Short-Term Available Transfer Capability (ST ATC) Proposed Improvement

July 9, 2025

Pre-decisional. For Discussion Purposes Only.

Agenda

1. Proposed ST ATC Improvement: Modify heavy load power flow stress scenarios to model a California import condition
2. Wrap up and Next Steps
3. Appendix – ATC Formulas (Short-Term Horizon)

Proposed ST ATC Improvement

Description: Modify heavy load power flow stress scenarios to model a California import condition

1. BPA runs power flow studies to establish Existing Transmission Commitment (ETC) values for its flow-based ATC paths.
   a. BPA refers to these values as base ETC.
2. These studies model multiple stress scenarios to ensure customers' rights are fully accounted for under a variety of system conditions.
3. BPA uses the highest ETC values from these stress scenarios when calculating ST firm ATC on BPA's flow-based ATC paths.
4. BPA uses heavy load cases to study most flow-based ATC paths, except for West of Hatwai, which is studied with a light-load case.

Proposed ST ATC Improvement (cont.)

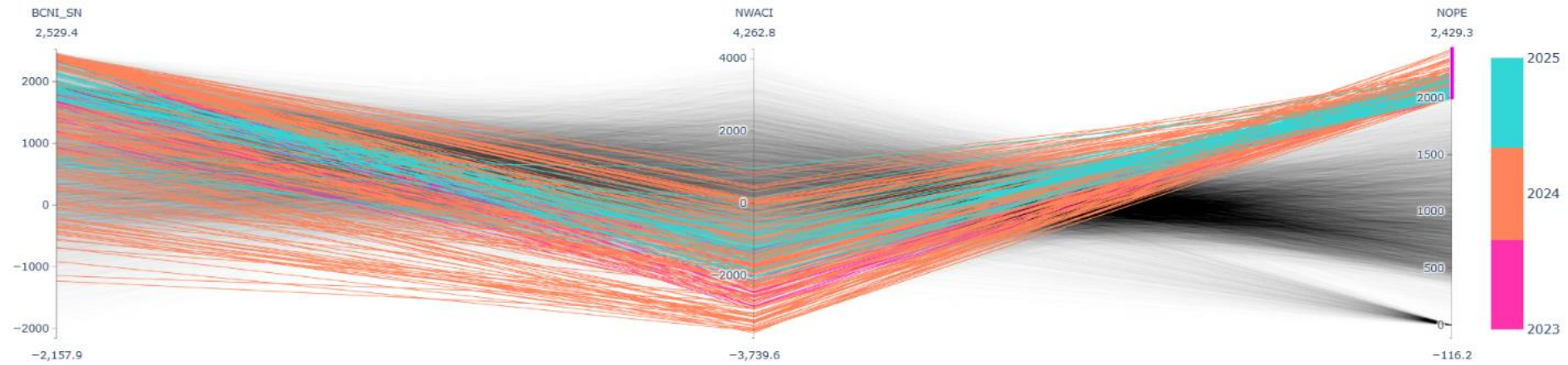
5. BPA studies the following heavy load ETC stress scenarios:
   a. Canadian Entitlement Return modeled on or off
   b. Wind resources designated to serve Point-to-Point and Network Integration Transmission Service customers modeled on or off
   c. Stressing of the three different zones of the Federal Columbia River Power System: Upper Columbia, Lower Columbia and Lower Snake
6. The heavy load cases also model customers' export rights on paths like the AC N>S and DC N>S.

Proposed ST ATC Improvement (cont.)

7. The current heavy load stress scenarios are not reflective of recent changes in system usage.
8. BPA has observed that customers have secured rights on the AC S>N and DC S>N to import California energy into the Pacific Northwest (PNW) during peak hours.
9. BPA does not currently study a California import scenario in its heavy load base cases.
10. Data shows that a California import scenario is needed to stress several of BPA's flow-based paths.

Proposed ST ATC Improvement (cont.)

11. As an example, the cross-filter below demonstrates that BPA sees high flows on the North of Pearl ATC path when BPA sees flows from the PNW to Canada and California to the PNW.



Proposed ST ATC Improvement (cont.)

12. During the most recent ST base case study cycle of Summer 2025, BPA noticed that base ETC on some ATC paths significantly decreased as compared to Summer 2024.

13. This change was driven by increased loads in the PNW, and study assumptions that customers with rights on the AC N>S and DC N>S would fully utilize those rights to export to California.

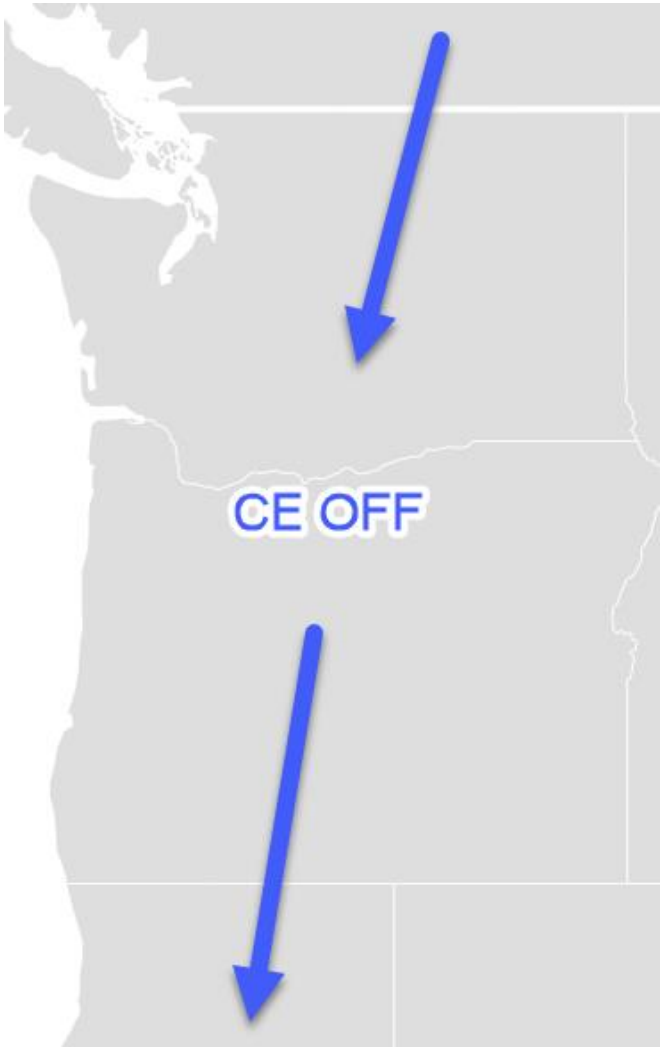
    a. These assumptions resulted in more I-5 thermal generation being on in the Summer 2025 base cases, which decreased base ETC on paths such as North of Pearl.

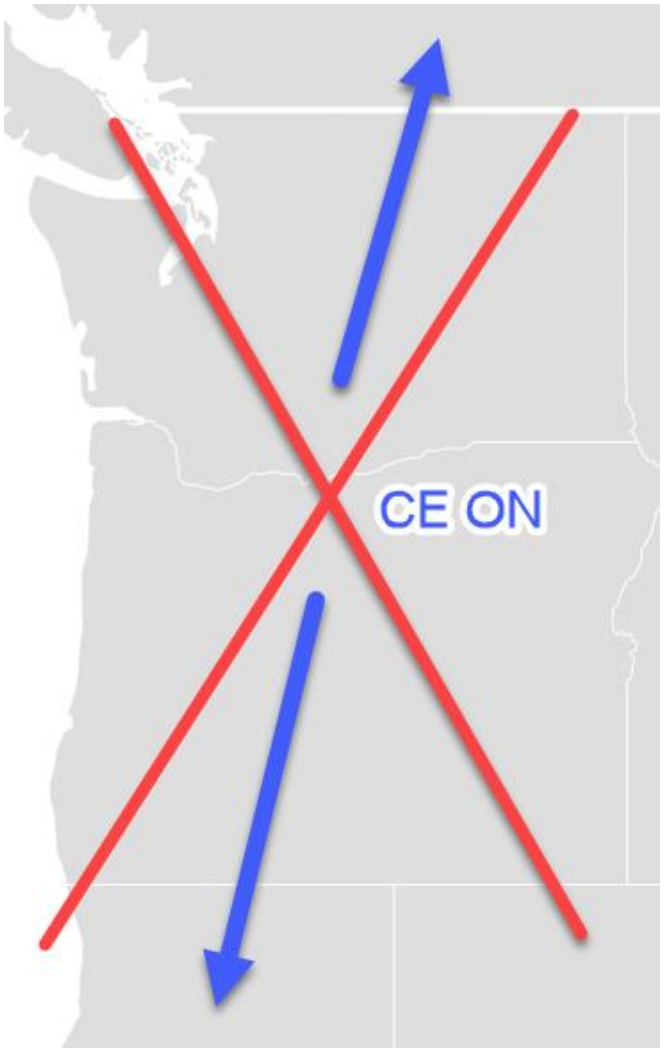
    b. Based on usage patterns being seen today, customers are not using their full export rights on the AC N>S and DC N>S when California energy is available to import.

Proposed ST ATC Improvement (cont.)

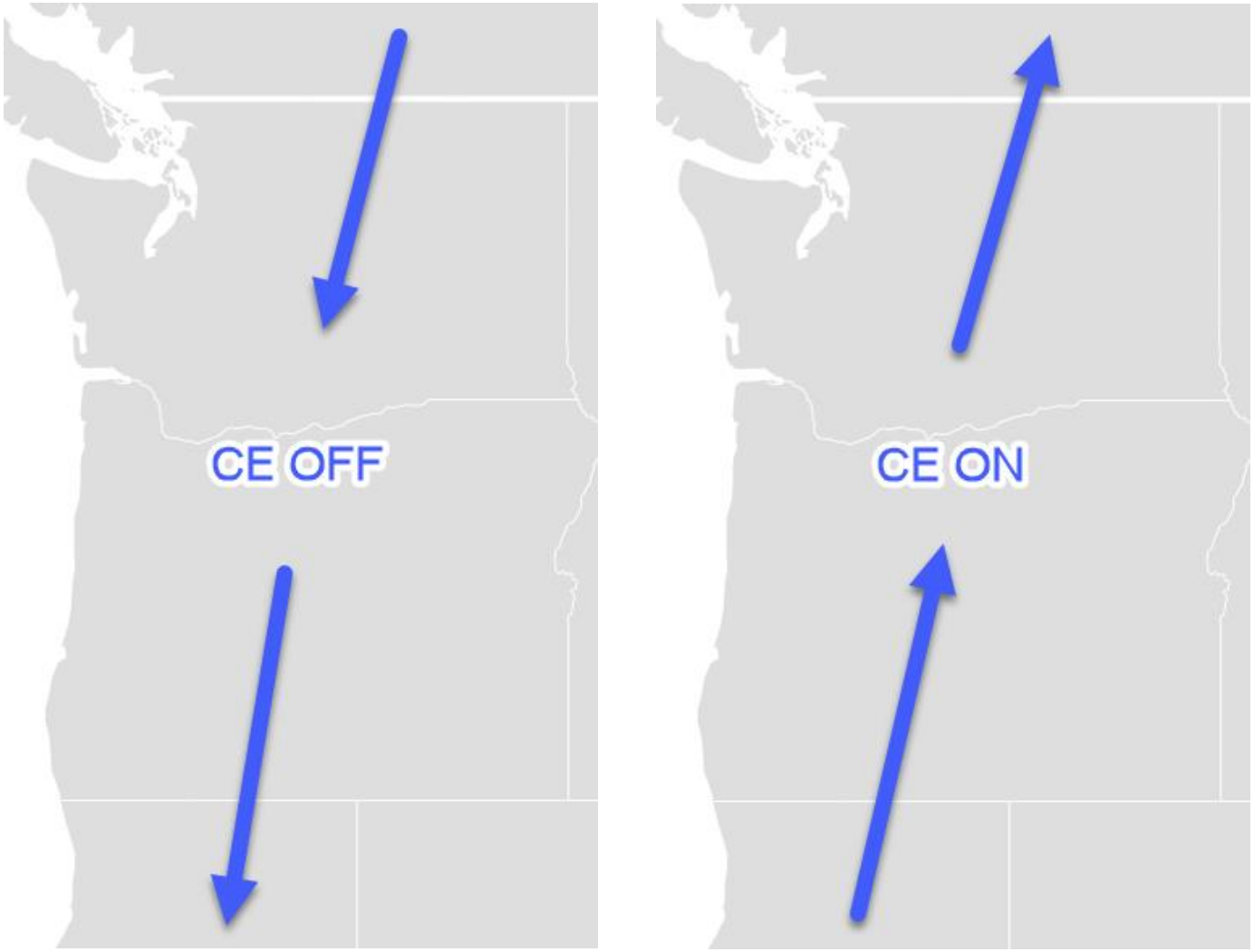
14. To address these findings, BPA would like to model a California import scenario by modifying the Canadian Entitlement Return On stress scenarios to start with the firm rights on the AC and DC in the S>N direction instead of N>S.
    a. BPA has already seen this materialize in some instances in the base cases, due to the balancing of the cases.
    b. However, using this approach upfront will guarantee that this condition is studied each time the base cases are run.

Current State and Proposed Change





Proposed Future State



Proposed ST ATC Improvement (cont.)

15. Although the changes in firm ATC are difficult to project, BPA did see the following differences in ETC when re-studying the August 2025 cases with these new parameters:

Month: Aug	Difference in ETC, new method minus old method
CROSS CASCADES NORTH E>W	1212
CROSS CASCADES SOUTH E>W	1017
NORTH OF HANFORD S>N	995
WEST OF JOHN DAY E>W	-512
NORTH OF ECHO LAKE S>N	306
NORTH OF PEARL S>N	752

16. The new modeling resulted in increases in ETC across five ATC paths, and a decrease in ETC across one. An increase in ETC will result in a decrease in ATC and vice versa. BPA expects future cases/studies to have similar results.

Proposed ST ATC Improvement (cont.)

17. BPA will incorporate these changes beginning with the next suite of studies that will be released in mid-October 2025. Overall, the implementation of this change will take a full year.
    a. Mid-October, 2025: November through February studies to be updated
    b. Mid-February, 2026: March through May studies to be updated
    c. Mid-May, 2026: June through October studies to be updated
18. As an interim solution, BPA has implemented ST Adjustments for the Summer 2025 and 2026 months (June through October) to capture the expected ETC shifts for the paths and values listed on the prior slide.

Wrap up and Next Steps

1. BPA will update its ATCID in mid-October 2025, prior to implementation of these changes in the November 2025 through February 2026 base cases
2. Customer comments on today's update are due by Wednesday, July 23rd, 2025
3. Please send Questions/Comments to techforum@bpa.gov, with a copy to your Account Executive

Appendix – ATC Formulas (Short-Term Horizon)

The firm ATC formula is:

$$\mathbf{ATC_F = TTC - ETC_F - CBM - TRM + Postbacks_F + Counterflows_F}$$

The non-firm ATC formula is:

$$\mathbf{ATC_{NF} = TTC - ETC_F - ETC_{NF} - CBM_S - TRM_U + Postbacks_{NF} + Counterflows_{NF}}$$

Where:

ATC is the firm Available Transfer Capability for the ATC Path for that period.

TTC is the Total Transfer Capability of the ATC Path for that period.

ETC is the sum of existing firm commitments for the ATC Path during that period.

CBM is the Capacity Benefit Margin for the ATC Path during that period.

TRM is the Transmission Reliability Margin for the ATC Path during that period.

TRM_U is the Transmission Reliability Margin that has not been released for sale as non-firm capacity

Postbacks are changes to firm Available Transfer Capability due to a change in the use of Transmission Service for that period, as defined in Business Practices.

Counterflows are adjustments to firm Available Transfer Capability as determined by the Transmission Service Provider and specified in their ATCID.

F subscript refers to Firm; **NF subscript** refers to Non-Firm; **S subscript** refers to Scheduled