

Comments of National Grid on CAISO's 2018-2019 Transmission Planning Process

Introduction

National Grid USA (“National Grid”) and Rye Development, LLC (“Rye Development”) appreciate the opportunity to provide comments in response to CAISO’s recent presentation on the status of a special study underway focused on increasing the transfer capability between the Pacific Northwest and California (the “Special Study”).¹ National Grid and Rye are actively developing two of the most-promising, closed-loop pumped storage projects in the United States, both of which are strategically located at points near the interties between the Pacific Northwest and California.

While National Grid and Rye Development generally support the Special Study and its goal of expanding the capacity on the AC and DC Interties, National Grid and Rye Development have reservations about its limited scope, conservative assumptions, lack of a concrete plan for additional (and more robust) studies, and failure to consider policy and regulatory barriers that currently preclude the most efficient use of the existing, regional high voltage transmission system.

Comments

Scope of Special Study

Given the location of National Grid and Rye’s pumped storage projects near the border of the transmission grids of the Pacific Northwest and California, National Grid has a vested interest in the Special Study. National Grid supports the objectives of the Special Study, which specifically include identifying changes needed to:

- Increase the capacity of the AC and DC Interties;
- Increase dynamic transfer capability on the AC and DC Interties;
- Automate operational controls on the AC and DC Interties; and
- Assign resource adequacy value to imports to California.

National Grid and Rye Development believe that a study of this type is long overdue, given the West Coast states’ alignment on decarbonization goals and the significant high-voltage transmission system between California and the Pacific Northwest vis-a-vis the AC and DC Interties. The Pacific Northwest has significant amounts of existing and potential, zero carbon energy generating resources that could help California meet its energy policy goals. At the same time, the Pacific Northwest also has

¹ See CAISO, Informational Study: Increased Capabilities for Transfers of Low Carbon Electricity between the Pacific Northwest and California, available at: http://www.caiso.com/Documents/Day2-Presentations_2018-2019TPPMtg-Sep20-21-2018.pdf (p. 224).

significant potential for very attractive large-scale energy projects that can absorb surplus energy from California and return it to California consumers in times of need.

Special Study Assumptions Are Conservative

Hopefully, the Special Study report will underscore for readers that the study's assumptions are highly conservative; and therefore, any results, even if benefits are shown, are likely incomplete, and potentially misleading, due to those very conservative assumptions.

A more robust study that considers the benefits of closed-loop pumped storage would provide more accurate and complete results. Investment in modern, highly flexible closed-loop pumped storage would yield additional benefits to both California and the Pacific Northwest, not only by expanding the seasons and conditions when the benefits of the Pacific Northwest's zero carbon resources are available, but also by increasing utilization of the high voltage transmission system for more effective coordination of regional low-carbon generation resources, flexible generation resources, and storage. In doing so, pumped storage resources have the unique capability of providing greater reliability and flexibility to both the Pacific Northwest and California transmission systems at a time when flexibility is most needed in order to integrate increasing amounts of variable generation.

Next Steps/Future Studies

National Grid and Rye Development hope that the current Special Study is not the final analysis of the potential benefits for increased use of the transmission system for transfers between California and the Pacific Northwest.

National Grid and Rye Development encourage CAISO to conduct subsequent transmission planning studies with generation assumptions that reflect the likely future mix of generation resources for the Pacific Northwest, while also taking into account the carbon policy goals of Oregon and Washington. In particular, any future study should consider pumped storage generation resources.

National Grid and Rye Development also look forward to a future study program that fully evaluates the likely significant benefits associated with additional flexible generation and storage, particularly resources located near the Celilo Converter Station, John Day Substation, and Malin Substation. These locations, in particular, are likely to serve as points on the regional transmission system where significant benefits could be provided in terms of enhancing reliability and flexible transfer capability along the AC and DC Interties, as well as for facilitating transfers of energy between the Pacific Northwest and California, which will become increasingly necessary in order to absorb California's growing overgeneration.

For any future studies, National Grid and Rye Development would be happy to provide technical data or otherwise cooperate with the study team in order to ensure a robust

and complete study of the benefits associated with the increased transfer of low carbon energy between California and the Pacific Northwest.

Evaluation of Policy and Regulatory Barriers to Increased Transfers

National Grid and Rye Development also suggest that any future study include an analysis of market seams issues and other policy or regulatory barriers that limit energy transfers between California and the Pacific Northwest. For example, National Grid and Rye Development suggest that any future study should examine the impact of California's Export Fees, as well as the transmission rates on the Southern Intertie charged by BPA and others. These issues are currently not considered by the Special Study and are currently a significant deterrent to expanded use of the AC and DC Interties. Other stakeholders could likely add to the scope of issues to be examined in a study of policy and regulatory barriers to increased transfers.

Such an examination of export fees and transmission rates seems especially timely since CAISO work to date suggests that roughly 3,700MW to 6,300MW of available South-to-North transmission capacity currently exists on the Pacific Intertie (*i.e.* PDCI and COI combined).² The principal reason that this South-to-North Intertie capacity goes unused is the CAISO's \$11-12/MWh export fee. Eliminating or discounting this fee (*e.g.* waiving it when CAISO's Day Ahead Market projects negative prices at either NP-15 or SP-15) would help CAISO and other scheduling coordinators in California avoid significant midday curtailment of solar resources after 2020. This phenomenon, if not mitigated, will continue to grow exponentially after 2020, as California utilities add roughly 2GW of solar per year (both central station and rooftop) from now until 2030.

Conclusion

While National Grid and Rye Development appreciate the effort that has gone into conducting the Special Study to date, the Special Study does not consider several important issues. Consequently, the results of the Special Study will necessarily be incomplete and could benefit from an additional future study that also takes into account pumped storage and the numerous benefits it can provide to the California and Pacific Northwest transmission systems, particularly in terms of increased flexibility and reliability.

² The Pacific Intertie South-to-North ATC numbers come from CAISO's presentation at the Grid Works' regional meeting on better utilization of Pacific North West Hydro at the Northwest Planning and Conservation Council offices on September 6, 2018.

Thank you for your attention. Feel free to contact us with any questions.

Very truly yours,

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