

Short-Term Available Transfer Capability (ST ATC) Project Update

September 20, 2022



Agenda

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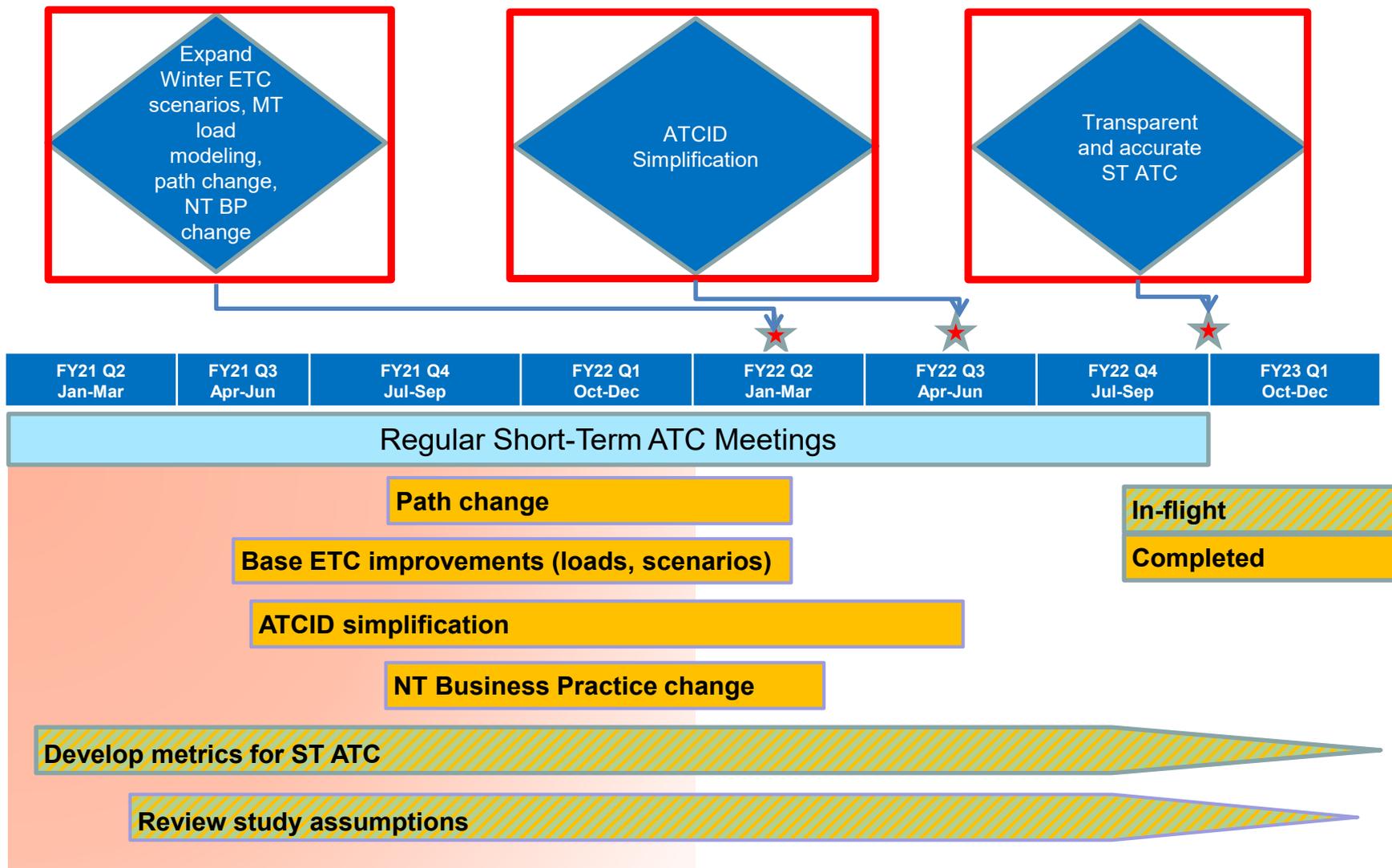
ST ATC Grid Mod Project Status

1. The ST ATC Grid Mod project team was given the task of delivering a more accurate and transparent ST ATC by end of calendar year 2022
2. The team recently evaluated the improvements and bodies of work within the scope of the ST ATC Grid Mod project
3. A majority of improvements initially identified by the project team have been completed
 - a. Improved ST ATC accuracy by expanding automation and processes to enable more frequent and granular base Existing Transmission Commitment (ETC) studies
 - b. Improved the integration of the base ETC studies into ST ATC software
 - c. Reviewed and eliminated, where appropriate, capacity adjustments
 - d. Streamlined ST ATC documentation and the ST ATC website

ST ATC Grid Mod Project Status (cont.)

4. BPA is transitioning the remaining in-flight project improvements from the Grid Mod project umbrella to core workload
 - a. ST ATC metrics
 - b. Alignment of BPA's Attachment C with the ST ATC methodology (this is being done within the TC-24 process)
5. ST ATC will be closed out as an official Grid Mod project
6. BPA sees ST ATC as a continuous improvement effort and will continue to work on ST ATC improvements
7. ST ATC meetings will continue to be held as team has changes to discuss with customers – we will not hold meetings unless there is new information to discuss

Short-Term ATC Grid Mod Project Timeline



In-flight ST ATC Improvement

(previously discussed in earlier meetings)



In-flight ST ATC Improvement #1

Description: Development of ST ATC metrics

1. The ST ATC project is continuing work on ST ATC metrics
2. The comparison report of base ETCs between current year and prior year has been expanded and deployed to production
 - a. This report allows the team to identify and analyze base ETC swings from year to year and ensure accuracy of our study results
3. BPA is continuing to collect Total Transfer Capability (TTC) data to compare the seasonal All Lines in Service (ALIS) TTCs with outage-informed TTCs across each flow-based path
 - a. BPA will analyze the differences between the seasonal ALIS and outage-informed TTCs to determine next steps for each path once more data is available

In-flight ST ATC Improvement #1 (cont.)

4. The ST ATC team is continuing to develop a report to identify large ST ATC swings
 - a. Report will allow ST ATC team identify the drivers of ST ATC changes (e.g. there has been a TTC de-rate versus a system issue)

Proposed ST ATC Improvements



Proposed ST ATC Improvement #1

Description: Account for the shared ownership of the Cross Cascades North (CCN) ATC path in the base ETC for the path

1. The CCN path definition includes both BPA-owned lines and a Puget Sound Energy-owned line; BPA is also party to an allocation agreement across this path
2. BPA allocates TTC across this path in accordance with the allocation agreement in both the NERC time horizon (0-13 months) and the Planning Time Period (beyond 13 months)
3. BPA does not account for the shared ownership of this path in the base ETC powerflow studies in the NERC time horizon (0-13 months)

Proposed ST ATC Improvement #1 (cont.)

4. Current process for calculating base ETC across CCN:
 - a. BPA models both the BPA-owned lines and the Puget Sound Energy-owned line in the CCN path interface used in the base ETC powerflow studies
 - b. This modeling assumes that all the flows occurring on the CCN path come from BPA's obligations – despite the shared ownership of this path and the allocation agreement in place
 - i. This assumption is out of alignment with the Planning Time Period (beyond 13 months), where BPA only models the BPA-owned lines in the CCN path interface when calculating ETC
 - ii. This assumption is also out of alignment with other BPA paths with shared ownership, such as South of Allston, Columbia Injection and Wanapum Injection. On these paths, BPA accounts for shared ownership in both the TTC and base ETC calculations.
5. Proposed process for calculating base ETC across CCN:
 - a. Model only the BPA-owned lines in the CCN path definition used in the base ETC powerflow studies

Proposed ST ATC Improvement #1 (cont.)

6. Benefits of the change

- a. ST ATC across CCN will increase, as this change accounts for the shared usage of the CCN path in the base ETC calculations
- b. Change aligns how BPA calculates ETC between the NERC time horizon (0-13 months) and the Planning Time Period (beyond 13 months)
- c. Change aligns how BPA accounts for shared ownership across CCN with the methodology used across other shared flow-based ATC paths

7. Anticipated implementation date

- a. BPA will begin implementing this change with the upcoming November through February monthly base ETC studies, which will be implemented to OASIS in October 2022
- b. Overall, it will take BPA to mid-May 2023 to fully implement this change into all the monthly base ETC studies

Proposed ST ATC Improvement #2

Description: Update generation data for the Headwater federal hydro projects

1. BPA is working to update the Headwater project generation data used in the base ETC cases
 - a. The Headwater projects are Libby, Hungry Horse, Dworshak, and Albeni Falls
 - b. The current generation values are based on the requirements of the 2000 Biological Opinion and are static from year to year
 - c. Team's goal is to establish a process to automatically refresh this generation data at the time that BPA is performing its base ETC studies, so that the data better reflects the time period studied
2. Anticipated implementation date: To be determined, based on how quickly team can pull together updated generation values

Wrap up

1. BPA will continue to work on the in-flight and proposed ST ATC changes and will update its ATCID prior to implementation of any changes
 - a. BPA will communicate additional information and/or implementation dates via Tech Forum
2. Comments on today's update are due by October 4, 2022
3. Please send Questions/Comments to techforum@bpa.gov, with a copy to your Account Executive

Appendix – ATC Formulas (NERC Time Horizon)

The firm ATC formula is:

$$\mathbf{ATC}_F = \mathbf{TTC} - \mathbf{ETC}_F - \mathbf{CBM} - \mathbf{TRM} + \mathbf{Postbacks}_F + \mathbf{Counterflows}_F$$

The non-firm ATC formula is:

$$\mathbf{ATC}_{NF} = \mathbf{TTC} - \mathbf{ETC}_F - \mathbf{ETC}_{NF} - \mathbf{CBM}_S - \mathbf{TRM}_U + \mathbf{Postbacks}_{NF} + \mathbf{Counterflows}_{NF}$$

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