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BY EMAIL TO:

regionaltransmission@caiso.com

Re: Comments - Pacific Northwest and California Informational Study for 2018-2019 Transmission Planning Process

I. Introduction

National Grid USA (“National Grid”) and Rye Development, LLC (“Rye Development”) appreciate the opportunity to provide these additional comments in response to CAISO’s recent presentation on the status of the special study focused on the “Increased Capabilities for Transfers of Low Carbon Electricity between the Pacific Northwest and California” (the “PNW Import Study”).¹

As stated in prior comments filed in this stakeholder process, National Grid and Rye Development 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 PNW and California.

National Grid and Rye Development continue to believe that the PNW Import Study paints an incomplete picture of the possibilities for expanding transfer capability between the PNW and California, particularly because it fails to consider resources like pumped storage that have the potential to significantly expand the transfer capability between these two regions.

II. Comments

A. The PNW Import Study Inappropriately Excludes Consideration of Pumped Storage Resources.

As a threshold matter, National Grid and Rye Development recognize that prudent transmission planning focuses on scenarios that represent the highest stress on the transmission grid, and that as part of the PNW Import Study, Pacific Northwest

¹ CAISO, “Informational Study: Increased Capabilities for Transfers of Low Carbon Electricity between the Pacific Northwest and California,” dated November 26, 2018, available at: <http://www.caiso.com/Documents/Presentation-2018-2019TransmissionPlanningProcess-PacificNorthwestInformationalSpecialStudy.pdf> (“November 26 Presentation”).

(“PNW”) hydro conditions must be taken into account when considering pressures on the regional transmission system.

However, National Grid and Rye Development also recognize that individuals not as well-versed in the energy industry may give disproportionate weight to the conclusions reached in transmission planning studies and, because of this, National Grid and Rye Development have significant concerns about the direction of the PNW Import Study. In particular, National Grid and Rye Development are concerned that the PNW Import Study will result in an incomplete study report that misleads policy makers into thinking that that PNW hydro is the only resource capable of increasing the transfer capability between California and the PNW. National Grid and Rye Development share this concern because the PNW Import Study, and forthcoming study report, completely fail to address other types of generation—such as pumped storage—that would further increase the transfer capability between these two regions.

As National Grid and Rye Development alluded to in their prior comments in this proceeding, which were submitted on October 5, 2018, closed-loop pumped storage can provide significant additional benefits to the CAISO and PNW transmission systems, many of which will further increase the transfer capability between California and the PNW. The many benefits of pumped storage include (among other things):

- Providing additional available generation to meet resource adequacy requirements in CAISO during periods of poor hydro conditions, which is largely a function of these resources’ closed-loop storage capabilities;
- Providing additional incremental and decremental capacity to satisfy flexible capacity requirements in CAISO by providing products such as ancillary services (e.g., regulation) and offering quick ramping capabilities;
- Increased path ratings on major north-south transmission lines through strategic siting of pumped storage projects;
- 1. ○ Increased reliability throughout the region, particularly if pumped storage resources are made part of a remedial action scheme to serve as additional dispatchable load or generation, as needed;
- Increased dynamic transfer capability, also through strategic siting decisions; and
- Voltage support, again through strategic siting decisions.

Most of the above-listed benefits are also mentioned in CAISO’s November 26 Presentation as necessary in order to expand the transfer capability between California and the PNW. Thus, because pumped storage seems perfectly-suited to aid in the

expanded transfer capability between California and the PNW, National Grid and Rye Development believe the failure to adequately consider pumped storage is a glaring omission from the scope of the PNW Import Study.

To remedy this omission, National Grid and Rye Development continue to request additional studies to quantify the above-listed benefits for policy makers and regulators. National Grid and Rye Development continue to be willing to work with CAISO transmission planning staff to provide technical details of their proposed pumped storage projects in order to facilitate a more robust study— that includes consideration of investment in pumped storage—and that would more accurately characterize the resources and investment decisions that would lead to the maximum increase in transfer capability between California and the PNW.

B. The PNW Import Study Assumptions Are Conservative.

As National Grid and Rye Development have expressed in their prior comments, the final study report resulting from the PNW Import Study needs to underscore its assumptions are highly conservative, and therefore, any results, even if benefits are shown, are likely incomplete 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 PNW, not only by expanding the seasons and conditions when the benefits of the PNW'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 PNW and California transmission systems at a time when flexibility is most needed in order to integrate increasing amounts of variable generation.

C. Next Steps/Future Studies

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

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 PNW, while also taking into account the carbon policy goals of Oregon and Washington. In particular, any future study should consider pumped storage resources, as these resources are likely to play a pivotal role in

meeting future demand for flexible capacity and storage of intermittent sources of energy.

National Grid and Rye Development also look forward to a future study 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 between the PNW and California.

For any future studies, National Grid and Rye Development would be happy to provide technical data or otherwise cooperate with the CAISO 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 PNW.

D. Evaluation of Policy and Regulatory Barriers to Increased Transfers.

National Grid and Rye Development continue to encourage CAISO to conduct an analysis of market seams issues and other policy or regulatory barriers that limit energy transfers between California and the PNW. 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 the Bonneville Power Administration and others. These issues are currently not considered by the PNW Import Study. However, they impose a significant deterrent to expanded transfer capability between California and the PNW. 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 date² 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). 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.

III. Conclusion

² The Pacific Intertie S>N ATC numbers come from CAISO's presentation at Grid Works' regional meeting on better utilization of PNW hydro at the Northwest Planning and Conservation Council offices on September 6, 2018.

National Grid and Rye Development continue to have serious concerns about the final study report that will follow the completion of the PNW Import Study. In particular, National Grid and Rye Development assert that final report will be incomplete because it will inadequately portray to its readers that existing PNW hydro generation is the only method for increasing transfer capability between California and the PNW, even though other generation options exist that would significantly increase such transfer capability. For this reason, National Grid and Rye Development continue to call on CAISO to conduct additional planning studies that consider the benefits of pumped storage, and thereby, properly evaluate the additional potential transfer capabilities these resources could provide between California and the PNW.

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

Very truly yours,



Nathan Sandvig
Director, US Strategic Growth
National Grid Ventures
Nathan.Sandvig@nationalgrid.com



Erik Steimle
V.P. Project Development
Rye Development, LLC
Erik@ryedevelopment.com