



California ISO



June 10, 2021

The Honorable Chris Holden
Chair, Assembly Committee on Utilities and Energy
State Capitol Building
Sacramento, CA 95814

Dear Chair Holden:

We write to provide you with the seventh monthly report on actions our respective organizations are taking ahead of this summer in response to the August 2020 extreme heat wave and rotating outages. The actions summarized below are those the California Public Utilities Commission (CPUC), California Energy Commission (CEC) and California Independent System Operator (CAISO) have taken since our last monthly report submitted to you on May 13, 2021.

We would like to express our appreciation for inviting us to present before you and your fellow committee members on May 16. One of the lessons from last August is that it is critical we enhance transparency and better inform the public and stakeholders regarding the potential challenges we see ahead of us this, and subsequent, summers. The various public meetings hosted by our respective institutions over the last year, including the committee's oversight hearings, have served to follow through on that important lesson and responsibility.

We thank you, again, for the opportunity to provide this report. If you or committee staff have any questions, please do not hesitate to contact any of our respective government affairs representatives: Grant Mack (Grant.Mack@cpuc.ca.gov), Anna Ferrera (Anna.Ferrera@energy.ca.gov), or Quentin Foster (QFoster@caiso.com).

Sincerely,

Marybel Batjer
President, California Public Utilities Commission

David Hochschild
Chair, California Energy Commission

Elliot Mainzer
President & Chief Executive Officer, California Independent System Operator

Combined Energy Resource Planning & Procurement Actions June 2021

Responsible Entity	Actions	Milestone(s)	Status
CPUC	<p>Emergency Reliability Rulemaking (R.20-11-003). This proceeding was initiated to establish policies, processes, and rules to ensure reliable electric service in California in the event of an extreme weather event in 2021.</p> <ul style="list-style-type: none"> ▪ In a February 11, 2021 decision (D.21-02-028), the CPUC directed the state's three large investor-owned utilities (IOUs) to seek contracts for additional supply-side capacity. The IOUs filed Advice Letters seeking approval for approximately 564 MW by summer 2021. The CPUC approved those contracts on March 18. ▪ On March 25, 2021, the CPUC approved and directed (D.21-03-056) the IOUs to take multiple actions to avert the potential need for rotating outages in the summers of 2021 and 2022, including launching a new statewide Emergency Load Reduction Program pilot, modifying the IOUs' existing demand response and Critical Peak Pricing programs, funding a new statewide Flex Alert paid-media campaign, and authorizing additional capacity procurement to meet an increased planning reserve margin of 17.5 percent. ▪ On April 6th, the IOUs facilitated a public workshop with CCAs to discuss Critical Peak Pricing programs and alternative load shedding programs for Summer 2021. ▪ This proceeding remains open to evaluate and consider the adoption of additional party proposals in time for summer 2022. <p>More information on R.20-11-003 is available at: https://www.cpuc.ca.gov/summerreadiness/</p>	<p>Approve IOU Advice Letters by mid-March 2021</p> <p>CPUC vote on proposed decision on March 25, 2021</p> <p>IOU procurement and program implementation</p>	<p>Completed</p> <p>Completed</p> <p>In progress</p>

CPUC	<p>Project Progress Tracking. The CPUC is tracking progress on generation and battery storage projects that are currently under construction in California to ensure there are no CPUC-related regulatory barriers that would prevent them from being completed by their targeted online dates. Whenever a delay or potential delay is identified, the CPUC is working with other agencies, load serving entities, project developers, and/or local officials to help resolve it as soon as possible.</p> <ul style="list-style-type: none"> ▪ In November 2020, the CPUC prepared an analysis and slide deck on new resources in development across multiple proceedings, available at: https://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442466860 ▪ In July 2021, the CPUC will issue a ruling sharing an aggregation of the data collected from Integrated Resource Plans filed by load-serving entities (LSEs) in September 2020. The will data include information on existing, development, and planned resources. ▪ The CPUC is also tracking progress against the 3,300 MW NQC (Net Qualifying Capacity) procurement ordered in D.19-11-016. On February 1, 2021, LSEs that elected to self-provide their procurement obligation submitted reports to the CPUC on the status of their projects. CPUC staff is working to quality control and analyze this data. In these updates, LSEs confidentially provided detailed information regarding the cause of any delays and plans for remediation. In Q2 of 2021, the CPUC will use the data from the February 2021 filings to determine whether any of the projects under D.19-11-016 have suffered delays or failure that necessitate the need for backstop procurement. CPUC staff expects to issue a report on the February 1st compliance filings by June 2021. 	<p>Issue ruling on IRP LSE data aggregation by July 2021</p> <p>Issue staff report on backstop procurement by June 2021</p>	<p>In progress</p> <p>In progress</p>
CPUC	<p>Improve Load Scheduling Accuracy – The CPUC is exploring technical solutions that may be needed to allow its jurisdictional IOUs to provide</p>	<p>Ongoing conversations</p>	<p>In progress</p>

	<p>customer usage data to community choice aggregators (CCAs) and energy service providers (ESPs) more frequently to improve load scheduling accuracy.</p> <p>Based on initial conversations with IOUs and CCAs, it appears that more timely access to customer usage data may not be necessary for day-ahead load forecasting in the CAISO markets. The CPUC is still gathering information from load-scheduling coordinators who work with CCAs to better understand whether and how they use this data.</p>	with IOUs, CCAs, ESPs, scheduling coordinators, and the CAISO	
CPUC	<p>Replacement Resources for Diablo Canyon – In 2020, the CPUC directed all CPUC-jurisdictional LSEs to submit Integrated Resource Plans that include procurement of their share of replacement power for the retirement of the Diablo Canyon Nuclear Power Plant. On February 22, 2021, the CPUC issued a ruling in the IRP proceeding seeking feedback on mid-term reliability analysis and proposed procurement requirements for LSEs. The ruling recommended that the CPUC order procurement of 7,500 MW of new net qualifying capacity to come online in the years 2023–2025. The CPUC hosted a workshop on this ruling to facilitate dialogue with stakeholders ahead of the party comment deadline. On May 21, the CPUC issued a proposed decision, as well as an alternate proposed decision, requiring 11,500 MW NQC of procurement to address mid-term reliability needs for years 2023-2026. The new procurement would address not only Diablo Canyon retirement but also the 3,700 MW NQC of natural gas plants scheduled for retirement. Party comments and replies are due in June, and a final decision is expected in June.</p>	<p>Issue ruling</p> <p>Issue Proposed Decision (and Alternate Proposed Decision)</p> <p>Final Decision in June 2021</p>	<p>Completed</p> <p>Completed</p> <p>In progress</p>
CPUC	<p>Resource Adequacy (RA) Rulemaking (R.19-11-009) – The CPUC hosted several workshops in February 2021 on reliability proposals/topics including planning reserve margin, import rules, hybrid resource qualifying capacity rules, demand response qualifying capacity rules, changes to the RA penalty structure, and larger structural changes to the RA framework. A proposed decision in this proceeding was issued on May 21 adopting local capacity requirements for 2022-2024 and flexible capacity</p>	<p>Issue Proposed Decision in May 2021</p> <p>Final Decision in June 2021</p>	<p>Completed</p> <p>In progress</p>

	requirements for 2022 applicable to CPUC-jurisdictional LSEs, as well as other refinements to the RA program.		
CPUC	<p>Integrated Resource Planning (IRP) Procurement Framework – The CPUC hosted a workshop in December 2020 on a proposal regarding how the CPUC would order procurement to complement the procurement by LSEs in response to the planning track activities of IRP and various CPUC procurement programs. This proposed framework is intended to provide a conceptual foundation for all future procurement informed by the IRP process. The February 22, 2021 ruling on mid-term reliability referred to above seeks feedback from stakeholders on “phase one” of the proposed framework, i.e., that relating to procurement in the current cycle of IRP. The May 21 proposed decision and alternate proposed decision described above would operationalize some of the features of the framework.</p> <p>The development of the Preferred System Plan later in 2021 presents the next opportunity within the IRP process for stakeholder engagement and procurement action by the CPUC.</p>	<p>Review party comments</p> <p>Issue ruling in July 2021</p>	<p>Completed</p> <p>In progress</p>
CPUC, CAISO	<p>Flex Alert public Awareness Campaign – Following approval of funding in the Emergency Reliability Rulemaking (R.20-11-003), the CPUC has been working with the CAISO and the selected vendor to refresh and strengthen the voluntary, consumer energy conservation program.</p> <ul style="list-style-type: none"> • By mid-June, the campaign is expected to launch to coincide with the beginning of summer. • Advertisements will be strategically placed to reach households throughout the state and stress the importance of conservation. Advertisements will contain strategies – such as pre-cooling homes and businesses – to conserve energy and minimize discomfort. • We are encouraging everyone to sign up for Flex Alert notifications at FlexAlert.org, which will send out alerts by text or email. 	Mid-June - launch	In progress

	<ul style="list-style-type: none"> • A second contract is augmenting the first one so as to add additional resources and reach more Californians to conserve energy at critical moments. • The CPUC is coordinating with the state's utilities and a non-profit data analytics provider, as well as the marketing contractor, to maximize the reach of the Flex Alert campaign. 		
CAISO	<p>Summer Loads and Resources Assessment – On May 12, the CAISO released its annual summer assessment evaluating the expected supply and demand, to help prepare for the hot weather months of June through September. This year's assessment projects the energy grid will have more capacity to meet demand in 2021 than it did in 2020, a critical element for averting rotating power outages, such as those that occurred last August. However, extreme weather events that extend across the West could still pose a problem for reliability during the later months of the summer.</p> <p>The CAISO held numerous briefings for interested parties, including a public stakeholder call on May 24, to discuss the findings and provide details about the CAISO's extensive summer readiness efforts.</p>		Completed on May 12, 2021
CAISO	<p>Summer 2021 Readiness Leadership Roundtable – On April 15, the CAISO hosted a discussion with leaders from utilities and organizations with whom the CAISO has a direct operational relationship. The focus was to review the lessons learned from last summer's west-wide heat wave and rotating outages in California; to outline the work being done in response to the Final Root Cause Analysis; and to determine if there are additional individual or collective actions that can be taken to further support reliable operations this summer.</p> <p>Participants detailed steps they are taking to fortify grid operations since last summer. A common understanding of challenges and risks was established, as well as a commitment to deeper collaboration and coordination given the interconnected nature of the Western grid,</p>		Completed on April 15, 2021

	particularly the interdependency of shared resources in tight supply conditions.		
CAISO	Operational Exercise - On April 21, CAISO operations hosted a “tabletop exercise” with adjacent balancing authorities to test preparedness and communication procedures for a range of potential scenarios prior to the approaching summer weather. Additional exercises will be scheduled.		Completed on April 21, 2021
CAISO	<p>Market Enhancements for Summer 2021 Readiness – The CAISO Board of Governors and FERC approved the first package of market enhancements to prepare for this upcoming summer. The package consisted of (1) incentives for suppliers to submit import schedules in the hour ahead scheduling process during tight market conditions; (2) reliability demand response resource dispatch and real-time pricing enhancements; (3) energy imbalance market coordination and resource sufficiency test modifications; (4) pricing enhancements during tight system conditions; and (5) targeted generation interconnection process improvements.</p> <p>On April 21, the CAISO Board of Governors approved additional market enhancements that refine the prioritization of energy imports, exports, and transfers through the CAISO's balancing authority area. These changes consist of how exports cleared in the day-ahead residual commitment process are prioritized relative to CAISO load in the real-time market, enhancing requirements for designating non-resource adequacy capacity backing high priority export schedules, and market prioritization of wheel-through self-schedules. The additional market enhancements were filed at FERC on April 28 and protests are currently being addressed at FERC.</p>	<p>Approved by the CAISO Board of Governors March 24, 2021</p> <p>Approved by FERC May 25, 2021</p> <p>Approved by the CAISO Board of Governors April 21, 2021</p>	Implementation summer 2021
CAISO	Operating Procedure 4420 Modifications – The CAISO developed criteria that will allow the use of firm load to meet the North American Electric Reliability Corporation (NERC)-required contingency reserves and the dispatch of procured spinning reserve resources. This will allow the CAISO		Completed on May 27, 2021

	<p>to minimize, if not avoid, the shedding of firm load during periods of resource deficiency. On May 27, these criteria were incorporated into the CAISO Operating Procedure 4420 Alerts, Warnings, and Emergencies.</p> <p>Note, on April 15, FERC approved modification to WECC- BAL-002-WECC-3 permanently approving modification to the Reliability Standard.</p>		
CAISO, CEC	<p>Increased Coordination with Non-CPUC-jurisdictional Entities Regarding Additional Procurement – The CAISO has completed its outreach to understand the procurement positions of non-CPUC-jurisdictional entities and concerns, if any, for summer 2021. Thus far, non-CPUC jurisdictional entities surveyed have <i>de minimis</i> levels of solar penetration and largely rely on dispatchable renewables and hydro. Nonetheless, a limited number of non-CPUC local regulatory authorities have voluntarily increased their planning reserve margins or components thereof in preparation for summer.</p>	Conducted outreach to non-CPUC jurisdictional entities	In progress
CAISO	<p>Further Analysis of Proxy Demand Response (PDR) and Reliability Demand Response Resource (RDRR) Performance – Starting this summer, the CAISO is implementing baseline adjustments through targeted controlled group methodology changes and changes to the adjustment factors used in the baseline calculations as permitted under the CAISO tariff. This process will allow for more accurate assessment of demand response load reduction during extreme events. The CAISO will continue to coordinate with demand response providers as well as with the CPUC so that the CAISO’s baseline adjustment works well with the CPUC’s new pilot Emergency Load Response Program.</p>	Conducted outreach to demand response providers and considering next step options	In progress
CAISO	<p>Credits Against Resource Adequacy Obligations – The CAISO continues to work with the CPUC, local regulatory authorities, and stakeholders to resolve issues around resources credited against resource adequacy requirements.</p>	Targeted resolution August 1, 2021	In progress

CAISO	<p>Resource Adequacy Market Rule Enhancements – The CAISO Board of Governors and FERC approved the first phase of the resource adequacy enhancements initiative that included enhancements for this summer.</p> <p>Phase 1 of the initiative consisted of three changes: 1) refinements to the existing planned outage process; 2) a minimum state of charge requirement for storage resources; and 3) backstop procurement authority for local energy sufficiency.</p>	<p>Approved by the CAISO Board of Governors March 24, 2021</p> <p>Approved by FERC May 28, 2021</p>	Implementation Summer 2021
CAISO	<p>Hybrid and Co-located Storage Resource Enhancement – On November 18, the CAISO Board of Governors approved the second phase of policies to support and enable the use of hybrid and co-located resources, which comprise a significant portion of the new capacity expected to be online by summer 2021. The Federal Energy Regulatory Commission approved the first phase of this effort and the CAISO implemented these changes on December 1.</p> <p>The second phase of this effort will be implemented in Spring 2022. On December 17, the CAISO Board of Governors approved a methodology for calculating cost-based bids to which storage resources may be mitigated. This enhances the CAISO's ability to efficiently dispatch storage resources through its market.</p>	<p>First phase completed on December 17, 2020</p> <p>Second phase to be implemented Spring 2022</p>	In progress
CAISO	<p>Energy Storage Initiative – On April 28, the CAISO launched an initiative to explore market reforms to integrate large amounts of commercial-scale battery storage onto the grid over the next few years. The CAISO is projecting quadruple the amount of battery storage on its system from late last year to this summer. At the end of 2020, the CAISO had about 250 MW of storage resources -- primarily 4-hour batteries -- connected to the grid. It currently has about 500 MW on its system and expects to have a total of 2,000 MW by August 1. This growth requires changes in the CAISO market to allow storage to be competitive and to fairly compensate developers and operators. The market changes would</p>		In progress

	create a test case in the first such critical mass adoption of storage technology.		
CAISO	Reliability Must-run (RMR) Designation to Preserve Grid Reliability in 2021 – In addition to the 250 MW power plant approved as a Reliability Must Run (RMR) resource by the CAISO Board of Governors in December 2020, the Board voted on March 24 to designate a 34.5 MW power plant as a system RMR resource to help ensure the reliable operation of the transmission system in 2021 and prevent its imminent retirement. The CAISO's analysis concluded that the capacity provided by the RMR designation is necessary to maintain system-wide reliability needs and meet NERC and WECC operational standards, especially during the summer evenings.		Completed on March 24, 2021
CEC	CEC 2020 CA Electricity Demand Update – The CEC adopted the California Energy Demand 2020-2030 Forecast Update at its January 25 business meeting. This update to the previously adopted electricity demand forecast incorporates an additional year of historical data, more recent economic and demographic outlooks, and revised vehicle electrification, self-generation and battery storage forecasts. It also includes revised hourly and monthly peak electricity demand for the CAISO control area, as well as annual peak forecasts for 1-in-2, 1-in-5, 1-in-10 and 1-in-20 weather scenarios. Additionally, as part of the 2020 IEPR, staff conducted an exploratory analysis which found that 1-in-30 temperature conditions would lead to, on average, a 1.1 percent increase in peak load beyond what would be expected for a 1-in-20 temperature event.	Volume III (demand forecast) of the 2020 IEPR was adopted at the March 17, 2021 CEC Business Meeting.	Completed
CEC	Electric Program Investment Charge (EPIC) Reliability Research and Development – CEC invested \$74M to develop technologies to support demand flexibility. The grants are anticipated to result in 25MW of flexible demand capacity from commercial and residential customers and 18MW from irrigation pumping load shift this summer alone.	Awarded Grants	Completed

CEC, CPUC	<p>Efficiency Improvements to the Natural Gas Powerplant Fleet – On December 2, the CEC, in collaboration with the CPUC, and in coordination with the CAISO, hosted a workshop to highlight to electricity stakeholders a range of options for incremental upgrades at existing natural gas power plants to increase their capacities to help address potential generation supply concerns for Summer 2021 and beyond. The workshop highlighted several projects that add up to 100 MW of additional capacity that could be available for Summer 2021. Since the workshop, the CPUC's Expedited Procurement proceeding provided a contracting opportunity for these resources, and over 100 MW of these resources have been approved by the CPUC to date.</p> <p>CEC's STEP Division is currently reviewing and approving petitions for 133.5 MW of incremental efficiency upgrades at seven powerplants and another 11.5 MW of equipment upgrades from battery energy storage systems. Up to 123.5 MW are expected to be available by the start of Summer 2021.</p>	<p>The CPUC's Expedited Procurement proceeding provided a contracting opportunity for these resources. Over 100 MW of these resources have been approved by the CPUC to date.</p> <p>The CEC has reviewed and approved multiple requests for software and equipment improvements for these projects, and additional requests are expected prior to summer.</p>	In progress
CEC, CPUC, CAISO	<p>Summer 2021 Contingency Plan – The CEC, CPUC, and CAISO are drafting the summer contingency plan, as recommended in the Root Cause Analysis. The plan describes the roles and responsibilities for each entity and describes coordination activities.</p>	Draft under development and available late June	In progress

CEC, CPUC, CAISO	Integrated Energy Policy Report Workshop – Summer 2021 Reliability – The CEC, CPUC, and CASIO hosted a joint IEPR workshop. The workshop provided an overview of CEC and CAISO analysis of summer reliability conditions and actions being taken to ensure reliability for Summer 2021. In addition to updates from CEC, CPUC, and CAISO, partnering entities, such as the California Department of Water Resources, Los Angeles Department of Water and Power, Northern California Power Agency, and Balancing Authority of Northern California provided overviews of their efforts to support reliability in the state in 2020 and their activities to support summer 2021 reliability.	May 4 Workshop	Completed
All	Demand Response Round Table – The CAISO, CEC and CPUC held a second Demand Response Round Table with industry stakeholders to discuss strategies to maximize the potential of demand response in the short and long term.		Completed on March 16, 2021