

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

August 20, 2020

Agenda

1. Firm and non-firm ST ATC analysis
2. Background on modeling of the Canadian Entitlement Return (CER) obligation
3. Results summary
4. Wrap up

Firm and Non-Firm ST ATC Analysis

1. The ST ATC team has performed several analyses on the firm and non-firm ST ATC, with a focus on North of Echo Lake
2. In February 2020, team noticed that BPA's posted firm and non-firm ATC across North of Echo Lake seemed high given that BPA was experiencing high flows on the path
3. The team investigated and found that several Resales were not being included in ST ATC calculations
 - a. BPA fixed this problem and now all Resales are being included in ST ATC calculations

Firm and Non-Firm ST ATC Analysis (cont.)

4. Team followed up with another check on North of Echo Lake on April 21, 2020
 - a. At 8:33, NOEL flows were 1758 MW and the posted commercial TTC was 2270 MW
 - b. The difference between actual flow and TTC was 512 MW
 - c. BPA's posted non-firm ATC for the hour was 509 MW, in line with the flow analysis
 - d. BPA's posted firm ATC was 1223 MW at this time, which was 711 MW higher than flows indicated was available at the TTC of 2270 MW
 - e. Although BPA no longer sells hourly firm ATC in the real-time day, this same firm ATC would have also been available in the preschedule horizon

Firm and Non-Firm ST ATC Analysis (cont.)

5. Team followed up with another North of Echo Lake ST ATC analysis on July 6th, 2020
 - a. For HE11, NOEL flows averaged 716 MW and the posted commercial TTC was 2060 MW
 - b. The difference between average actual flow and TTC was 1344 MW
 - c. BPA's posted firm ATC was 2179 MW at this time
 - d. If BPA had sold all 2179 MW, we would have exceeded the TTC by an average of 835 MW

Firm and Non-Firm ST ATC Analysis (cont.)

6. Team began to investigate on what was causing such wide differences between BPA's posted firm ST ATC and the flows that were being observed across North of Echo Lake

Background on modeling of the Canadian Entitlement Return (CER) obligation

1. The team decided to focus on BPA's CER short-term adjustment in the Spring and Summer months
 - a. This adjustment was implemented several years ago, when BPA streamlined the short-term scenarios BPA runs to determine its base Existing Transmission Commitments (ETC)
 - b. At that time, BPA decided to eliminate the scenario that modeled the CER as being delivered to Canada in the Spring and Summer months
 - c. Instead, BPA implemented an adjustment based on Power Transfer Distribution Factors (PTDF) meant to approximate this scenario
 - d. This adjustment is currently applied to ST ATC values for March through October of each year

Background on modeling of the CER obligation (cont.)

2. The team decided to look at whether the PTDF adjustment was appropriately encumbering for the assumption of CER being delivered to Canada
3. This analysis was performed by running an additional scenario in the monthly power flow ETC cases for April through October
 - a. The additional scenario stresses the Lower Columbia, models Wind On, models the CER as being exported to Canada and reduces to COI exports to California

Results summary

1. ETCs from the additional scenario were compared to ETCs being used in BPA's ST ATC calculations, plus the CER adjustment that is meant to account for this scenario
 - a. This comparison confirmed that the CER PTDF adjustment is not adequately encumbering for the assumption of the CER being delivered to Canada in Spring and Summer months
2. Additional **firm** ETC adjustments were needed on several paths to **firm** ST ATC to account for this finding
 - a. These adjustments **reduce firm ST ATC** available on these paths
 - b. They were needed to fully account for the firm obligations that BPA has sold across its system, to mitigate risk of firm curtailments, and to mitigate operational risk associated with over-selling firm capacity

Results summary (cont.)

3. Firm ETC adjustments were made on North of Echo Lake, Cross Cascades North, Cross Cascades South, North of Hanford S>N, and West of John Day
4. Months impacted were September and October 2020 and March through October 2021. Future months will be posted using the updated models.
5. This change doesn't impact any other ATC Paths or the ST ATC values for the winter months of November through February
 - a. BPA already includes this additional scenario when establishing ETCs for the November through February months

Results summary (cont.)

Firm ST ATC remaining after additional adjustments were made (based on data from OASIS as of 08/19/2020):

Firm ST ATC Post Change	20-Sep	20-Oct	21-Mar	21-Apr	21-May	21-Jun	21-Jul	21-Aug	21-Sep	21-Oct
North of Echo Lake	980	897	0	286	270	596	604	438	420	393
Cross Cascade North	1872	1323	1652	2263	2302	2506	2500	2401	2442	2129
Cross Cascade South	1539	1529	1896	2713	3021	1940	1958	1984	1920	1705
North of Hanford S>N	4288	4630	4077	4791	4600	4599	4585	4548	4552	4552
West of John Day	1238	1289	1677	1829	1901	1349	1393	1453	1413	1338

Results summary (cont.)

Additional **firm ST ATC** adjustments implemented on 08/19/20:

ST ATC Adjustment	Sep/Oct 2020	Mar 2021	Apr/May 2021	Jun - Oct 2021
North of Echo Lake	-1274	-313	-835	-1274
Cross Cascade North	-1110	-137	-781	-1110
Cross Cascade South	-116	11	-22	-116
North of Hanford S>N	-192	-213	-425	-420
West of John Day	-232	0	0	-257

Wrap up

1. BPA implemented the additional firm ST ETC adjustments discussed in this meeting on Wednesday, August 19th, 2020.
2. Adjustments to capacity were made in OASIS, where BPA officially posts its ST ATC values, prior to this meeting to comply with Standards of Conduct requirements.
3. BPA needed to make these adjustments urgently, to both properly account for firm obligations on BPA's system, as well as to mitigate operational risk.
4. The ST ATC team will hold a meeting in late September 2020 to discuss the additional power flow scenarios needed to properly account for CER in the Spring and Summer months, and comments will be taken on the information presented in that meeting.