooks of all the network upgrades are posted on the CAISO website under Transmission Development Forum.

⁶ In-service date (ISD)

⁷ Apr-2024 date provided in Jan2023 TDF was for larger scope of work.

⁸ On-hold due to delays in associated project.

⁹ Revised ISD due to CRAS resources and outage constraints. Combining CRAS testing with other projects that are completed later than expected.

Table 5: Sample Information on PG&E Network Upgrades

Network Upgrades	Description	Study	Type of Upgrade	Category	Status	Current Expected Construction Start	Expected CPUC Permit Application	Expected In-Service April TDF 2023	Aggregate MW in Queue with Executed LGIA
Re-conductor Los Banos-Quinto SS 230 kV Line	Re-conductor 6.11 mi Quinto Sw Sta-Los Banos 230 kV Line with super bundled 795 ACSS	C8	Deliverability	Re-conductor	In-Flight	2017	3/3/2022	5/10/2023	1110.62
Gates 230 kV circuit breakers 352, 362 and 372 overstress mitigation (Cap Banks)	Replace Gates 230 kV circuit breakers 352, 362 and 372 with 63 kA interrupting capability	C12	Reliability	SCD overstress	In-Flight	2022	10/24/2022	5/23/2023	2992.67
Gates 230kV Bus Section E and CB 312, 322, 2102, 2202 overload mitigation (BAAH)	Gates Substation 230 kV circuit breakers 312, 322, 2102, 2202 overload – convert bus section E to BAAH and move Panoche-Gates #1 and #2 230 kV lines and Q1117/Q1120/Q1139/Q1242/Q1243 into bus section E	C9	Reliability	Bus Flow	In-Flight	2019	8/6/2021	5/31/2023	1993.95

Source: California ISO documents, California ISO — Documents By Group (caiso.com)

Reliability Assessment

The reliability assessment approach used for this report is consistent with the Summer Stack Analysis for 2023–2032 published by the CEC in February 2023.¹⁰ The assessment compares an hourly projection of anticipated supply against the projected hourly demand plus a reserve margin for the peak day of each month, July through September. A 16 percent planning reserve margin (referred to as the current RA planning standard, or planning standard) compares against expected conditions, while 22.5 and 26 percent planning reserve margins compare to 2020 and 2022 equivalent events, respectively. This assessment conservatively identifies the maximum hourly need for contingencies in summer 2023 for each equivalent event.

In the February 2023 quarterly report to the Legislature, the CEC projected this summer to have sufficient electric system resources to support average demand conditions. However, there would be a need for about 1,000 MW of contingencies if the state experienced a heat wave like the one experienced in 2020 (2020 equivalent event) and a need for about 2,700 MW of contingencies if the state experienced a heat event like the one experienced in 2022 (2022 equivalent event).

This report shows that there are new resources coming on-line, relative to the February report. Under the planning standard, the surplus decreases to about 2,100 MW from about 2,300 MW, but it is still about 600 MW higher than the February reported surplus.

As referenced in the supply forecast section above, the net change in new resources coming on-line and delays resulted in a small movement of nameplate megawatts from Q3 to Q4 for battery and hybrid resources, relative to the May quarterly report numbers presented in the May 17 workshop. This movement of megawatts leads to a small increase in shortfalls of about 170 MW in the 2020 equivalent event and in a 2022 equivalent event (Table 5).

Under a 2020 equivalent event, the shortfall increased to 400 MW, relative to the previous May 2023 report, but is still better than the February 2023 report (Table 5) and can be managed by contingency resources and additional real-time market procurements.

In a 2022 equivalent event, the shortfall increased to a 2,000 MW shortfall, relative to the previous report but is still better than the February report. Under similar extreme conditions this summer or if unanticipated issues arise in the energy markets that result in an energy supply- and demand imbalance, a grid emergency could likely be managed with contingency resources and additional real-time market procurements projected for September. However, if there is a coincident fire, which is an unplanned fire that impacts transmission assets and results in reduced electricity imported to California, the state could face an additional 3,000–4,000 MW loss of resources.

10 California Energy Commission. [Joint Agency Reliability Planning Assessment: SB 846 Quarterly Report and AB 205 Report](https://www.energy.ca.gov/publications/2023/joint-agency-reliability-planning-assessment-sb-846-quarterly-report-and-ab-205). <https://www.energy.ca.gov/publications/2023/joint-agency-reliability-planning-assessment-sb-846-quarterly-report-and-ab-205>.

Table 6: Comparison of Summer Assessment Results for September 2023

	February SB846 Report	May Update	June Update — Current	Change Since Last Update (May Update)	Change Between Current and February Report
Supply					
Demand Response	1,274	1,274	1,274	—0	—0
Existing Resources*	44,817	45,646	45,646	—0	▲ 829
New Batteries Nameplate	1,759	2,106	1,966	▼ 140	▲ 207
New Hybrid Nameplate	1,061	1,452	1,220	▼ 232	▲ 159
RA Imports	5,500	6,000	6,000	—0	▲ 500
Total (MW)	54,411	56,478	56,106	▼ 372	▲ 1,695
Demand					
2022 CED Max Demand	46,827	46,829	46,829	—0	▲ 2
Pump Load Additional Adjustment at Net peak**	0	500	500	—0	▲ 500
Surplus/Shortfalls					
Planning Standard	1,538	2,348	2,181	▼ 167	▲ 643
2020 Equivalent Event	-1,038	-228	-395	▼ 167	▲ 643
2022 Equivalent Event	-2,676	-1,867	-2,034	▼ 167	▲ 642

*Existing resources adjusted to align with Department of Water Resources (DWR) forecasted hydroelectric generation for summer 2023

**Pump Load Forecast adjusted to align with DWR forecasted pump load for summer 2023

Source: CEC staff with CPUC data

The agencies are continuing to track contingency resources to provide support during an extreme event. The updated contingency list will provide between 2,100 and 2,300 MW during an extreme event and may be called upon to cover shortfalls identified in this stack analysis update (Table 5 — June Update — Current).

Table 7: Projected Contingency Resources for Summer 2023

Type	Contingency Resource	Available MW July	Available MW August	Available MW September
SRR	DWR Electricity Supply Strategic Reliability Reserve Program*	148	148	148
SRR	Demand Side Grid Support ⁺	315	400	450
SRR	Distributed Electricity Backup Assets (under development)	0	0	0
CPUC	Ratepayer Programs (ELRP, Smart Thermostats, etc.)**	432	476	485
CPUC	Imports Beyond Stack	325	300	250
CPUC	Capacity at Co-gen or Gas Units Above Resource Adequacy	312	198	160
DWR	DWR SWP***	0	0	0
Non-Program	Balancing Authority Emergency Transfers	500	500	500
Non-Program	Thermal Resources Beyond Limits: Gen Limits	60	60	60
Non-Program	Thermal Resources Beyond Limits: Gen Limits Needing 202c	25	25	25
	Total	2,117	2,107	2,078

*Does not include an additional 144 MW of projects that are not on-line yet but expected to be available for summer.

**Does not reflect actual 2022 ELRP enrollment. Instead, provided values are forecasted projections of ELRP impact based on an updated load impact protocol (LIP) evaluation from ELRP event experience in 2022.

***These resources are projected one week ahead. For the first time since 2006, DWR expects to provide 100 percent of requested water supplies but will reduce pumping demand to the maximum extent possible when energy demand is highest while still making critical water deliveries.

⁺Available MWs are based on enrollment

Source: CEC staff with CPUC, DWR, and California ISO data

Strategic Reliability Reserve Update

Demand Side Grid Support Program

CEC staff has been working with stakeholders to incorporate lessons learned from summer 2022 and grow the Demand Side Grid Support (DSGS) Program. On April 26, 2023, staff held a public workshop to discuss draft modified program guidelines. The draft modified guidelines proposed several changes to dispatch cleaner resources earlier and expand participation for

cleaner resources, including a new market-integrated demand response incentive pilot and a new market-aware battery storage incentive pilot. The proposed changes also include certain IOU and community choice aggregator (CCA) customers as eligible participants in response to Assembly Bill (AB) 209 (Committee on Budget, Chapter 61, Statutes of 2022), which expanded DSGS Program eligibility into IOU territory. On June 30, 2023, staff released a second draft modified guidelines recommending additional changes to the program guidelines in response to public comment and stakeholder feedback. The modified guidelines expanding the program were approved by the CEC at the July 26, 2023 business meeting. As noted in Table 6, staff is projecting growing DSGS enrollment to 450 MW by the close of the season.

In addition to guideline changes, the DSGS Program has also secured third-party administrative services to streamline and modernize procedures and validations. The CEC approved a contract with Olivine, Inc., at the May 10, 2023, Business Meeting. Staff has been working with Olivine to build out the operational and administrative functions needed to implement the program this summer.

Distributed Electricity Backup Assets Program

The Distributed Electricity Backup Assets (DEBA) Program statute, AB 205 (Ting, Chapter 61, Statutes of 2022), requires the CEC to develop guidelines in consultation with the California Air Resources Board (CARB). Program staff held a public workshop in January 2023 to get feedback on program design and has been preparing draft guidelines that will outline basic program parameters based on initial feedback from stakeholders and CARB. Staff released draft guidelines for public comment on August 11, 2023.

Electricity Supply Strategic Reliability Reserve Program (ESSRRP)

DWR oversees the Electricity Supply Strategic Reliability Reserve Program (ESSRRP) to deploy generation to ensure electric reliability. For summer 2023, DWR has on-line about 148 MW of natural gas-fired generation, including 120 MW of temporary emergency generation constructed under Governor Gavin Newsom's 2021 emergency proclamation. DWR is overseeing the construction of another 144 MW of natural gas-fired temporary emergency generation at three sites. DWR is closely monitoring the progress of these resources, which have been impacted by supply chain delays. All these assets are to be deployed only to address extreme events on the grid. In a change from summer 2022, DWR has voluntarily declined to pursue diesel-fired generation ahead of the Water Code deadline of July 31, 2023. DWR staff will again collaborate with CPUC staff to secure additional imported energy above the resource adequacy requirement noted in the "imports beyond stack" category in Table 6 above.

Diablo Canyon Power Plant Update

A key element of SB 846 relates to the potential extension of operations of Diablo Canyon Power Plant (DCPP). An extension would provide additional grid reliability if the historic levels of new, clean resources ordered by the CPUC over the next five years do not materialize at the required pace. The CPUC and the CEC have ongoing activities that relate to evaluation of DCPP extension.

CPUC Proceeding

In early January 2023, the CPUC opened Rulemaking (R.) 23-01-007 to consider extending the operations of DCP, as required by SB 846. The rulemaking has two scoped phases:

- Phase I: Phase 1, Track 1, addresses the continued funding of the Diablo Canyon Independent Safety Committee (DCISC). Phase 1, Track 2, addresses issues concerning the establishment of new DCP retirement dates and whether/how to establish processes to monitor ratepayer costs from, and reliability need for, continued DCP operations.
- Phase 2: Phase 2 does not commence until Q1 2024 and will determine DCP cost recovery and compensation reporting processes and whether Pacific Gas and Electric Company (PG&E) should provide upfront reasonable manager showings.

Testimony and comments have already been submitted for Phase 1, Track 1, and the CPUC issued a proposed decision on July 5, 2023. In Phase 1, Track 2, PG&E filed testimony detailing DCP historical and forecast cost data May 19, 2023, and PG&E and other interested parties filed testimony June 9, 2023, presenting proposals for future DCP funding and cost recovery mechanisms. (A workshop was held June 13, 2023, to discuss the June 9, 2023, proposals.) Comments on both the May 19 and June 9, 2023, testimony were filed June 30, 2023, with rebuttal testimony due July 28, 2023. DCISC findings and recommendations were submitted into the record on June 30, 2023, and the CEC's cost-effectiveness evaluation will be submitted into the record September 1, 2023. The schedule of the order instituting rulemaking (OIR) anticipates a proposed decision for Phase 1, Track 2, in October or November 2023.

CEC Analysis

SB 846 requires the CEC to publish a report of DCP operations by July 1, 2023, and annually thereafter. The CEC published the first DCP Operations Assessment Report on July 28, 2023. The report discusses the operation of DCP related to outage information, operational costs, average revenues from electricity sales, worker attrition, and the contribution to resource adequacy requirements.

The CEC is required to develop a cost comparison of an alternative portfolio of other feasible resources to the extended operations of DCP for the Calendar Years 2024 to 2035. The evaluation will consider whether the alternative portfolio is consistent with the state's greenhouse gas emissions reductions goals set forth in Section 454.53 of the Public Utilities Code. SB 846 requires the CEC to provide the report to the Legislature by September 30, 2023, and to make all evaluations public within the docket. CEC held a public workshop on July 7, 2023, and provided an overview of the proposed analytical method. CEC accepted public comments until July 21, 2023, and will publish a draft report in early September. CEC is aiming to complete the report by the end of August to support the CPUC proceeding timeline.

Upcoming Activities

The following activities are projected for the next quarter:

- CEC staff released the Distributed Electricity Backup Assets Program (DEBA) draft guidelines in August 2023, followed by a public workshop and comment period. This process will be followed by the release of grant funding opportunities.
- As noted above, the guidelines expanding the Demand Side Grid Support Program (DSGS) were approved at the July 26 Business Meeting. CEC staff will be operationalizing the program's expansion, with the target of growing DSGS enrollment to 450 MW by the close of the season.
- The CEC will target September 30, 2023, as the submission date to the Legislature for the Diablo Canyon Power Plant Cost Analysis Report. However, a draft will be released for public comment in early September. The draft will be available to support the CPUC's proceeding.¹¹

¹¹ See CPUC [R.23-01-007 Proceeding](https://apps.cpuc.ca.gov/apex/f?p=401:56::::RP,57,RIR:P5_PROCEEDING_SELECT:R2301007) at https://apps.cpuc.ca.gov/apex/f?p=401:56::::RP,57,RIR:P5_PROCEEDING_SELECT:R2301007.

APPENDIX A:

Acronyms and Abbreviations

AB	Assembly Bill
California ISO	California Independent System Operator
CEC	California Energy Commission
CPUC	California Public Utilities Commission
DCISC	Diablo Canyon Independent Safety Committee
DCPP	Diablo Canyon Power Plant
DEBA	Distributed Electricity Backup Assets
DSGS	Demand Side Grid Support Program
DWR	(California) Department of Water Resources
ELRP	Emergency Load Reduction Program
IOU	investor-owned utilities
IRP	integrated resource planning
ISO	Independent System Operator
LSEs	load-serving entities
MW	megawatt (million watts)
NQC	net qualifying capacity
NRI	new resource implementation
OIR	order instituting rulemaking
PTO	participating transmission owners
RA	resource adequacy
RPS	Renewables Portfolio Standard
SB	Senate Bill
TED	Tracking Energy Development

APPENDIX B:

Glossary

For additional information on commonly used energy terminology, see the following industry glossary links:

- California Air Resources Board Glossary, available at <https://ww2.arb.ca.gov/about/glossary>
- California Energy Commission Energy Glossary, available at <https://www.energy.ca.gov/resources/energy-glossary>
- California Energy Commission Renewables Portfolio Standard Eligibility Guidebook, Ninth Edition Revised, available at: <https://efiling.energy.ca.gov/getdocument.aspx?tn=217317>
- California Independent System Operator Glossary of Terms and Acronyms, available at <http://www.caiso.com/Pages/glossary.aspx>
- California Public Utilities Commission Glossary of Acronyms and Other Frequently Used Terms, available at <https://www.cpuc.ca.gov/glossary/>
- Federal Energy Regulatory Commission Glossary, available at <https://www.ferc.gov/about/what-ferc/about/glossary>
- North American Electric Reliability Corporation Glossary of Terms Used in NERC Reliability Standards, available at: https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf
- US Energy Information Administration Glossary, available at <https://www.eia.gov/tools/glossary/>

Average Demand

The energy demand in a given geographical area over a given period. For example, the number of kilowatt-hours used in a 24-hour period, divided by 24, tells the average demand for that period.

Community choice aggregator (CCA)

Community choice aggregators lets local jurisdictions aggregate, or combine, their electricity load to purchase power on behalf of their residents. In California, CCAs are legally defined by state law as electric service providers and work together with the region's existing utility, which continues to provide customer services.

Integrated Energy Policy Report (IEPR)

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the California Energy Commission to prepare a biennial integrated energy report. The report, which is crafted in collaboration with a range of stakeholders, contains an integrated assessment of major energy trends and issues facing California's electricity, natural gas, and transportation fuel sectors. The report provides policy recommendations to conserve resources, protect the environment, ensure reliable, secure, and diverse energy supplies, enhance the state's economy, and protect

public health and safety. For more information, see the [CEC Integrated Energy Policy Report Web page](#).

Investor-owned utility (IOU)

Investor-owned utilities (IOUs) provide transmission and distribution services to all electric customers in their service territory. The utilities also provide generation service for “bundled” customers, while “unbundled” customers receive electric generation service from an alternate provider, such as a community choice aggregator (CCA). California has three large IOUs offering electricity service: Pacific Gas and Electric, Southern California Edison, and San Diego Gas & Electric.

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](#).

Nameplate capacity

The maximum amount of electricity that a generating station (also known as a power plant) can produce under specific conditions designated by the manufacture.

Net qualifying capacity (NQC)

The amount of capacity that can be counted towards meeting resource adequacy requirements in the CPUC’s RA program. It is a combination of the CPUC’s qualifying capacity counting rules and the methodologies for implementing them for each resource type, and the deliverability of power from that resource to the California ISO system. CPUC IRP procurement orders (D.19-11-016, D.21-06-035, D.23-02-040) also require counting of resources for compliance using the associated NQCs, which can be different to those used in the RA program, depending on the resource type and order.

Planning reserve margin

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.

Power plant

A centralized facility that generates and stores electricity to meet the energy demands of a specific area or grid. It includes generating units and storage resources to produce and supply electrical energy effectively.

Real-Time Market

The competitive generation market controlled and coordinated by the ISO for arranging real-time imbalance energy.

Renewables Portfolio Standard (RPS)

The Renewables Portfolio Standard, also referred to as RPS, is a program that sets continuously escalating renewable energy procurement requirements for California's load-serving entities. The generation must be procured from RPS-certified facilities (which include solar, wind, geothermal, biomass, biomethane derived from landfill and/or digester, small hydroelectric, and fuel cells using renewable fuel or qualifying hydrogen gas). More information can be found at the [CEC Renewables Portfolio Standard web page](#) and the [CPUC RPS Web page](#).

Reserve margin

The differences between the dependable capacity of a utility's system and the anticipated peak load for a specified period.

Resource adequacy

Resource adequacy ensures there is enough capacity and reserves for the grid operator to maintain a balanced supply and demand across the electric system.

Transmission Planning Process (TPP)

The California Independent System Operator's annual transmission plan, which serves as the formal roadmap for infrastructure requirements. This process includes stakeholder and public input and uses the best analysis possible (including the CEC's annual demand forecast) to assess short- and long-term transmission infrastructure needs. For more information, see the [California ISO Transmission Planning Web page](#).