

Memorandum

To: ISO Board of Governors
From: Elliot Mainzer, President & Chief Executive Officer
Date: May 14, 2021
Re: CEO report

This memorandum does not require Board action.

SUMMER READINESS

During the past month, the ISO has been actively communicating with stakeholders within California and across the West on the key elements of our summer readiness plan. We have also been working to ensure strong communication and coordination protocols are in place with key operating entities and infrastructure managers to support reliable summer operations. The ISO hosted a Summer 2021 Readiness Leadership Roundtable on April 15. This meeting brought together utilities, asset owners and industry associations to review key lessons learned from last summer, discuss actions taken within California and adjacent states in response to lessons learned, review the supply/demand fundamentals for this summer, and explore additional opportunities for individual or coordinated action in preparation for another potentially very hot summer.

One suggestion that emerged following the Readiness Roundtable was to enhance situational awareness among utilities within the West regarding wildfire conditions and potential impacts to the bulk electric system. The Reliability Coordinator is working to develop additional information sharing mechanisms on this topic. We also agreed to work with the state's publicly owned utilities and community choice aggregators to better integrate them into the enhanced Flex Alert program. Following the Readiness Roundtable, the ISO conducted table top exercises with adjacent balancing authorities to affirm communication and coordination protocols for a range of operational scenarios that may materialize this summer.

On May 4, the ISO participated in an Integrated Energy Policy Report (IEPR) workshop on Summer Readiness hosted by the CEC that also brought together the CPUC and key stakeholders within California. This was another good opportunity to review supply demand fundamentals for the summer and to support improved communication and coordination. Both the ISO and the CEC presented their analytical findings regarding summer conditions. By this summer, the CPUC and CEC expect between 3,000 – 3,500 MW of additional resources to be on our grid. A significant fraction of the new dispatchable capacity will be provided by 4-hour lithium-ion batteries which will help support reliability by shaping energy into the net peak hours following sunset, especially during stressed grid conditions.

As of April 28, the ISO has submitted its full package of summer enhancements to FERC. As we await guidance on these issues, we will be announcing a stakeholder listening session shortly to begin gathering input for the design of a long-term durable solution to the wheel-through issue, which is of significant importance to entities across the West. As we approach the summer months, generation owners and transmission line operators are working to ensure their infrastructure is prepared for high heat conditions. In cooperation with the CEC, CPUC, the Governor's Office and utilities in California, we are making a major new push on communication and demand response. This includes a significant enhancement to the ISO's communications strategy, including regular updates on grid conditions and a 3-7 day window for forecasting extreme heat events, revitalization of the Flex Alert Program, expansion of the ISO's baselining methodologies to enable measurement of higher levels of demand response, and rollout of the CPUC's Emergency Load Reduction Program. Demand response is a key element of our operational strategy to maintain overall bulk grid reliability during another extreme heat wave.

As articulated in our Summer Assessment, the ISO will be at the greatest operational risk during a late summer widespread heat wave that results in high ISO loads and low net imports due to high peak demands in its neighboring balancing authority areas, concurrent with the diminishing effective load carrying capability of solar resources and the wane of hydro generation. Below-average hydro production, threats of wildfires, and resource performance under high temperatures comprise additional operational risks that we will watch carefully.

TRANSMISSION INFRASTRUCTURE ISSUES

Transmission interconnection queue management, substation readiness and transmission planning and energization remain areas of significant focus at the moment.

The ISO's 14th annual open window for generator interconnection applications ran from April 1 to April 15. This year's applications, Cluster 14, totaled a massive number of projects applying for interconnection to the ISO-controlled grid - 373 projects totaling over 111 GW. Almost two thirds of those projects are standalone battery storage projects. These are in addition to the 306 active projects from earlier clusters that total 70.7 GW. This reflects the high degree of interest and competition in the resource development community, and the perception that a lot of new capacity is needed on the grid to reliably serve load. The ISO's analysis has indicated that 10 GW is needed, above procurement that the CPUC has already authorized, through 2025 when the last Diablo Canyon generator retires.

The Cluster 14 applications are almost 2.5 times the 155 applications received in Cluster 13, which had been the second largest batch ever received by the ISO. The number of applications far surpass the staffing resources of several of the utilities, and to some extent the ISO, to manage under the current established schedules. We are working closely with the generation community and California load serving entities to ensure that the state's interconnection queue processes and substation infrastructure are receiving the attention and resources they deserve. Substation readiness is one of the key risks facing California and the ISO, particularly in anticipation of the retirements of once-through cooling units and Diablo Canyon 2. ***We will face significant reliability problems if we cannot connect the***

next wave of clean energy resources to the grid in a timely fashion. Finally, in cooperation with the CEC and CPUC, the ISO has embarked on the development of a 20-year transmission plan for our footprint, with an emphasis on identifying a clear strategy for transmission development, including in-state, out-of-state and offshore transmission resources that can help the state access additional clean energy supplies and enhance the interconnectivity between different regions of the West to increase the economic and environmental value of the EIM and subsequent stages of market evolution.

ENERGY IMBALANCE MARKET

Notwithstanding the primacy of summer readiness, we continue to devote resources to resolve policy and governance issues associated with the EIM. In response to additional questions from stakeholders and the Market Surveillance Committee, we have provided additional information and analysis on the ISOs performance with respect to the sufficiency test last August. We will be having another round of discussions on the topic later this month. We are also preparing for continued dialogue with stakeholders about establishing additional consequences for failing the sufficiency test and will be looking for possible changes that can be in place by this summer.

Perhaps most significantly, we have been making meaningful progress on governance enhancements for the EIM. We were very pleased to see the unanimous vote on May 6 by both the ISO Board of Governors and the EIM Governing Body in favor of Part 1 of changes proposed by the EIM Governance Review Committee. I would like to reiterate my appreciation to the members of the GRC, the Body of State Regulators and ISO staff in developing a consensus package of recommendations. We now turn to the remaining issues associated with joint authority. I am encouraged by the engagement of EIM entities and stakeholders in the California regulatory and utility community to drive towards a workable solution to this key issue. I am hopeful that an agreement on joint authority in the near future will further reinforce the strong foundation for coordinated operations we have established with the EIM and create a springboard for additional market evolution in the West.

ENERGY STORAGE ENHANCEMENTS

The amount of storage on the California grid continues to increase by the week and we are on track to have a 2,000MW fleet of 4-hour lithium-ion batteries available to help support reliability during the net peak this summer. Thanks again to our partners in the storage industry for working with us to establish minimum state of charge requirements for this summer and for the intellectual capital that they bring to the table as we now begin our exploration of longer-term storage solutions. On April 28, the ISO released a white paper to initiate dialogue with the storage industry and other stakeholders about long-term market reforms to realize the full intrinsic and economic value of storage resources and to better align price signals and bid cost recovery with the operational needs of the grid.

As I said in our press release announcing the energy storage enhancements initiative, California's drive for decarbonization has placed the ISO on the leading edge of the energy storage revolution. Beginning with 4-hour lithium-ion batteries and ultimately expanding into longer durations and new chemistries, energy storage is going to play a critical role in maintaining reliability and providing essential grid services. We are excited to work with our

industry partners to further evolve our market rules and fully unlock the value of energy storage technologies. Next steps in the initiative will be ISO-hosted conversations with industry and academic market design experts to solicit valuable input to guide our design changes.

LEADERSHIP ANNOUNCEMENTS

I was very pleased on May 10 to announce the selection of Anna McKenna as Vice President of Market Policy and Performance and Dede Subakti as Vice President of System Operations. Both of these individuals are dynamic leaders and creative problems solvers and will make excellent additions to the ISO's executive team. Anna's market expertise and interpersonal skills will help us prioritize and focus on our most important initiatives, bring solid economic and technical analysis to policy development, and further strengthen our internal culture and working relationships with our many stakeholders. Dede's deep technical expertise and collaborative approach to issues will help us further evolve our operations to support a reliable clean energy transition.

RENEWABLE ENERGY RECORD

On April 26, the ISO achieved a new renewable penetration record, serving 94.5% of load with clean energy resources. This milestone received broad coverage in the media, including a very informative article in the LA Times that highlighted the importance of acknowledging positive results on the path to a fully decarbonized power system.