

Memorandum

To: ISO Board of Governors

From: Neil Millar, Vice President of Infrastructure and Operations Planning

Date: November 5, 2024

Re: **Decision on modifications to 2021-2022 transmission plan**

This memorandum requires ISO Board of Governors action.

EXECUTIVE SUMMARY

Management recommends modifications to two transmission projects in the San Jose area originally approved by the ISO Board of Governors at its March 17, 2022, meeting, due to significant increases in the load forecasts in the area since the projects were approved as part of the 2021-2022 Transmission Plan.

The two reliability driven projects, both of which were eligible for the competitive solicitation process, are the:

- San Jose Area HVDC Line (Newark – Northern Receiving Station (NRS))
- San Jose Area HVDC Line (Metcalf – San Jose B)

Following the approval of the 2021-2022 Transmission Plan by the ISO Board of Governors, the ISO initiated a competitive solicitation process, and on March 21, 2023, selected LS Power Grid California LLC (LSPGC) as the project sponsor for both the Newark – NRS HVDC project and the Metcalf – San Jose B HVDC project. The expected in-service dates for both projects is June 2028.

The recommended modifications of the above two HVDC projects consist of:

1. Converting the Newark – NRS HVDC project into an exclusively alternating current (AC) project. HVDC converters and lines are no longer required due to the increase in load growth and the transition to a more robust long term plan for the area. The modification includes only a high capacity 230 kV AC line (1,000 MVA) from PG&E's Newark substation to Silicon Valley Power's (SVP's) NRS substation.
2. Modifying the Metcalf – San Jose B HVDC project by:
 - a. Increasing the power injection at San Jose B to 1,000 MW from 500 MW.

- b. Changing the voltage at the AC side of the San Jose B converter station from 115 kV to 230 kV.
- c. Adding a 230 kV switchyard and a 230/115 kV transformer at San Jose B.

The modified transmission plan for the San Jose area has been developed after stakeholder engagement. The ISO had technical discussions with affected parties (PG&E and Silicon Valley Power as interconnecting entities and with LSPGC as the project sponsor for the HVDC projects) to ensure the feasibility of the modified transmission projects. The ISO communicated preliminary results and collected stakeholder feedback through stakeholder presentations on September 23 and 24, 2024, and subsequent written comments.

Management proposes the following motion:

Moved, that the ISO Board of Governors approves the modified scope for the Newark – NRS HVDC Project and the Metcalf – San Jose B HVDC Project, as described in the memorandum dated November 5, 2024.

BACKGROUND

A core responsibility of the ISO is to plan and approve additions and upgrades to the transmission infrastructure so that as conditions and requirements evolve over time, we can continue to provide a reliable, safe and efficient electric transmission service.

The projects were approved in the 2021-2022 Transmission Plan to serve the forecasted load in the San Jose area. Mostly driven by new datacenter loads, the long term load forecast in the San Jose area has increased from 2,100 MW in the 2021-2022 transmission plan to roughly 3,400 MW in the base scenario of the current 2024-2025 transmission planning studies and roughly 4,200 MW in the sensitivity scenario. Given the significant increase in the long-term load forecast in the area, the ISO's studies identified that the projects no longer provide the required capacity to reliably serve the forecasted load in the area and, therefore, the ISO developed modifications to the transmission plan in the San Jose area as detailed in Attachment A. In arriving at the modifications to the San Jose area projects, the ISO and transmission owners performed power system studies to measure system performance against the NERC reliability standards and ISO planning standards, as well as to identify reliability concerns that included, among other things, facility overloads and voltage excursions. The ISO then evaluated mitigation measures and identified cost-effective solutions.

Management recommends the modifications below to the Newark – NRS HVDC project and the Metcalf – San Jose B HVDC projects that were approved by the ISO Board of Governors as part of the 2021-2022 Transmission Plan:

- Newark – NRS 230 kV project: 1,000 MVA 230 kV AC circuit from PG&E's Newark substation to SVP's NRS substation.
- Metcalf – San Jose B HVDC project: 1,000 MW HVDC link between Metcalf 500 kV and San Jose B 230 kV substation and a 230/115 kV transformer to connect to PG&E's San Jose B 115 kV substation. The San Jose B 230 kV substation will be the termination point for the future NRS – San Jose B 230 kV line project, expected to be recommended for approval in the 2024-2025 transmission planning process.

Management expects that other network upgrades will also be required to serve the ever-increasing load in the area, and those will be pursued through the 2024-2025 transmission planning cycle. The modifications to the existing projects are necessary to meet growth and provide the suitable foundation for future upgrades in the area.

STAKEHOLDER FEEDBACK

Stakeholders provided feedback on the presentation of the study results for the modifications to the two San Jose area HVDC projects provided during September 23, 2024 stakeholder meeting. The ISO reviewed all of the stakeholder comments, and concluded that the modified transmission plan for the San Jose area is an appropriate enhancement that will provide the required capacity when needed and will have the flexibility for future expansion if required.

Stakeholders generally provided supportive feedback on the modifications, considering the urgent need to reliably serve the additional load in the San Jose area, which the ISO considered in its final recommendation.

A few stakeholders identified concerns with modifications to the projects awarded to LSPGC, suggesting that additional measures should be taken up to and including re-bidding the competitively awarded projects.

The Approved Project Sponsor Agreement contemplates and allows for modifications that are in line with the original intent of the project. In this case, management seeks Board approval to update the transmission need to account for increased load growth and update project specifications to minimize costs to customers. This is consistent with the criteria in the original solicitation.

A number of stakeholders recommended that the ISO initiate a stakeholder process to amend the competitive solicitation process to enable modifications after the selection of a project sponsor. The amended process would clarify what changes would be implemented by the selected project sponsor and under what scenario parts of, or the entirety of, the project should require a new competitive solicitation. While management considers that it has the necessary tariff latitude to proceed with the necessary modifications to the San Jose projects, management will consider a stakeholder process in 2025 to provide more clarity on this issue.

CONCLUSION

Based on the analysis performed as part of the 2024-2025 transmission planning process, the recommendation for Board approval is to modify the Newark – NRS HVDC project and the Metcalf – San Jose B HVDC projects that were approved by the ISO Board of Governors as part of the 2021-2022 Transmission Plan, as described above.