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Joint Agency Reliability Planning Assessment

SB 846 Second Quarterly Report

Gavin Newsom, Governor
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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 second 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 include estimates of supply and demand for the next 10 years under different risk scenarios, information on existing and new resources and delays, and a description of barriers to timely deployment of resources.

This report is the second quarterly report. The report only provides an update on the status of demand and new 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 improved slightly since the February report. For July and August 2023, the analysis shows surplus capacity under average and extreme conditions. 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 200 MW. In a 2022 equivalent event, the September shortfall decreases to 1,800 MW. If similar extreme conditions are expected this summer, the emergency could likely be managed with contingency resources and additional real-time market procurements projected for September. However, if there is a coincident fire that affects transmission, the state could face an additional 3,000 - 4,000 MW loss of resources.

CHAPTER 1:
Second Quarterly Update

Introduction

This report provides an update to reliability-related activities and developments since publishing the first report on February 9, 2023. The report provides updates by topic area called for by Senate Bill (SB) 846 and provided in the first report.

Diablo Canyon Power Plant Update

A key element of SB 846 relates to the potential extension of Diablo Canyon Power Plant (DCPP), which 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. In early January 2023, the California Public Utilities Commission (CPUC) opened Rulemaking [R.]23-01-007 to consider extending the operations of DCPP, as required by SB 846. The CPUC recently held a prehearing conference (PHC) that addressed the scope and schedule for the proceeding, the service list, and other procedural issues. The rulemaking has two scoped phases. Phase 1 addresses the continued funding of the Diablo Canyon Independent Safety Committee, issues concerning the establishment of new DCPP retirement dates, and determining whether/how to establish processes to monitor ratepayer costs from, and reliability need for, continued DCPP operations. Phase 2 determines DCPP cost recovery and compensation reporting processes and whether PG&E should provide upfront reasonable manager showings.

Demand Forecast

The first quarterly report summarized the Draft 2022 Integrated Energy Policy Report (IEPR) Forecast Update, which was used in the summer reliability analysis, which was also provided in the first quarterly report. The final 2022 IEPR Forecast Update was adopted by the CEC in January 2023. Final forecast results were slightly higher than the draft results, with a 0.2 percent increase to the net peak demand in 2035. No substantial changes were made between the draft and final forecast, and the difference was due to correcting small errors found during quality control checks. Subsequent to publishing the final forecast, the Department of Water provided updated projections on pump load for this summer. Adjustments were made in the reliability analysis to account for the increase in projected pumping load.

Supply Forecast

New Resource Additions to Date

As reported in February's SB 846 quarterly report, California has witnessed an extraordinary pace of new resource development in the past three years. Table 1 below provides an update of the resources that have come online since the first quarterly SB 846 report was issued and continues to show that solar, storage, and hybrid have driven increases in new resource additions.

Since the last report, there have not been significant additions of new resources. There has been an increase in overall nameplate capacity available to the CAISO of about 1,000 MW, equivalent to about 300 MW of net qualifying capacity (September NQC)[1]. The first quarter of 2023 was a particularly slow period of time for new development, in part due to the annual cycle of development that focuses on bringing projects online in time for summer, and in part due to the extraordinary storms in the early part of 2023 that delayed construction for many projects. Projects continue to face unanticipated delays due to their own unique circumstances, but the common themes remain construction, supply chain, and interconnection issues.

Table 1: Cumulative New Resource Additions, January 2020 Through March 2023

Technology Type	Nameplate Capacity (MW)	Estimated Sept. Net Qualifying Capacity (NQC) MW	Number of Projects
Storage	3,782	3,621	51
Solar	3,302	283	45
Hybrid (Storage/Solar)	998	456	16
Wind	700	83	19
Geothermal	40	31	1
Biagas, Biomass, Hydro	34	1	8 (2,2,4)
Subtotal Total New SB100 Resources, In-California Independent System Operator	8,856	4,475	140
Natural Gas, incl. Alamitos & Huntington Beach	1,477	1,474	12
Total New Resources, In-California Independent System Operator	10,333	5,949	152
New Imports, Pseudo-Tie[2] or Dynamically Scheduled	1,689	711	13
Total New Resources, including Imports	12,022	6,660	165

Source: CPUC staff[3]

Estimates of Resources Under Contract to CPUC-lurisdictional

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1 Based on data provided by the CPUC. This data represents capacity contracted with CPUC-jurisdictional load serving entities.

2 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.

3 All data shown derived from California ISO Master Generating Capability List, and CPUC NQC Lists with on-line dates between Jan 1, 2020 - March 31, 2023. Nameplate Capacity is shown as "Net Dependable Capacity" in the California ISO Master Generating List file. Data shown excludes 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 Feb 2020.

Load-Serving Entities (LSEs)

This section provides an update of the estimated megawatts (MWs) under contract to CPUC jurisdictional LSEs through 2025. Table 2 includes resources being developed for reasons other than compliance with Integrated Resource Planning (IRP) procurement orders (more information below), including for LSEs' compliance with the Renewables Portfolio Standard (RPS) and procurement order the CPUC approved in the Emergency Reliability proceeding.[4] Data in this section are current as of **February 2023.** All totals provided below represent the cumulative LSE-reported September net qualifying capacity (NQC) under contract to CPUC jurisdictional LSEs. The data underlying the expected projects can be challenging to track: a single 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, and ultimately projects come on-line as one or several California Independent System Operator (California ISO) resource identification numbers (California ISO Resource IDs).

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 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 2025, current as of February 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 as CPUC staff continues to evaluate the data. Moreover, Table 2 does not track new MWs on-line; for that information, see Table 1.

In terms of expected new projects, there has been an overall decrease in the expected new projects to come online by June 30, 2023. These projects have been delayed to future quarters but are still expected to come online in the future.

Table 2: Expected Cumulative New September NQC (MW) by Resource Type

Resource Type	2023				2024				2025				2026			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Solar	-	88	98	168	182	184	216	216	222	247	247	247	249	249	249	249
Battery	171	1,194	1,813	1,894	2,534	5,053	5,382	5,392	5,667	6,030	6,030	6,030	6,045	6,162	6,162	6,162
Paired /Hybrid	258	530	707	1,120	1,332	1,950	2,001	2,362	2,664	2,720	2,720	2,732	2,732	2,732	2,732	2,732

4 See R.20-11-003 for more information about this proceeding.

Wind	-	14	14	14	14	14	14	14	14	31	31	31	31	31	31	31
Geothermal	21	21	21	21	21	78	78	96	97	119	156	156	157	214	214	217
Biomass /Biogas	-	3	8	11	17	17	17	20	20	20	20	20	20	20	20	20
Total	450	1,849	2,660	3,228	4,100	7,297	7,709	8,100	8,684	9,168	9,204	9,205	9,234	9,409	9,409	9,487

Source: CPUC staff, data as of February 2023

In 2023, CPUC jurisdictional LSEs have procurement obligations for compliance with both Decisions (D.)19-11-016[5] and for D.21-06-035[6]. IRP staff is analyzing LSEs' IRP compliance filings submitted February 1, 2023, in which LSEs must attribute specified resources for their compliance with both procurement orders. IRP staff will publicly post aggregated, or collective, totals for LSEs' progress toward each procurement order after fully evaluating all LSE-submitted materials. At this time, however, at least some portion of the contracted resources in Table 2 will count toward D.19-11-016.

5 California Public Utilities Commission. Decision (D.)19-11-016: DECISION REQUIRING ELECTRIC SYSTEM RELIABILITY PROCUREMENT FOR 2021-2023. November 13, 2019. https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M319/K825/319825388.PDF

6 California Public Utilities Commission Decision (D.)21-06-035: DECISION REQUIRING PROCUREMENT TO ADDRESS MID-TERM RELIABILITY (2023-2026). June 30, 2021. https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M389/K603/389603637.PDF

New CPUC Procurement Action

Since the February 2023 SB 846 Joint Agency Reliability report was released, the CPUC adopted D.23-02-040 Ordering Supplemental Mid-Term Reliability (MTR) Procurement (2026-2027) and Transmitting Electric Resource Portfolios to the California Independent System Operator for the 2023-2024 Transmission Planning Process.7 The decision seeks to ensure that there are enough resources available for electric reliability by ordering 4,000 MW NQC additional resource procurement beyond current requirements, specifically the MTR procurement requirements from D.21-06-035. It also serves to transmit the base case electric resource portfolio and one policy-driven sensitivity portfolio to the California ISO for the 2023-24 Transmission Planning Process (TPP), as required each year.

The Supplemental MTR Procurement portion of the decision had two main parts: 1) ordering additional procurement and 2) making changes to existing compliance rules set in previous IRP proceeding decisions to encourage procurement. The Supplemental MTR decision brings the total ordered procurement in the IRP rulemaking to 18,800 MW of NQC. This decision also recognizes the difficulties in procuring the long lead-time (LLT) resources by 2026, as required by D.21-06-035, and automatically extends those deadlines to 2028. D.21-06-035 required 2,000 MW NQC of LLT resources - specifically at least 1,000 MW NQC from long duration storage, and at least 1,000 MW NQC from clean firm resources, such as geothermal. Shifting the LLT procurement deadline aligns with D.21-06-035's initial intent that allowed LSEs to request extensions for their LLT procurement until 2028. IRP staff notes the extensions were already assumed in February 2023's SB 846 reliability analysis, which models LLTs coming on-line in 2028. Table 3 provides all procurement (NQC MW) ordered in the IRP proceeding, with the blue highlights indicating additional procurement or changes or both adopted in D.23-02-**040.**

7 California Public Utilities Commission. DECISION D.23-02-040 ORDERING SUPPLEMENTAL MID-TERM RELIABILITY PROCUREMENT (2026-2027) AND TRANSMITTING ELECTRIC RESOURCE PORTFOLIOS TO CALIFORNIA INDEPENDENT SYSTEM OPERATOR FOR 2023-2024 TRANSMISSION PLANNING PROCESS - February 28, 2023 https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/MS02/K956/502956567.PDF

Table 3: IRP Procurement Orders (MW NQC)

CPUC Orders	Total (MW)	2021 (MW)	2022 (MW)	2023 (MW)	2024 (MW)	2025 (MW)	2026 (MW)	2027 (MW)	2028 (MW)
D.19-11-016 Applies to 25 LSEs since 18/43 LSEs opted out.	**3,300**	1,650 by 8/1	825 by 8/1	825 by 8/1	n/a	n/a	n/a	n/a	n/a
D.21-06-035 (MTR) Applies to all CPUC-jurisdictional LSEs. No opt-outs allowed.	**11,500**	n/a	n/a	2,000 by 8/1	6,000 by 6/1	1,500 by 6/1	n/a	n/a	2,000 by 6/1
D.23-02-040 (Supplemental MTR) Applies to all CPUC-jurisdictional LSEs. No opt-outs allowed.	**4,000**	n/a	n/a	n/a	n/a	n/a	2,000 by 6/1	2,000 by 6/1	n/a
Cumulative Procurement Ordered	**18,800**	1,650	2,475	5,300	11,300	12,800	14,800	16,800	18,800

Source: CPUC staff

The changes that the Supplemental MTR decision made to existing compliance rules set in previous IRP Proceeding Decisions include:

- Creating a process for resources included on the baseline of either D.19-11-016 or D. 21-06-035 that have not yet come on-line to be removed from the baseline and allowed to count as new procurement if the LSE agrees to bring on-line an equal amount of NQC procurement in 2025.
- Allowing additional flexibility for projects that would serve as "bridge" resources when an LSE wants to insure against the risk of project delay.
- Other clarifications or adjustments on topics including penalties, compliance, and specific procurement categories.

Tracking Project Development

Trends in Resource Development

Since the February SB 846 report was released, LSEs have continued to report new contracts for their compliance with IRP orders. Overall, CPUC staff is seeing an increase in MWs, mostly of storage and paired solar-storage projects. As reported in February, there are high levels of project development underway throughout the state.

On February 1, 2023, CPUC jurisdictional LSEs were required to submit information on the projects they have contracted for compliance with D.19-11-016 and, for the first time, with

D.21-06-035.[8] CPUC staff is analyzing LSE submitted materials and will release public information regarding LSE compliance in the coming months.

While CPUC staff continues to analyze these compliance filings, the CPUC also continues to receive project-specific information, particularly about the resources under development in the near-term horizon (1-3 years). Broadly, interconnection, supply chain, and local permitting continue to be a challenge for resources. Recent atmospheric river, bomb cyclones, and other inclement weather events have exacted a toll on some projects, with developers and LSEs noting that flooding delayed construction timelines and, ultimately, delaying when these projects will come on-line.

Tracking Energy Development Efforts

CPUC staff continues to meet regularly with SCE, PG&E, and SDG&E interconnection teams to track progress on interconnection, particularly for resources set to come on-line in the near future to support reliability. The IOUs use these meetings to report on projects at risk of delays of interconnection and keep CPUC staff aware of its efforts to improve internal processes. CPUC staff reviews IOU-reported interconnection delays and, when feasible, support efforts to limit, as much as possible, delays in getting resources interconnected. CPUC staff also uses these meetings to inquire about delays reported by developers or LSEs. The Joint Agency Tracking Energy Development (TED) Task Force, which includes staff from CPUC, CEC, California ISO and the Governor's Office of Business and Economic Development, also continues to track energy development 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. Related to TED's efforts, the California ISO, in conjunction with the CPUC, hosted another Transmission Development Forum April 25, 2023, to provide stakeholders with updates on transmission projects and related information. Furthermore, the California ISO continues to advance its Interconnection Process Enhancements initiative, most recently posting a final proposal on Track 1, Cluster 15 issues, which the CAISO will bring to its Board of Governors in May. The California ISO will soon post a Track 2 straw proposal focused on more foundational changes to the California ISO interconnection process and solicit feedback through its public stakeholder process.[9]

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. The assessment compares an hourly projection of anticipated supply against the projected hourly demand for the peak day

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[8] The D.19-11-016 procurement order allowed LSEs to "opt-out" of their procurement obligations with the incumbent investor-owned utility (IOU) required to procure on their behalf. D.21-06-035 and D.23-02-040 do not allow this opt-out process.

[9] CAISO Interconnection process enhancements 2023: https://stakeholdercenter.caiso.com/RecurringStakeholderProcesses/Interconnection-process-enhancements-2023

of each month, July through September. The comparison stacks the resources expected to be available in each hour and compares the total against the projected demand plus a reserve margin. 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 max hourly need for contingencies in summer 2023 for each equivalent event.

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

Conditions have improved slightly since the February report.

- Record precipitation during the winter and spring will make the hydroelectric generation resource higher than the state has experienced in recent years; however, it will also require a higher pumping load for DWR to move the water to meet obligations. The result is ~800 MW more hydroelectric generation and ~500 MW more pumping load, for a net increase of ~300 MW of resources.

- Staff also reevaluated imports. Staff updated the average RA imports in the stack to ~6,000 MW during September, compared to the 5,500 MW used in the February report.

This results in an ~800 MW reduction in the need for contingencies should the state experience a 2020 or 2022 equivalent heat event in September. Under current assumptions, July and August show enough resources to meet average and extreme conditions. For September, a comparison of the February results and current projections are provided in Table 4. The improvements in system conditions further increased the surplus resources, under the planning standard, to about 2,300 MW. Under a 2020 equivalent event, the shortfall decreases to a 200 MW shortfall, which can be managed by contingency resources and additional real-time market procurements. In a 2022 equivalent event, the shortfall decreases to an 1,800 MW shortfall and could likely be managed by the contingencies projected for September and additional real-time market procurements. However, if there is a coincident fire that affects transmission, the state could face an additional 3,000 - 4,000 MW loss of resources.

Table 4: Comparison of Assessment Results for September

	Summer 2023 (February SB846 Report) in MWs	Summer 2023 (May Update) in MWs	Change in MWs
Supply			
Demand Response	1,274	1,274	
Existing Resources	44,817	45,646	A829
New Batteries Nameplate	1,759	2,106	A347
New Hybrid Nameplate	1,061	1,452	A391
RA Imports	5,500	6,000	AS00
Total	**54,411**	**56,478**	A2,067
Demand			
2022 CED Max Demand	**46,827**	**46,829**	A2
Pump Load Additional Adjustment at Net peak	**0**	**500**	AS00
Surplus/Shortfalls			
Planning Standard	1,538	2,348	A810
2020 Equivalent Event	-1038	-228	A810
2022 Equivalent Event	-2,676	-1,867	A809

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 2,500 and 2,800 MW during an extreme event.

Table 5: Projected Contingency Resources for Summer 2023

Type	Contingency Resource	MW Available		
		July	August	September
SRR	DWR Electricity Supply Strategic Reliability Reserve Program*	148	148	148
	Demand Side Grid Support	315	400	450
	Distribute Energy Backup Assets (under development)	0	0	0
	Ratepayer Programs (ELRP, Smart Thermostats, etc.) **	905	964	984

CPUC	Imports Beyond Stack	300	250	250
	Capacity at Co-gen or Gas Units Above Resource Adequacy	518	499	160
DWR	DWR SWP***	0	0	0
Non-Program	Balancing Authority Emergency Transfers	500	500	500
	Thermal Resources Beyond Limits: Gen Limits	60	60	60
	Thermal Resources Beyond Limits: Gen Limits Needing 202c	25	25	25
	Total	**2,771**	**2,846**	**2,577**

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

**Does not reflect actual 2022 ELRP performance. More discussion is needed to project forecasted available MWs.

***These resources are projected one week ahead, but given current hydro forecasts, several hundred MWs are expected.

Source: CEC staff with CPUC, DWR, and CAISO data

Upcoming Activities

- Reliability - CEC will host a joint agency reliability workshop May 17, 2023, to discuss reliability conditions anticipated for this summer.

APPENDIX A:
Acronyms and Abbreviations

California ISO - California Independent System Operator

CCA - Community choice aggregator

CEC - California Energy Commission

CPUC - California Public Utilities Commission

IEPR - Integrated Energy Policy Report

IOU - Investor-owned utility

IRP - Indicative renewable power

ISO - Independent System Operator

LLT - Long Lead Time

LSE - Load Serving Entities

MTR - Midterm reliability

MW - Megawatt (million watts)

NERC - North American Electric Reliability Council

NQC - Non-quality conformance

PG&E - Pacific Gas and Electric Company

PHC - Pre-hearing conference

POU - Publicly owned utility

RA - Resource adequacy

Reliability Planning Assessment - Joint Agency Reliability Planning Assessment

RPS - Renewables Portfolio Standard

SB - Senate Bill

SCE - Southern California Edison Company

SDG&E - San Diego Gas & Electric Company

TED - Tracking energy development

TPP - Transmission Planning Process

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/glossaryCalifornia 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/

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 manufacturer.

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 their NQCs, which can be different to those used in the RA program, depending on the resource type and order.

Publicly owned utility (POU)

Publicly owned utilities (POUs), or Municipal Utilities, are controlled by a citizen-elected governing board and utilizes public financing. These municipal utilities own generation, transmission, and distribution assets. In contrast to CCAs, all utility functions are handled by these utilities. Examples include the Los Angeles Department of Water and Power and the Sacramento Municipal Utility District. Municipal utilities serve about 27 percent of California's total electricity demand.

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.

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.

(End of Attachment A)