ANNUAL PROGRESS REPORT

Newark – Northern Receiving Station HVDC Project & Metcalf – San Jose B HVDC Project

Submitted by:
LS Power Grid California, LLC
March 1, 2024

www.LSPGridCalifornia.com

2024 Request for Waiver of "Significant Impact" Status

LS Power Grid California, LLC (LSPGC) respectfully submits to WECC this request for Waiver of "Significant Impact" Status pursuant to Section 3 of the WECC Progress Report Policies and Procedures for the following transmission projects:

- Newark – Northern Receiving Station HVDC Project
- Metcalf – San Jose B HVDC Project

LSPGC has provided the information outlined in Section 3 of the WECC Progress Report Policies and Procedures in **Appendices I and II**. As described in further detail therein, LSPGC expects the projects will not have a significant impact on the operation of the Western Interconnection, and as such, qualify for a waiver pursuant to Section 3 of the WECC Progress Report Policies and Procedures.

Appendix I

Newark – Northern Receiving Station HVDC Project

a. Project Name

Newark – Northern Receiving Station (NRS) HVDC Project

b. Project Purpose

In the 2021-2022 Transmission Plan[1] the California Independent System Operator (CAISO) identified a reliability-driven need for the Newark to NRS HVDC Project to address multiple near-term and long-term overloads on the San José 115 kV transmission system and provide system reliability benefits for the Greater Bay Area. In CAISO's 2021-2022 planning cycle, transmission planning studies prepared by CAISO included large load increases in the San José and Silicon Valley Power (SVP) areas, including a significant load increase of approximately 500 MW in the SVP area. As a result, CAISO identified several reliability concerns, including multiple near-term and long-term overloads in the San Jose 115 kV transmission system.

Several mitigation alternatives were studied, including reconductoring of existing 115 kV lines, converting 115 kV lines to higher capacity 230 kV lines and building new 230 kV lines into the San Jose and SVP areas. Different technologies, including series compensation devices and HVDC lines were also evaluated as part of the alternative analysis. The San Jose /SVP area is primarily served from Newark 230 kV substation in the north and Metcalf 500/230 kV substation in the south. However, due to the electrical proximity of bulk of the area load to the Newark substation, specifically the SVP area load where most of the load increase is, the bulk of the power flows from the Newark side. Given this imbalance between two sources in the AC connected network, the HVDC alternatives resulted in better performance from the power flow perspective as a result of the controllability of the HVDC source. Based on analysis of the alternatives, the CAISO approved Newark – NRS HVDC Project as part of its 2021-2022 Transmission Plan.

Following approval of the Transmission Plan, the CAISO initiated an open, competitive solicitation in 2022, which provided project sponsors the opportunity to submit proposals to finance, construct, own, operate, and maintain the Project. Through this competitive solicitation process, the CAISO then selected LS Power Grid California, LLC (LSPGC) as the project sponsor for the Newark – NRS HVDC Project.

LSPGC is not seeking an Accepted Rating and therefore the project will not enter into the path rating process.

c. Brief Project Description, Including Expected Termination Points

[1] http://www.caiso.com/InitiativeDocuments/ISOBoardApproved-2021-2022TransmissionPlan.pdf

1. **Expected Termination Points:** PG&E's Newark 230 kV Substation and SVP's NRS 230 kV Substation.

2. **Project Description:** The main components of the Newark – NRS HVDC project consist of two new HVDC terminals and three transmission lines. The new HVDC terminals (named the Albrae terminal and Baylands terminals) would be independently connected to two separate existing substations, the Albrae terminal to the PG&E Newark and the Baylands terminal to the SVP NRS substations. Each terminal would have a rated real power output of 1,044 MVA or 1,000 MW with 300 MVAR of reactive power. Initially, the proposed Project would have a rated real power output of 593 MVA measured at SVP's NRS 230 kV substation. The approximately 8.6 mile underground and overhead Albrae to Baylands 320 kV DC transmission line would connect the Albrae terminal to the Baylands terminal. The approximately 0.4 mile underground and overhead Newark to Albrae 230 kV transmission line would connect the Albrae terminal to the existing PG&E Newark substation. The approximately 3.5 mile underground and overhead Baylands to NRS 230 kV transmission line would connect the Baylands terminal to the existing SVP NRS substation.

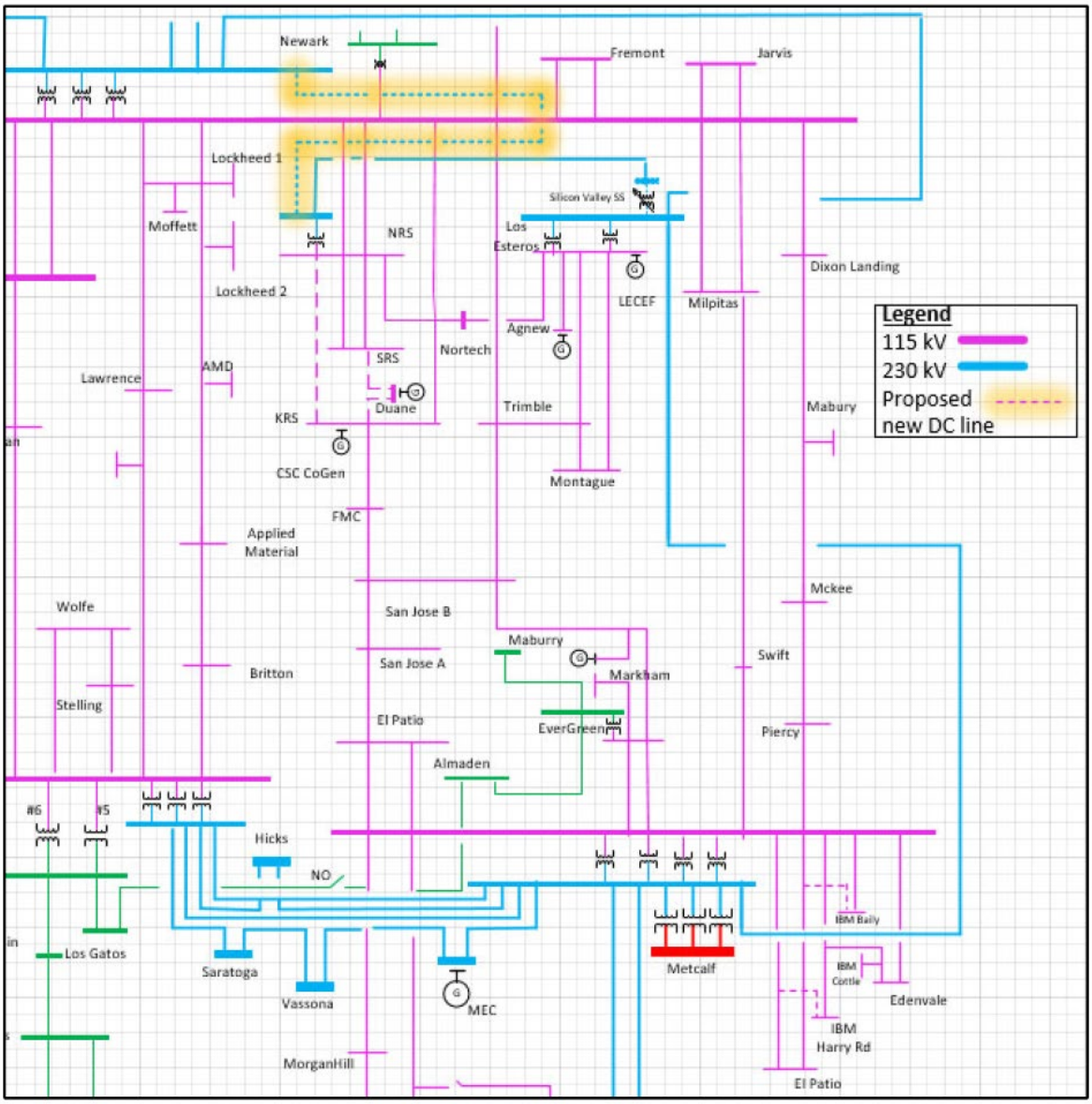

Figure 1: Location of Newark to NRS HVDC Project

LSPGC submitted an interconnection request to PG&E and SVP on March 15, 2023. PG&E's facilities scope requirements study and SVP's Facility Study are currently in progress.

The interconnection process and detailed engineering design are expected to be completed in 2025. Construction activities are expected to commence in 2026 and construction is expected to be substantially complete in May 2028.

d. Expected Date of Release to Operations

CAISO specified a latest in-service date of June 1, 2028 for the Newark – NRS HVDC Project. LSPGC expects the project will be released to operations shortly prior to this date.

e. Expected Operating Voltage

230 kV AC lines connecting the existing substations to the project's new HVDC terminals and ±320 kV DC lines connecting the project's new HVDC terminals.

f. Explanation of Why the Project is Not Expected to Have a Significant Impact on the Operation of the Western Interconnection.

The project is not expected to have a significant impact on the operation of the Western Interconnection. The project was coordinated through the open stakeholder process under the CAISO transmission planning process (TPP). CAISO performed a comprehensive assessment (steady state, transient, post-transient, short circuit) in 2021-22 TPP to ensure compliance with applicable NERC reliability standards, WECC Regional Criteria, CAISO planning standards and tariff requirements. The analysis was performed across a 10-year planning horizon and considered a range of on-peak and off-peak system conditions. The projects were identified as required reliability-driven projects to serve the local load growth in the San José and SVP areas. The CAISO Board of Governors approved the project on March 17, 2022.

Since the projects are identified for the local load serving needs in San Jose area and involve HVDC facilities, they are not expected to have a significant impact on the operation of the Western Interconnection and as such qualify for a waiver pursuant to Section 3 of the WECC Progress Report Policies and Procedures.

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Appendix II

Metcalf – San Jose HVDC Project

a. **Project Name**
Metcalf to San Jose B HVDC Project

b. **Project Purpose**

In the 2021-2022 Transmission Plan[2] the California Independent System Operator (CAISO) identified a reliability-driven need for the Metcalf to San Jose B HVDC Project to address multiple near-term and long-term overloads on the San José 115 kV transmission system and provide system reliability benefits for the Greater Bay Area. In CAISO's 2021-2022 planning cycle, transmission planning studies prepared by CAISO included large load increases in the San José and Silicon Valley Power (SVP) areas, including a significant load increase of approximately 500 MW in the SVP area. As a result, CAISO identified several reliability concerns, including multiple near-term and long-term overloads in the San Jose 115 kV transmission system.

Several mitigation alternatives were studied, including reconductoring of existing 115 kV lines, converting 115 kV lines to higher capacity 230 kV lines, and building new 230 kV lines into the San Jose and SVP areas. Different technologies, including series compensation devices and HVDC lines were also evaluated as part of the alternative analysis. The San Jose /SVP area is primarily served from Newark 230/115 kV substation in the north and Metcalf 500/230/115 kV substation in the south. However, due to the electrical proximity of bulk of the area load to the Newark substation, specifically the SVP area load where most of the load increase is, the bulk of the power flows from the Newark side. Given this imbalance between two sources in the AC connected network, the HVDC alternatives resulted in better performance from the power flow perspective as a result of the controllability of the HVDC source. Based on analysis of the alternatives, the CAISO approved the Metcalf – San Jose B HVDC Project as part of its 2021-2022 Transmission Plan.

Following approval of the Transmission Plan, the CAISO initiated an open, competitive solicitation in 2022-23, which provided project sponsors the opportunity to submit proposals to finance, construct, own, operate, and maintain the Project. Through this competitive solicitation process, the CAISO selected LS Power Grid California, LLC (LSPGC) as the approved project sponsor for the Metcalf – San Jose B HVDC Project.

LSPGC is not seeking an Accepted Rating and therefore the project will not enter into the path rating process.

[2] http://www.caiso.com/InitiativeDocuments/ISOBoardApproved-2021-2022TransmissionPlan.pdf

c. Brief Project Description, Including Expected Termination Points:

1. **Expected Termination Points:** PG&E's Metcalf 500 kV Substation and San Jose B 115 kV Substation

2. **Project Description:** The main components of the Metcalf – San Jose B HVDC Project consists of two new HVDC terminals and three new transmission lines. The new HVDC terminals (named the Grove terminal and Skyline terminal) would each ultimately be capable of 1,044 MVA or 1,000 MW and 300 MVAR. Initially, the Proposed Project would allow the transfer of 522 MVA between the existing PG&E Metcalf and San Jose B substations. The approximately 13-mile Grove to Skyline 320 kV DC underground transmission line would connect the Skyline terminal to the Grove terminal. The approximately 100-foot overhead Skyline to San Jose B 115 kV AC station tie line would connect the new Skyline terminal to PG&E's San Jose B substation. Finally, the new approximately 1.2-mile Metcalf to Grove 500 kV AC underground transmission line would connect the new Grove terminal to the existing PG&E Metcalf substation.

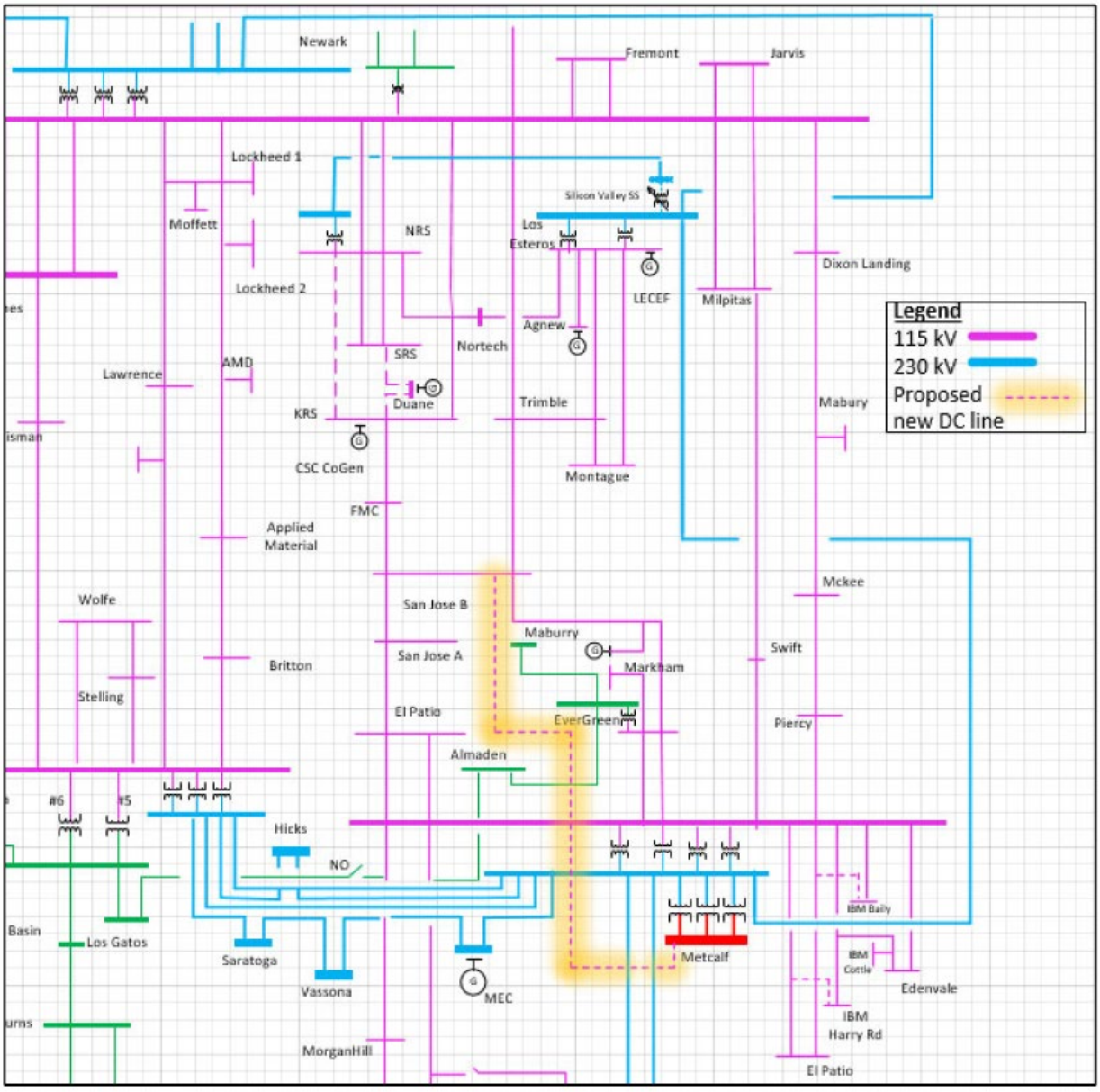

Figure 1: Location of the Metcalf – San Jose HVDC Project

LSPGC submitted an interconnection request for the Metcalf – San JoseB HVDC Project to PG&E on March 15, 2023. PG&E's facilities scope requirements study is currently in progress.

The interconnection process and detailed engineering design are expected to be completed in 2022. Construction activities are expected to commence in 2026 and construction is expected to be substantially complete in May 2028.

d. **Expected Date of Release to Operations**

CAISO specified a latest in-service date of June 1, 2028 for the Metcalf to San Jose B HVDC Project. LSPGC expects the project will be released to operations shortly prior to this date.

e. **Expected Operating Voltage**

500 kV AC line connecting the existing PG&E Metcalf 500 kV substation to the Project's new Grove HVDC terminal, 115 kV AC line connecting the existing PG&E San Jose B substation to the Project's new Skyline terminal, and ±320 kV DC lines connecting the project's new HVDC terminals.

f. Explanation of Why the Project is Not Expected to Have a Significant Impact on the Operation of the Western Interconnection.

The project is not expected to have a significant impact on the operation of the Western Interconnection. The project was coordinated through the open stakeholder process under the CAISO transmission planning process (TPP). CAISO performed a comprehensive assessment (steady state, transient, post-transient, short circuit) in 2021-22 TPP to ensure compliance with applicable NERC reliability standards, WECC Regional Criteria, CAISO planning standards and tariff requirements. The analysis was performed across a 10-year planning horizon and considered a range of on-peak and off-peak system conditions. The projects were identified as required reliability-driven projects to serve the local load growth in the San José and SVP areas. The CAISO Board of Governors approved the project on March 17, 2022.

Since the projects are identified for the local load serving needs in San Jose area and involve HVDC facilities, they are not expected to have a significant impact on the operation of the Western Interconnection and as such qualify for a waiver pursuant to Section 3 of the WECC Progress Report Policies and Procedures.

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