NEWS RELEASE

May 18, 2023

Contact: ISOMedia@caiso.com

CAISO 2022-2023 Transmission Plan approved

More proactive approach recommends 45 projects; Interconnection queue improvements also advanced

FOLSOM, Calif. – In two actions aimed at ensuring California has the necessary infrastructure to meet its reliability and clean-energy goals, the California Independent System Operator (ISO) Board of Governors has approved the organization's 2022-2023 Transmission Plan and a proposal that sets the stage for transformative changes to the process for connecting new resources to the grid.

This year's transmission plan, developed in coordination with the California Public Utilities Commission (CPUC) and the California Energy Commission and reflecting input from load-serving entities and other key stakeholders, identifies 45 projects for system expansion and upgrades.

By the time the projects are completed over the next decade or so, the total estimated cost is $7.3 billion. An earlier draft of the plan included 46 projects costing an estimated $9.3 billion, but in response to stakeholder input, additional analysis is being conducted on one of the transmission upgrades.

"This 2022-2023 transmission plan represents the next major installment of infrastructure investment required to meet California's long-term clean energy goals," said Elliot Mainzer, the ISO's president and CEO. "In close coordination with regulatory agencies, load-serving entities and other key stakeholders, we endeavored to address the state's reliability and policy needs in the most cost-effective and efficient way possible."

The vast majority of the transmission projects will be built in California, supporting more than 40 gigawatts (GW) of new resource development identified by the CPUC as cost-effective and needed to meet the state's clean-energy goals over the next 10 years.

With electrification increasing in other sectors of the economy, most notably transportation and the building industry, even more new power will be required in the years ahead. Next year's transmission plan is anticipated to identify the need to add 70 GW by 2033, eventually growing to 120 GW to align the state with its goal of a carbon-free power system by 2045.

This year's plan is also noteworthy for the new, more proactive approach it takes to better synchronize power and transmission planning, interconnection queuing and

resource procurement. Among other things, the plan identifies additional transmission and resource capacity associated with designated geographic zones that make the most economic and operational sense for such development.

The CPUC will in turn provide clear direction to load-serving entities to focus energy procurement in those key transmission zones in alignment with the transmission plan. To bring this more coordinated approach full circle, the ISO will also give priority to interconnection requests located within those same zones in its generation interconnection process.

Projects identified in the plan will enable critical resource development, including:

- Over 17 GW of solar generation distributed across the state in solar development regions that include the Westlands area in the Central Valley, Tehachapi, the Kramer area in San Bernardino County, Riverside County, and also in southern Nevada and western Arizona;
- Over 3.5 GW of in-state wind generation in existing wind development regions, including Tehachapi;
- Over 1 GW of geothermal development, primarily in California's Imperial Valley and in southern Nevada;
- Access for battery storage projects co-located across the state with renewable generation projects, as well as stand-alone storage located closer to major load centers in the LA Basin, greater Bay Area, and San Diego;
- The import of over 4.5 GW of out-of-state wind generation from Idaho, Wyoming and New Mexico by enhancing corridors from the ISO border in southeastern Nevada and from western Arizona into California load centers; and

Estimated costs for specific transmission projects range from $4 million to $2.3 billion, for a total infrastructure investment of an estimated $7.3 billion.

Most notably, these include:

- A new 500 kV transmission line running west from the Arizona border into southern Imperial County, new 500 kV transmission lines angling up from southern Imperial County to northern San Diego and extending into the southern LA Basin, and upgrades to the existing 500 kV and 230 kV lines along the Interstate 10 (I-10) corridor. Together, these upgrades provide access to east Riverside County, Imperial County and Arizona solar generation, Imperial Valley geothermal, and New Mexico wind generation;
- Upgrades to the Lugo–Victor–Kramer 230 kV transmission system to access north of Lugo solar resources; and
- A host of smaller upgrades improving access to other smaller resource zones.
- The ISO also found a need for a new 500 kV transmission line from southeastern Nevada to the eastern edge of the LA Basin and rebuilding of existing southeastern Nevada 230 kV transmission inside the ISO to 500 kV, providing access for Eldorado and Pisgah area solar generation, southeastern Nevada solar and geothermal generation, and Wyoming and Idaho wind generation. In response to stakeholder input and comments, the ISO is evaluating a new alternative – the conversion of the existing Mead-Adelanto 500 kV transmission line from AC to DC operation – before

making a final recommendation. Once the ISO has completed its analysis, a recommendation will be brought to the Board of Governors either as an extension of this year's plan or in the next planning cycle.

The transmission projects represent significant investments that would be phased in over lead times of up to eight to 10 years, which are reasonable estimates for how long it will take to complete some of the infrastructure work. These costs translate to less than 0.5 cents per kWh over the life of the projects, phased in as the new facilities come online. Costs for consumers are determined as part of the rate design process between utilities and their regulatory authorities.

Now that it has been approved, the transmission plan will guide collaborative activities for implementation of the new projects, including initiating a competitive solicitation process for three of the higher voltage ones.

On the related issue of interconnections, the Board approved track one of an initiative designed to improve how applications to connect to the grid are evaluated and processed.

Improvements are needed because the ISO has been receiving hundreds of interconnection requests annually from potential resource developers, with many of these requests located in areas that are not a priority in the state's resource planning. During the Cluster 15 interconnection request application window that was open from April 3-16, for example, the ISO received 546 applications totaling 354,000 MW of new resources.

Track one of the 2023 Interconnection Process Enhancements Initiative addresses an immediate need to manage the schedule for those Cluster 15 applications. The Board voted to approve tariff changes that will allow the schedule to be adjusted, which is critical to ensure that the process reforms are in place when the ISO addresses the Cluster 15 applications. The altered schedule will also allow the ISO's planning and engineering staff and utilities to focus on the Cluster 14 projects that have moved into the detailed Phase II study process.

Track 2 of the interconnection process enhancements focuses on substantive, longer-term process changes and broader reforms to align interconnection protocols with procurement activities. The ISO is planning to post a straw proposal on Track 2 by the end of this month.

On another issue, the CAISO Board of Governors and the Western Energy Imbalance Market Governing Body approved a day-ahead market enhancements initiative at their joint meeting May 17. The proposal provides critical design enhancements to ensure the day-ahead market efficiently schedules resources to account for increasing levels of net load forecast uncertainty between day-ahead and real-time markets.

Net load uncertainty continues to increase as the generation fleet evolves towards a cleaner, but more variable, resource mix. The proposed enhancements are also important elements of the ISO's extended day-ahead market (EDAM), as they unlock significant diversity benefits across the expanded EDAM footprint.

# # #

California ISO | 250 Outcropping Way | Folsom, CA 95630 | www.caiso.com

---

The California Independent System Operator (ISO) is a nonprofit public benefit corporation dedicated, with its partners, to continuous improvement and secure operation of a reliable grid operated for the benefit of consumers. It provides comprehensive grid planning, open and nondiscriminatory access to one of the largest networks of high-voltage transmission power lines in the world, and operates a $9 billion competitive electricity market. Recognizing the importance of the global climate challenge, the ISO is at the forefront of integrating renewable power and advanced technologies that will help provide a sustainable energy future efficiently and cleanly.

The Western Energy Imbalance Market (WEIM) is a real-time wholesale energy trading market that enables participants anywhere in the West to buy and sell energy when needed. The WEIM Governing Body is the governing authority designed by regional stakeholders and has shared authority with the ISO Board of Governors to resolve rules specific to participation in the WEIM.