

Short-Term Available Transfer Capability Project

Why are we proposing the change?

TC-20 settlement stated that by October 1, 2021, BPA would use reasonable efforts to develop an accurate and transparent ST ATC methodology and would:

1. Begin evaluation in the second quarter of 2019 and identify any potential improvements to ST ATC that could be implemented before October 1, 2021
2. Hold a ST ATC workshop in the fourth quarter of 2019, and second and fourth quarters of each fiscal year until October 1, 2021
3. Provide a review of timelines and parameters for making specific changes to the ST ATC methodology in the workshops
4. Continue to calculate and post hourly ATC values

What is being changed?

Given the nature of the drivers for this project, the ST ATC project is being structured in the following manner:

- The project is part of the [Grid Modernization](https://www.bpa.gov/Projects/Initiatives/Grid-Modernization/Pages/Grid-Modernization.aspx) portfolio at BPA
 - <https://www.bpa.gov/Projects/Initiatives/Grid-Modernization/Pages/Grid-Modernization.aspx>
- Given the [TC-20 settlement](https://www.bpa.gov/transmission/CustomerInvolvement/TC20Implementation/Pages/default.aspx) connection, BPA will be using the TC-20 communication format, with customer workshops, as work unfolds on this effort
 - <https://www.bpa.gov/transmission/CustomerInvolvement/TC20Implementation/Pages/default.aspx>

A core team from Transmission, with support from Grid Mod, has been established:

- Project Sponsors: Michelle Cathcart, Tina Ko and Meg Albright
- Product Owners: Kevin Johnson and Margaret Olczak

What is being changed?

In response to the Pro Forma Gap Analysis and TC-20 settlement commitments on ST ATC, BPA has:

1. Created a ST ATC organization within Transmission Operations
2. Begun work to define incremental improvements that can be made to BPA's ST ATC

What are the change impacts?

1. BPA will present proposed ST ATC improvements in customer meetings/workshops
 - a. BPA will not have all the details of the proposed improvements at these initial meetings
2. Customer comments on the proposed improvements will be accepted in a 20 business day comment period following customer meeting
 - a. Send comments to techforum@bpa.gov
 - b. BPA will respond to comments within 20 business days after comment period closes
3. BPA will update customers on the implementation information and dates as this information becomes available
 - a. BPA will communicate these details via tech forum notices, and can hold additional customer meetings for more involved changes

What are the change impacts?

4. BPA's ST ATC methodology documents, the ATCID and TRMID, will be updated as needed to reflect ST ATC improvements
 - a. Documents will be posted prior to implementation of any changes
 - b. Comments received on proposed ST ATC improvements from customer workshops will be considered in the ATCID and/or TRMID changes
5. On occasion, BPA might need to update the ATCID or TRMID on short notice, in order to maintain NERC-compliant documents
 - a. In these instances, the ATCID and/or TRMID will be updated and changes will be communicated via a tech forum notice
 - b. These types of changes should be infrequent

What are the change impacts?

The ATC Calculation (from MOD-029-2a) is:

When calculating firm ATC for an ATC Path for a specified period, the Transmission Service Provider shall use the following algorithm:

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

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.

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.

What are the change impacts?

BPA has identified the following initial ST ATC improvements:

1. Update Power Transfer Distribution Factors (PTDFs) for network paths more frequently
2. Eliminate the impacts of unscheduled Network Integration Transmission Service of BPA's adjacent Transmission Service Provider areas (noted as RETC in ATCID) from BPA's ST ATC on the network paths
3. Implement updated Total Transfer Capability (TTC) and Transmission Reliability Margin (TRM) studies for West of Garrison E>W
4. Convert West of Hatwai from an External Interconnection to a Flowgate

What are the change impacts?

Improvement #1: Update PTDFs for network paths more frequently

1. Currently, BPA uploads PTDFs to OATI systems once per day
 - a. PTDFs are used to calculate a portion of the ETC, and therefore ST ATC, for BPA's network paths
 - b. PTDFs are also used to calculate the impacts of new Transmission Service Requests (TSRs) across network paths
2. PTDFs are based on outage-informed system topology at the time of upload and forecasted federal generation pattern (for weighted "BPA Power" PTDF)
3. BPA would like to increase the frequency of PTDF uploads to OATI systems
 - a. This will allow PTDFs to capture an updated federal generation pattern for the "BPA Power" and an updated system topology throughout the day
4. BPA does not have details on how often PTDFs will be updated yet but will share this info as soon as it is available

What are the change impacts?

Improvement #1 (cont.): Update PTDFs for network paths more frequently

5. Customer impacts
 - a. Since PTDFs are used to calculate the network impacts for TSRs customers submit to BPA, customers may see different approval responses to the same TSR based on the set of PTDFs in use at the time their TSR is submitted
 - b. Customers will see changes to ST ATC for the network paths after new PTDFs are uploaded to OATI systems, as the uploads will trigger a recalculation of the ETCs, and therefore ST ATCs, for the network paths
6. BPA expects to implement this improvement by end of September 2019

What are the change impacts?

Improvement #2: Eliminate the impacts of unscheduled Network Integration Transmission Service of BPA's adjacent Transmission Service Provider areas from BPA's non-firm ST ATC for its network paths

1. Currently, these impacts are included in BPA's real-time horizon non-firm ETC, and therefore real-time horizon non-firm ATC, for the network paths
 - a. Process is a hold-over from when BPA was using NERC's MOD-030 methodology for its network paths
 - b. BPA believes that this data element should not be included in BPA's non-firm ST ATC for network paths as it is not related to commitments that BPA has made across its system
2. BPA would like to stop performing this process and expects a more accurate non-firm ST ATC as a result of this change
3. BPA expects to implement this improvement by September 2019

What are the change impacts?

Improvement #3: Implement updated TTC and TRM studies for West of Garrison E>W

1. Initial Transmission Operation studies show that BPA can increase the TTC across West of Garrison E>W to 2200 MW
 - a. 2200 MW is based on an all lines in service assumption, and does not consider ownership shares on the path
2. Operational studies assume a favorable generation pattern across the path
 - a. Due to this, BPA will implement a Firm TRM across West of Garrison E>W, in conjunction with the TTC increase, to account for uncertainties in generation dispatch
 - b. Firm TRM will be in place when TTC is above 2000 MW
3. Customer Impacts
 - a. Customers will begin seeing updated TTC and TRM values for West of Garrison E>W upon implementation
4. BPA expects to implement this improvement by mid-August 2019

What are the change impacts?

Improvement #4: Convert West of Hatwai from an External Interconnection to a Flowgate (use flow-based analysis to calculate Short Term ETC)

1. Short Term ATC team expects to adopt a flow-based analysis to calculate Short Term ETC across West of Hatwai, based on the findings of the Long-Term ATC team
2. Customer impacts
 - a. Increase in Short Term ATC across West of Hatwai is expected
 - b. BPA will curtail in real-time using iCRS, as is used for the other network ATC Paths (currently West of Hatwai is curtailed prior to flow using a one-to-one methodology)
3. BPA expects to implement this Short Term improvement in Fall of 2019 (will coincide with system update for winter 2019 ETC values across the network paths)

What are the next steps?

- Comments on the ST ATC proposed improvements are due in 20 business days – comments will be accepted until July 12, 2019
- BPA will review comments and reply by August 9, 2019
- BPA will let customers know when further details and exact implementation dates are available via tech forum email
- BPA will update ATCID/TRMID documents prior to implementing each of these changes
- Please send Questions/Comments to techforum@bpa.gov