BPA Comments on Appendix H

Pacific Northwest – California Transfer Increase Informational Special Study

February 28, 2019

On February 4, 2019, the California ISO (CAISO) released the "2018 – 2019 Transmission Plan" draft for review and comments. Part of the plan is "Appendix H - Pacific Northwest – California Transfer Increase Informational Special Study". Appendix H is a summary of the study led by CAISO with the assistance of various stakeholders in California and the Pacific Northwest (PNW). BPA played a central role in the study with regard to PNW inputs and analysis.

The following are BPA's comments on Appendix H:

1. Increase the Capacity of AC and DC Interties - In Section 8, Summary and Conclusions, BPA recommends adding the following sentence at the end of the existing paragraph "BPA intends to manage the incremental 300 MW as non-firm transmission." The allocation process for addressing the additional capacity as well as an implementation procedure will require coordination among the NWACI owners and CAISO.

2. Minimum operating levels - Figures 4.3-4, 4.3-5, and 4.3-6 show minimum generation levels for main stem Federal Columbia River Power System hydro projects that violate current operating requirements. These minimum generation levels and associated operating ranges should be revised to reflect current operating requirements, such as those specified in the U.S. Army Corps of Engineers' Fish Passage Plan.

3. Increase Dynamic Transfer Capability (DTC) – In Section 8, Summary and Conclusions, BPA recommends replacing the existing paragraph and replacing it with the following: "In 2018, BPA completed its DTC study and increased the DTC limits on the NWACI from 400 MW to 600 MW. In addition, BPA has removed the DTC Voltage Stability Limit (freezing/crimping) after obtaining the WECC Remedial Action Scheme Reliability Subcommittee's approval on the BPA's Synchrophasor Remedial Action Scheme as a Wide Area Protection. An increase in DTC on the NWACI above the 600 MW was not part of the scope for the current 2018-2019 TPP informational study. Thus, a separate DTC study would be needed in the future in order to establish what would be required for an increase to the DTC limit beyond the current limit of 600 MW."

4. Implementing sub-hourly scheduling on PDCI – In Section 8, Summary and Conclusions, BPA recommends replacing the last sentence of the "Implementing sub-hourly scheduling on PDCI" sub-section with "BPA, in coordination with the LADWP and the other owners of the southern portion of the PDCI, anticipates that the project schedule from the scoping to the implementation phase will

take approximately two to three years." BPA is working closely with LADWP and the southern owners on this project and recently had an initial kickoff meeting related to this initiative.

5. Import RA - RA Section 7.7 states that "As per CPUC/ISO requirements, commitment of firm capacity is required 45 days ahead of the operating month in order to be counted towards RA. This might be challenging for some hydro units to forecast hydro that far in advance." Later in Section 8.0, Summary and Conclusions, it states that from the zero-carbon/GHG perspective, there seems to be little to no impact if hydro imports from the PNW have RA assigned to it or not, as hour-ahead scheduling data shows that potentially low-carbon energy is already coming into California. The barrier to increased import RA may not be due to the inability to forecast hydro, but it is more likely due to the current structure of the capacity market in California. In many months, the current market in California values capacity below the cost of carbon. This low valuation can potentially lead to system reliability problems.

   It is true PNW exports are currently injected into CAISO regardless of RA. This is because COB hour ahead and day-ahead prices are generally higher than Mid-Columbia prices and capturing the value of low carbon imports into CAISO in most hours is greater than the value RA provides. There is no guarantee that this will be the case going forward. Carbon legislation in Oregon and Washington, if it passes, most likely will elevate PNW prices for zero carbon generation.

   BPA agrees with the CAISO that RA market initiatives and regulations are outside the scope of this study. BPA sees the RA market design and pricing issues to be explained as part of a more complete response to the letters of February 2018 from the leaders of the California Public Utility Commission (CPUC) and the California Energy Commission (CEC) to which this special information study responds. BPA acknowledges the recognition in the February 4 report of these broader issues. We are attaching comments submitted to the CPUC in its current IRP proceeding that are relevant to this Appendix H.

Thank you for the opportunity to comment, and please feel free to contact Ravi Aggarwal at 360-619- 6056, rkaggarwal@bpa.gov if we can provide additional information.

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Develop an Electricity Integrated Resource Planning Framework and to Coordinate and Refine Long-Term Procurement Planning Requirements.	Rulemaking 16-02-007 (Filed February 11, 2016)

REPLY COMMENTS OF THE BONNEVILLE POWER ADMINISTRATION ON THE PROPOSED PREFERRED SYSTEM PORTFOLIO AND TRANSMISSION PLANNING PROCESS RECOMMENDATIONS

Doug Marker
drmarker@bpa.gov
Constituent Account Executive
Bonneville Power Administration
905 N.E. 11th Ave.
Portland, OR 97232

February 12, 2019

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Develop an Electricity Integrated Resource Planning Framework and to Coordinate and Refine Long-Term Procurement Planning Requirements.	Rulemaking 16-02-007 (Filed February 11, 2016)

REPLY COMMENTS OF THE BONNEVILLE POWER ADMINISTRATION ON THE PROPOSED PREFERRED SYSTEM PORTFOLIO AND TRANSMISSION PLANNING PROCESS RECOMMENDATIONS

The Bonneville Power Administration (Bonneville) offers these reply comments in this proceeding, particularly to the comments filed by the California Independent System Operator (CAISO) on January 31, 2019.

Bonneville has contributed to a broader discussion among California's energy policy community and among Western states and utilities about optimizing the region's transmission system and market design for the reliable and affordable integration of additional clean energy resources. Bonneville enjoys a collaborative partnership with the CAISO in these efforts. However, readers of the CAISO's comments in this instance may reach an unfortunate conclusion that current market design and transmission capabilities works well enough.

The CAISO is nearing completion of its study of the potential for increased

inter-regional transfers as part of its 2018-2019 Transmission Planning Process. The study responds to the request of Chair Weisenmiller of the California Energy Commission and President Picker of the California Public Utilities Commission of February 15, 2018[1]. That letter requested confirmation of the capabilities of transmission between California and the Pacific Northwest. It also sought more information about the opportunities to enhance resource sharing between the regions.

Bonneville collaborated with the CAISO staff, as well as participants from the CEC and CPUC, in the analysis of available improvements in transmission capabilities. The CAISO reports the outcome of this work its draft *Pacific Northwest – California Transfer Increase Information Special Study*. Bonneville commends the confirmation of incremental, but important, progress in expanded transfer capabilities on both the AC and DC Interties.

The value of this study of transmission capabilities is to advance a discussion of opportunities to improve resource sharing between California and the Pacific Northwest. However, the study, and the CAISO comments we respond to here, give an impression that the current timing and volumes of deliveries of electricity from the Pacific Northwest work well enough from a volume perspective. The study does not pursue opportunities to improve resource sharing from a qualitative perspective. A more comprehensive perspective should include the flexible capabilities of deliveries and their timing. These qualities are the unrealized promise of the transmission

[1] Letters of Michael Picker and Robert B. Weisenmiller to Steve Berberich and Mel Levine; February 15, 2018

capabilities between California and the Pacific Northwest.

Bonneville expanded on these issues in its December 12 comments to the CAISO on the draft transfer study. We are attaching those comments with this response. Thank you for the opportunity to contribute to this proceeding.

Respectfully Submitted,

Dated: February 12, 2019

By: */s/ Doug Marker*

Doug Marker
drmarker@bpa.gov
Constituent Account Executive
Bonneville Power Administration
905 N.E. 11th Ave.
Portland, OR 97232

Comments of the Bonneville Power Administration 2018-2019 Transmission Planning Process

Submitted by	Company or Entity	Date Submitted
Young S. Linn	Bonneville Power Administration (BPA)	December 12, 2018

The Bonneville Power Administration (BPA) is providing the following comments on the 2018-2019 Transmission Planning Process (TPP) to assist with the California Independent System Operator (CAISO) in its response to the California Energy Commission and California Public Utility Commission request for sensitivity case studies related to transfers between the Pacific Northwest and California. BPA appreciates the CAISO's recognition that studies relating to the needs and technical requirements on BPA's system require BPA's participation. As such BPA and CAISO collaborated on the intertie studies for the 2018-2019 TPP, and, as a general matter, BPA continues to encourage the ongoing collaborative efforts between the regions.

The BPA comments listed below are intended to provide additional clarity to those materials presented by CAISO in late November 2018 - *Informational Study: Increased Capabilities for Transfers of Low Carbon Electricity between the Pacific Northwest and California, dated November 26, 2018.*

COI N-S Capacity Increase from 4,800 NW

The Northwest AC Intertie (NW AC Intertie) is owned by BPA, PacifiCorp, and Portland General Electric, with BPA as the operating agent. In addition to the asset owners, other Northwest utilities have capacity ownership rights on BPA's portion of the NW AC Intertie. To the extent that TPP identifies changes to any operations on the Northwest AC Intertie, such changes must be led by the operating agent and the other facility owners.

BPA supports the potential California Oregon Intertie (COI) N-S capacity increase from its current capacity rating of 4800 MW to 5100 MW, under favorable system conditions. As discussed during the study phase, the 300 MW increase in capacity can be achievable under a single contingency or non-simultaneous system conditions. This capacity increase is possible as the result of the recent changes in NERC standards, and because WECC relaxed some of the performance requirements. Since this new capacity can be achievable under favorable system conditions (*i.e.*, all lines in service and certain generation pattern), it can only be made available for scheduling on a non-firm basis. It cannot be sold as firm transmission service by the transmission providers. In addition, a new line rating would be necessary when and if all of the intertie facility owners agree to undertake the next steps. Further, the allocation process for addressing the additional non-firm capacity as well as an implementation procedure will require coordination among the NW AC Intertie owners and CAISO.

Dynamic Transfer Capability on COI

This past summer, BPA increased the Dynamic Transfer Capability (DTC) on the NW AC Intertie from 400 MW to 600 MW. As of December 1, 2018, BPA also removed the DTC Voltage Stability Limit

(freezing/crimping) on the NW AC Intertie. The removal of the limitations was a direct result of the WECC

Remedial Action Scheme Reliability Subcommittee's approval on the BPA's Synchrophasor Remedial Action Scheme as a Wide Area Protection. It is important to note that a DTC study above the 600 MW was not part of the scope for the current 2018-2019 TPP informational study. Thus, a separate DTC study would be needed in the future to see what it takes to increase the DTC beyond the current 600 MW limit.

Further, as stated above, changes to the NW AC Intertie requires close coordination with the other owners.

Intra-hour scheduling on PDCI

The northern portion of the PDCI is owned by BPA, and the southern portion of the PDCI is owned by Los

Angeles Department of Water & Power (LADWP), Southern California Edison, the City of Pasadena, the City of Glendale, and the City of Burbank. BPA is the operating agent on the northern portion, and LADWP is the operating agent on the southern portion. Changes to any operations on the PDCI must be led by operating agents of the PDCI and the other owners of the facilities.

Currently all energy schedules on the PDCI are done manually. BPA and LADWP make hourly phone calls for scheduling and balancing authority reconciliation functions. Because of the manual process, energy schedules on the PDCI must be in hourly increments. The intra-hour scheduling on the PDCI is one of BPA's grid modernization projects, and BPA plans to begin working on the project starting in early 2019. BPA estimates that the project schedule from the scoping phase to the implementation could take up to two years. Close coordination between BPA and LADWP, as well as the other asset owners, would be needed in order to scope system requirements and develop an implementation plan including a timeline for the final project.

Assigning Resource Adequacy Value to Firm Zero-Carbon Imports

The November 26, 2018 presentation does not appear to fully address the questions asked by the CEC and CPUC about California and Northwest diversity opportunities. The limits on operational practices identified in the November 26 presentation may be more resolvable than described. The November 26 presentation also describes coincidental deliveries of Northwest zero-carbon hydro that could be more advantageously shaped by market design. These capabilities have become even more significant this year with the passage of Senate Bill 100 and the ongoing legislative deliberations in Oregon and Washington.

The February 15, 2018 letter from Chair Weisenmiller and President Picker describes their broader interest in changing the dynamics of surplus renewable sales during certain hours and periods of the year. With respect to such broader policy implications the assumptions and restrictions in the November 26 presentation may be too narrow and dispositive. BPA remains committed to work with the CAISO to continue to explore the potential for long-term, firm deliveries of carbon-free resources to California customers.

A tradition of long-term, firm deliveries of surplus energy exchanged between the regions grew out of the building of the Southern Interties. The continued viability of the interties rests upon recognition of the commercial and planning value of these critical elements of transmission infrastructure in the West working to complement each other. To BPA, this includes recognition of the commercial rights to flow on the 8,020 MW of interties. These rights are governed by purchases made by willing buyers and sellers, including those willing buyers and sellers of annual, monthly and flexible resource adequacy products from Pacific Northwest hydro resources. BPA and other owners of Pacific Northwest hydro currently are incented to sell carbon-free energy into California because of the favorable short-term energy price dynamic, rather than the long-term planning value collectively conferred by the owners or the favorable value proposition of an accommodative policy framework for selling long-term, carbon-free resource adequacy products deliverable to California entities. This and other processes should contemplate the implications of changes to the short-term incentive for selling carbon-free energy to California wrought by possible public policy changes in the Pacific Northwest and by possible enhancements to the CAISO's Maximum Import Capability (MIC) allocation framework rather than assuming that the status quo will continue in perpetuity. Solidifying our collective long-term planning and commercial foundation is paramount to further improvements on intertie facilities and infrastructure investments.

Thank you for the opportunity to comment, and please feel free to contact me or Ravi Aggarwal at 360-619- 6056, rkaggarwal@bpa.gov if we can provide additional information.

Sincerely,

Young S. Linn

Senior Transmission Account Executive
BONNEVILLE POWER ADMINISTRATION|Transmission Sales
Mail Stop: TSE/TPP-2 | P.O. Box 61409 Vancouver, WA
98666-1409 yslinn@bpa.gov | O (360)-619-6013 | C
(360) 624-7234