



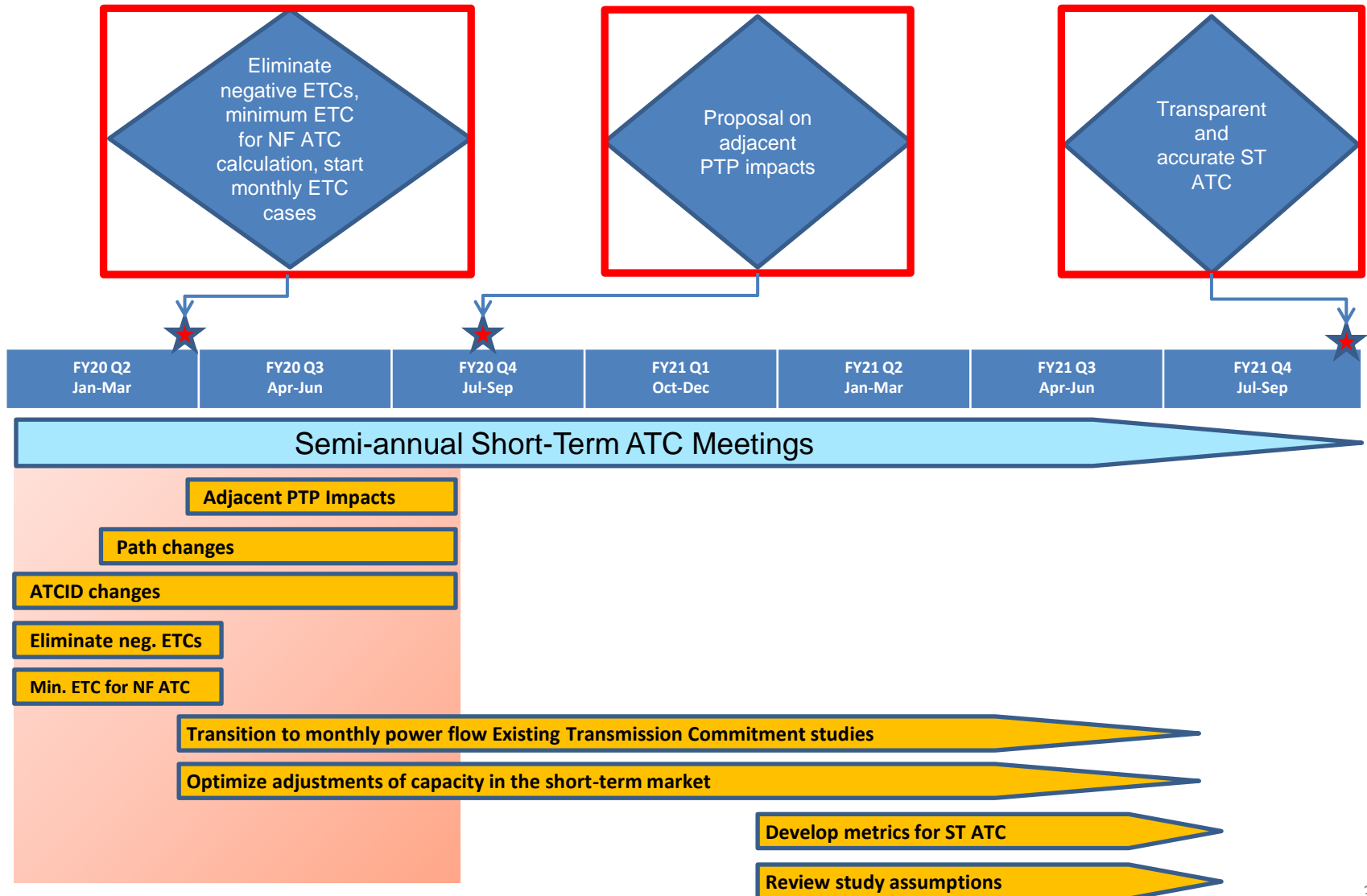
# Short-Term Available Transfer Capability (ST ATC) Project Update

January 30, 2020 Webinar

# Agenda

1. ST ATC Project Timeline
2. ATC Calculation
3. Inflight ST ATC Improvements
4. Proposed ST ATC Improvements
5. Wrap up

# Short-Term ATC Project Timeline



# ATC Formulas for the 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<sub>U</sub>** 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

# Inflight ST ATC Improvements #1

Description: ATC Implementation Document (ATCID) work

1. ATCID work is continuing to ensure that ATCID language properly reflects BPA's ST ATC methodology and aligns with Attachment C of BPA's OATT
2. Latest ATCID revision was posted effective January 28, 2020
  - a. Revision clarifies how BPA models the rights of its adjacent Transmission Service Providers in its ETC cases and how BPA accounts for newly-energized generation and transmission updates in its ETC cases
  - b. Details of changes are available in the Version History in the ATCID

# Inflight ST ATC Improvements #2

Description: Transition to monthly Existing Transmission Commitment (ETC) power flow studies

1. BPA will transition to monthly ETC studies in Spring 2020
  - a. Current ETC power flow studies are seasonal, with three studies performed per year (Spring, Summer and Winter)
  - b. The seasonal ETC values are used to establish the base ETC values used in the ST ATC calculation for all 12 months of the year
2. Benefits of monthly ETC power flow studies
  - a. Monthly studies will enable BPA to use monthly load and generation forecasts for our Balancing Authority, as opposed to seasonal peak forecasts
  - b. Monthly studies will enable BPA to update system topology and generation energizations in a more timely manner

# Inflight ST ATC Improvements #2 (cont.)

3. Anticipated schedule for transition to monthly ETC studies:
  - a. WECC Spring 2020 case will be used for April and May ETC studies
    - i. These studies will be reflected in the April and May ATC values in OASIS in late March 2020
  - b. WECC Summer 2020 case will be used for June, July, August, September and October ETC studies
    - i. These studies will be reflected in the June, July, August, September and October ATC values in OASIS in late May 2020
  - c. WECC Winter 2021 case will be used for November, December, January, February and March ETC studies
    - i. These studies will be reflected in the November, December, January, February and March ATC values in OASIS in late October 2020

# Inflight ST ATC Improvements #3

Description: Updated Total Transfer Capability (TTC) study and posting process

1. BPA announced an enhancement to its TTC study and posting process across its North of Echo Lake and South of Custer paths on January 17, 2020
2. Slides with details on the enhanced process are posted under the January 17, 2020 meeting at: <https://www.bpa.gov/transmission/Doing%20Business/ATCMethodology/Pages/Meetings.aspx>



# Proposed ST ATC Improvements #1

Description: Use the minimum ETC result from the power flow base cases to calculate non-firm ATC across flow-based paths for 0 to 13 month NERC horizon

1. ETC is the sum of existing commitments across each path
2. Currently, BPA uses the maximum ETC result from the power flow base cases to calculate firm and non-firm ATC for the NERC horizon
3. BPA releases the difference between the maximum and minimum ETC results from the power flow to non-firm ATC in the 0 to 4 month time frame
  - a. This is described as a commercial uncertainty margin in BPA's ATCID
  - b. This process results in BPA using the minimum ETC for its non-firm ATC for the 0 to 4 month horizon

# Proposed ST ATC Improvements #1 (cont.)

## 4. Current Process

	0 to 4 months	4 to 13 months
Firm ATC	Maximum ETC	Maximum ETC
Non-Firm ATC *	Minimum ETC	Maximum ETC

## 5. Proposed Process – change is highlighted in Green

	0 to 4 months	4 to 13 months
Firm ATC	Maximum ETC	Maximum ETC
Non-firm ATC *	Minimum ETC	Minimum ETC

\* For non-firm ATC, minimum ETC will be used in the Beyond Real-Time Horizon to 13 months. In the Real-Time Horizon that begins at 22:00 the day prior to the delivery day, BPA sums firm schedules, non-firm schedules and unscheduled non-firm reservations to calculate non-firm ETC.

# Proposed ST ATC Improvements #1 (cont.)

6. Staff has analyzed this process and believes that BPA can use the minimum ETC in its non-firm ATC calculation for the entire 0 to 13 month NERC horizon, without impacting reliability
7. Customer Impacts
  - a. Upon this change, customers will no longer see a release of additional non-firm ATC around the four month time frame, as the additional capacity will already have been made available
8. BPA expects to implement this change at the end of March 2020
  - a. Change will be implemented as the next base ETC numbers are released

# Proposed ST ATC Improvements #2

Description: If power flow studies result in negative base ETCs (indicating that power is expected to flow counter to the constraint), treat the base ETC as zero

1. BPA has observed several instances where power flow studies have resulted in negative base ETC values across BPA's flow-based paths
2. Negative base ETC values indicate that, if all commitments modeled in the base case are scheduled, BPA will see negative flows on that path
  - a. Negative ETC values result from counterflows, as power flow studies inherently include counterflows
  - b. However, not all commitments in the ETC base case will be scheduled, and therefore, counterflows are not expected to materialize as assumed by the power flow
  - c. Using a negative base ETC value in the ATC calculation may result in ATC values that are higher than the TTC of a path

# Proposed ST ATC Improvements #2 (cont.)

## 3. Customer Impacts

- a. At the last upload of base ETC data in late October 2019, BPA had negative maximum ETC values for the following paths/seasons:
  - i. South of Allston S>N for all seasons
  - ii. North of Hanford N>S and South of Custer N>S for the Winter season
- b. The above time frames are traditionally not constrained across the above paths
- c. Customers will see ATC values that don't assume counterflows will materialize across impacted paths after this change is implemented

## Proposed ST ATC Improvements #2 (cont.)

4. This change will create alignment with the long-term ETC studies, as negative ETC results from the long-term cases are treated as zero
5. BPA expects to implement this change at the end of March 2020
  - a. Change will be implemented as the next base ETC numbers are released

# Wrap up

1. BPA will continue to work on the proposed ST ATC changes and will let customers know when additional details and exact implementation dates are available
  - a. BPA's ATCID will be updated prior to implementation of any changes
2. Comments on the ST ATC proposed improvements discussed today are due in 20 business days – comments will close February 14, 2020
  - a. BPA will review comments and reply by February 28, 2020
3. Please send Questions/Comments to [techforum@bpa.gov](mailto:techforum@bpa.gov)