

ISSUE #28: TC-20 – SHORT- TERM AVAILABLE TRANSFER CAPABILITY (ST ATC) PROJECT UPDATE

Objectives

1. TC-20 Settlement Status for ST ATC
2. ST ATC Project Timeline
3. Latest Completed ST ATC Improvements
4. Proposed ST ATC Improvement
5. Additional Work on ST ATC
6. Wrap up

TC-20 Settlement Status for ST ATC

BPA's TC-20 Settlement commitments on ST ATC were:

1. Begin evaluation in the second quarter of 2019 and identify any potential improvements to short-term ATC that could be implemented before October 1, 2021
 - a. Status: on-track
 - b. BPA proposed its initial ST ATC improvements to customers on June 13, 2019, and improvements have been implemented regularly over the last year (transition to monthly base cases, more frequent PDTFs, many others)

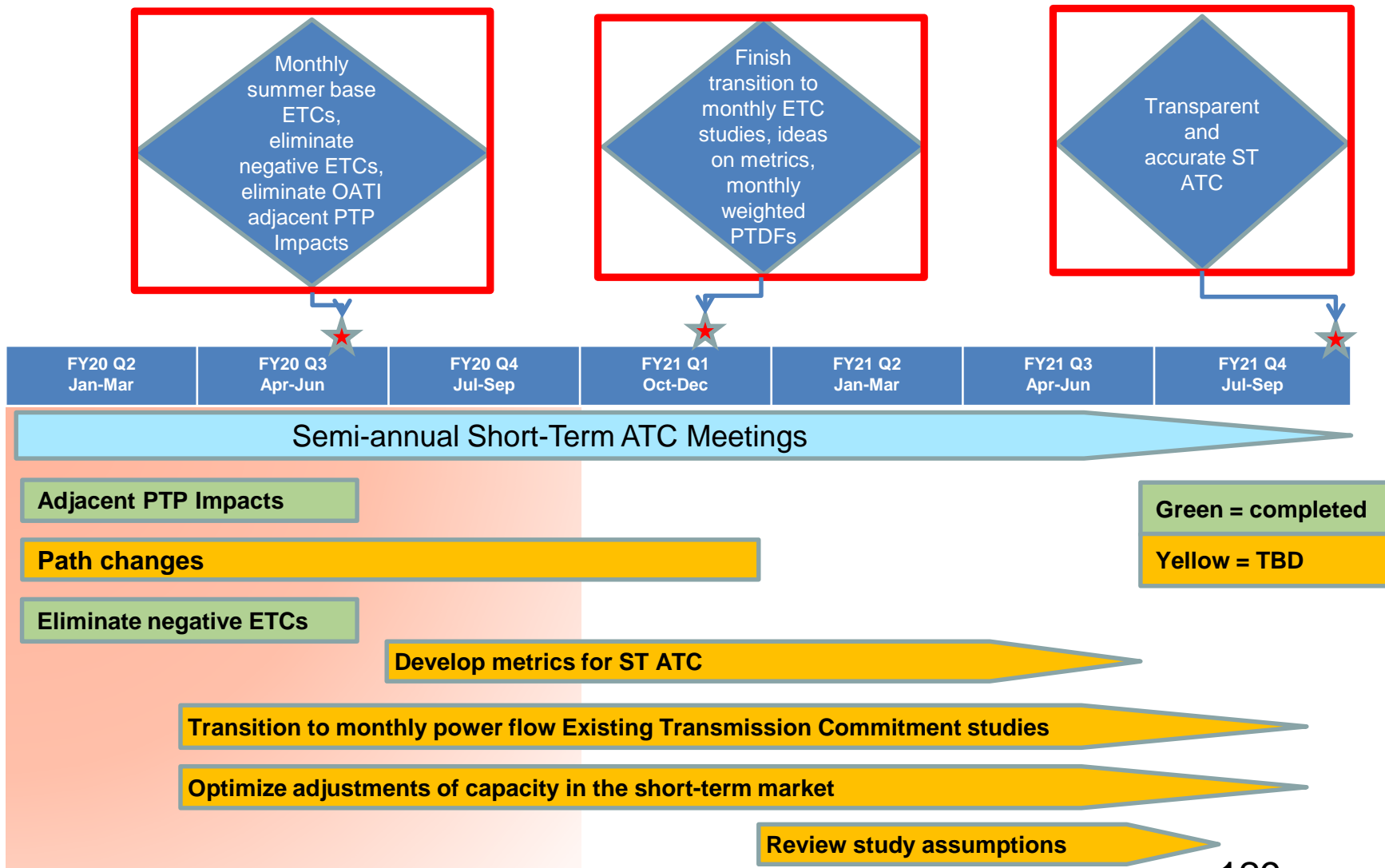
TC-20 Settlement Status for ST ATC (cont.)

2. Hold a short-term ATC workshop in the fourth quarter of 2019, and the second and fourth quarter of each fiscal year until October 1, 2021
 - a. Status: ST ATC workshops to date have exceeded the required frequency
 - b. Workshops have been held in June 2019, August 2019, September 2019, November 2019, December 2019, January 2020, March 2020

TC-20 Settlement Status for ST ATC (cont.)

3. Provide a review of timelines and parameters for making specific changes to ATC/available flowgate capability (“AFC”) methodology to improve accuracy in the short-term ATC workshops
 - a. Status: on-track
 - b. Timelines presented in customer workshops and additional details communicated via Tech Forum notices
4. Continue to calculate and post hourly ATC/AFC values
 - a. Status: stable ongoing process
 - b. BPA is continuing to calculate and post hourly ATC/AFC values in accordance with regulatory requirements and the TC-20 Settlement

Short-Term ATC Project Timeline



Latest Completed ST ATC Improvements

1. Transitioned from one heavy load base Existing Transmission Commitment (ETC) study for Summer season to monthly heavy load base ETC studies for June through October
 - a. Monthly studies enable BPA to use monthly load and generation forecasts for our Balancing Authority (versus seasonal peaks)
 - b. Monthly studies also allow for more timely updates to system topology and generation energizations
2. Final set of monthly heavy load ETC cases will be released in late October and will cover the months of November through March

Latest Completed ST ATC Improvements (cont.)

- The table below illustrates BPA’s transition to monthly heavy load ETC cases:

POSTED TO OASIS	HEAVY ETC BASE CASE STUDIES PERFORMED											
Prior to Mar-20	SPRING		SUMMER					WINTER				
Mar-20	APR	MAY	SUMMER					WINTER				
May-20	APR	MAY	JUN	JUL	AUG	SEP	OCT	WINTER				
Oct-20	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR

- BPA will evaluate whether to transition to monthly light load ETC cases after the heavy load ETC cases are all transitioned to a monthly granularity

Latest Completed ST ATC Improvements (cont.)

5. Began using zero as base ETC when power flow studies result in a negative base ETC
6. Eliminated the impacts of adjacent Transmission Service Provider impacts calculated by OATI from BPA's ETC calculation
7. The system update to incorporate the above changes occurred on May 20, 2020
 - a. Changes updated ATC for the NERC horizon, starting with June 1, 2020

Latest Completed ST ATC Improvements (cont.)

8. BPA has consolidated all information about ST ATC on its ATC Methodology page
 - a. The ATCID, past workshop presentations, customer comments and other related documents can be found on this page
 - b. The link for the ATC Methodology page is:
<https://www.bpa.gov/transmission/Doing%20Business/ATCMethodology/Pages/default.aspx>

Proposed ST ATC Improvement #1

Description: Increase accuracy of weighted BPAPower, FCRPS and BPAPUNSCHD Power Transfer Distribution Factors (PTDFs) by using generation and load profiles from each monthly ETC base case

1. Current process

- a. BPA calculates weighted PTDFs by using generation and load profiles from a proxy ETC base case for several months
- b. May ETC case is used to calculate weighted PTDFs for April and May
- c. August ETC case is used to calculate weighted PTDFs for June through October
- d. January ETC case is used to calculate weighted PTDFs for November through March

Proposed ST ATC Improvement #1 (cont.)

2. Proposed process

- a. BPA would like use the generation and load profiles from individual monthly ETC cases to calculate the weighed PTDFs for each individual month
- b. Generation and load profiles from the January ETC case would be used to calculate the weighted PTDFs for January, generation and load profiles from the February ETC case would be used to calculate the weighted PTDFs for February and so on

3. Benefits of change

- a. Weighted PTDFs will better represent the time period that ETC is being calculated for
- b. Improved accuracy of the resulting ST ATC

4. Anticipated implementation date: Summer/Fall 2020

Additional Work on ST ATC

Description: BPA has completed an evaluation on whether BPA's current Pending ETC methodology can be modified to release capacity encumbered for requests in BPA's long-term pending queue to the short-term market sooner

1. Pending ETC is the capacity that BPA encumbers for Original and Redirect requests in BPA's long-term pending queue
 - a. BPA processes TSRs in order of queue time, with earlier queued requests having priority to ATC
 - b. TSRs in the long-term pending queue have an earlier queue time than short-term TSRs
2. In the 0 to 4 month time frame, BPA releases capacity that is encumbered for requests in the long-term pending queue, unless an offer is in process

Additional Work on ST ATC (cont.)

3. In the 4 to 13 month time frame, BPA encumbers 100% of capacity needed to enable Original and Redirect requests in the long-term pending queue
4. BPA analyzed historical data to determine what percentage of Pending ETC was being used to enable Original and Redirect long-term offers in the 4 to 13 month time frame
 - a. BPA performed this evaluation to ensure BPA is not encumbering capacity in the 4 to 13 month time frame that could be released to the ST market without impacting queue priority
5. BPA found that there were times where close to 100% of the Pending ETC had been needed to enable offers in the 4 to 13 month time frame

Additional Work on ST ATC (cont.)

6. BPA does not plan to change its Pending ETC process based on analysis of the historical data
7. BPA will periodically evaluate data on Pending ETC usage to see if the Pending ETC process should be updated

Additional Work on ST ATC (cont.)

Description: Evaluate what type of controls are needed in the Satsop 230 kV substation area in the 0 – 13 month NERC horizon

1. At the ST ATC update on December 12, 2019, BPA also it was evaluating what type of controls were needed in the in the Satsop 230 kV substation area
2. BPA has completed this evaluation and concluded that both congestion management tools and an ATC Path are needed to manage this area
3. BPA will first add congestion management tools in this area
 - a. Congestion management tools will allow BPA will to monitor the Satsop 230 kV substation area for curtailments

Additional Work on ST ATC (cont.)

4. Once congestion management tools are in place, BPA will work on adding a full ATC Path in this area for the NERC horizon
5. Once this ATC Path is created, the following changes will occur:
 - a. BPA will calculate and post ATC for this new path for 0 – 13 months
 - b. TSRs will require ST ATC across this path
6. Additional details on the cutover dates for both the addition of the Satsop 230 kV substation congestion management tools as well the full ATC Path addition will be communicated when they are known

Additional Work on ST ATC (cont.)

Description: Develop metrics for ST ATC

1. BPA is beginning to work on metrics for ST ATC
2. The ST ATC team is compiling ideas and will share these with customers
3. Team will be building upon the data already being collected on ST ATC in the TC-20 settlement

Wrap up

1. BPA continues to work on the proposed ST ATC changes and will update its ATCID prior to implementation of any changes
2. Comments on the ST ATC proposed improvements discussed today are due in 2 weeks – comments will close July 8, 2020
3. Please send Questions/Comments to techforum@bpa.gov, with a copy to your Account Executive
4. Next ST ATC meeting is being planned for September 2020
 - a. BPA will send out a Tech Forum when the date is finalized and the information will be posted on the ATC Methodology page under Meetings
(<https://www.bpa.gov/transmission/Doing%20Business/ATCMethodology/Pages/default.aspx>)

Appendix – ATC Formulas (NERC Time 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