

Firm Available Transfer Capability (ATC_F) Methodology for the Long-Term Planning Time Horizon (Beyond 13 Months through 10 Years)

Version 19

Effective: October 1, 2023

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1. Purpose

This document describes the Bonneville Power Administration's (BPA's) methodology for calculating ATC_F for the Long-Term Planning Time Horizon (beyond 13 months through 10 years). BPA's ATC Methodology for the 0 to 13 Month Time Horizon is documented in BPA's ATC Implementation Document and Transmission Reliability Margin Implementation Document.

2. Definitions

Capitalized terms within this document are defined in BPA's Open Access Transmission Tariff, Transmission & Ancillary Service Rate Schedules, BPA's Business Practices, and/or the North American Electric Reliability Corporation Glossary of Terms.

3. ATC_F Methodology

In the Long-Term Planning Time Horizon (beyond 13 months through 10 years), BPA has both 1:1 ATC paths and flow-based paths. These paths are identified in the Map of Long-Term BPA Constraints, provided on BPA's external website.

BPA only calculates ATC_F across its 1:1 ATC paths in the Long-Term Planning Time Horizon (beyond 13 months through 10 years). BPA does not calculate ATC_F for the flow-based paths in this horizon. For the flow-based paths, commercial power flow studies -- informed by BPA's share of the TTCs -- are performed to evaluate whether Transmission Service Requests and/or Network Load and resource forecasts, impacting flow-based constraints during this time period, can be granted or require additional studies to identify transmission system upgrades necessary to reliably offer transmission service.

The mathematical algorithm BPA uses to calculate ATC_F for the Long-Term Planning Time Horizon for the 1:1 ATC paths is as follows:

$$ATC_F = TTC - ETC_F - TRM$$

4. Total Transfer Capability (TTC)

TTC is the Total Transfer Capability of the ATC path during that period. BPA establishes TTCs as follows:

For the Reno - Alturas ATC path, BPA uses the WECC Path Rating for Path 76, Alturas Project. For the La Grande ATC path, BPA uses the allocation specified in the WECC Path Rating Catalog for Path 14, Idaho-to-Northwest.

On flow-based and other 1:1 ATC paths, BPA performs reliability studies using WECC cases to determine the TTC. Topology changes from new or retired facilities, as well as updated load forecast assumptions, are incorporated into these TTC studies. Long-term outages are considered in setting the TTC if BPA determines that the TTC will be significantly reduced for a specific period as a result of these outages. Where applicable, BPA applies BPA's allocation for each path to the TTC established in the TTC studies. The TTC values used in BPA's ATC_F calculations correspond to BPA's allocation of each 1:1 ATC path.



5. Firm Existing Transmission Commitments (ETC_F)

ETC_F is the sum of Existing Firm Commitments for the ATC path during that period. The mathematical algorithm BPA uses to calculate ETC_F for its 1:1 ATC paths for the Long-Term Planning Time Horizon is as follows:

$$\text{ETC}_F = \text{NITS}_F + \text{GF}_F + \text{PTP}_F + \text{ROR}_F$$

NITS_F is the firm capacity reserved for Network Integration Transmission Service serving Network Load, to include losses, and Network Load growth.

BPA uses ten year maximum 1 in 10 coincidental peak load forecasts to encumber capacity for customers with a designated resource of the Federal Columbia River Power System (FCRPS). For customers with a designed resource outside of FCRPS, BPA uses the capacity designated for the resource to encumber capacity across these paths.

On the La Grande W>E ATC path, BPA uses a different methodology to encumber capacity for customers with a designated resource of FCRPS. BPA encumbers firm capacity based on the 1 in 10 coincidental peak load forecast less critical water forecasts of the federal generation located in the Idaho Balancing Authority Area.

GF_F is the firm capacity reserved for grandfathered Transmission Service and contracts for energy and/or Transmission Service initially executed prior to the Federal Energy Regulatory Commission's issuance of Order No. 888.

The amount of GF_F BPA encumbers across its 1:1 paths is based on the terms of each individual contract.

PTP_F is the firm capacity reserved for confirmed firm Point-to-Point Transmission Service.

PTP_F is equal to the sum of the MW Demands of BPA's PTP_F reservations across each 1:1 ATC path. In some cases, BPA has PTP_F contracts that give customers the right to schedule between multiple Points of Receipt (PORs) and Points of Delivery (PODs). However, the customer can only schedule up to the MW amount specified in their contract. Multiple reservations are created for these special cases to allow BPA to model each POR-to-POD combination. The amount encumbered for these cases does not exceed the total PTP_F rights specified in the contracts.

ROR_F is the firm capacity reserved for roll-over rights for contracts granting Transmission Customers the right of first refusal to take or continue to take transmission service when the Transmission Customer's transmission service contract expires or is eligible for renewal.

BPA assumes that a Transmission Customer with a transmission service contract containing the right of first refusal will take or continue to take transmission service when that contract expires or is eligible for renewal, unless otherwise notified by the Transmission Customer.

6. Transmission Reliability Margin (TRM)

TRM is the Transmission Reliability Margin for the ATC path during that period.

Since BPA's Long-Term Planning Time Horizon TTC accounts for reliability concerns, BPA does not calculate a separate TRM for any of its ATC paths.

