



Platte River

Power Authority

Version: 1.0

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Available Transmission Capability Implementation Document (ATCID)

Ref: MOD-001-1a, NERC Adopted 11/05/09, FERC Approved 11/24/2009

MOD-029-1a, NERC Adopted 11/05/09, FERC Approved 09/16/2010

1. Purpose:

The Available Transfer Capability Implementation Document (ATCID) provides the documentation of PRPA's calculation of Available Transfer Capability (ATC).

2. Definitions:

2.1. There are no terms specific to PRPA used in this document, refer to the applicable NERC standards and Glossary of Terms for terminology definitions.

3. Implementation:

3.1. PRPA uses the Rated System Path Methodology which is described in NERC Standard MOD-029.

3.2. PRPA calculates ATC values based on the Rated System Path Methodology and posts ATC values to OASIS for the following timelines:

3.2.1. Hourly values for the next 168 hours.

3.2.2. Daily values for the next 31 calendar days.

3.2.3. Weekly values for the next 4 weeks.

3.2.4. Monthly values for the next 12 months (months 2 - 13).

3.2.5. Yearly values for the next 3 years.

3.3. PRPA uses the OATI WebTrans and Outage Management products to implement its ATC calculation for posting to OASIS. The algorithms for PRPA's posted paths can be found in the document "PRPA ATC Path" Table 1, which is updated typically twice annually with seasonal forecast data.

3.3.1. Total Transfer Capability (TTC) is determined in accordance with NERC Standard MOD-029, Rated System Path Methodology. TTC is established using the lesser value of the transfer capability or the System Operating Limit (SOL) for the ATC Path.

3.3.2. Existing Transmission Commitments (ETC) is determined as follows:

3.3.2.1. Firm:

$$ETC_F = NL_F + NITS_F + GF_F + PTP_F + ROR_F + OS_F$$

Where:

PRPA's Consideration:

<p>NLF is the firm capacity set aside to serve peak Native Load forecast commitments for the time period being calculated, to include losses, and Native Load growth, not otherwise included in Transmission Reliability Margin or Capacity Benefit Margin.</p>	<p>PRPA uses NLF on the TOT 5 path, refer to "PRPA ATC Path" Table 1 for more information. No Other PRPA ATC paths are affected by NLF.</p>
<p>NITSF is the firm capacity reserved for Network Integration Transmission Service serving Load, to include losses, and Load growth, not otherwise included in Transmission Reliability Margin or Capacity Benefit Margin.</p>	<p>PRPA sets aside firm Network Integration Transmission Service capacity on TOT 5 for Tri-State to serve their Network Loads with. TSPM-NL is the TSN used.</p>
<p>GFF is the firm capacity set aside for grandfathered Transmission Service and contracts for energy and/or Transmission Service, where executed prior to the effective date of a Transmission Service Provider's Open Access Transmission Tariff or "safe harbor tariff."</p>	<p>PRPA sets aside firm capacity for grandfathered Transmission Service and contracts for energy and/or Transmission Service as required. Refer to "PRPA ATC Path" Table 1 for more information.</p>
<p>PTPF is the firm capacity reserved for confirmed Point-to-Point Transmission Service.</p>	<p>PRPA accounts for the firm capacity of a transmission reservation reserved for confirmed Point-to-Point Transmission Service.</p>
<p>RORF 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.</p>	<p>PRPA estimates the capacity that a transmission customer with Roll-over rights might Roll-over at contract expiration. Refer to "PRPA ATC Path" Table 1 for more information.</p>
<p>OSF is the firm capacity reserved for any other service(s), contract(s), or agreement(s) not specified above using Firm Transmission Service as specified in the ATCID.</p>	<p>PRPA does not set aside any firm capacity reserved for any other service(s), contract(s), or agreement(s) not specified above using Firm Transmission Service as specified in the ATCID.</p>

3.3.2.2. Non – Firm:

$$ETC_{NF} = NITS_{NF} + GF_{NF} + PTP_{NF} + OS_{NF}$$

Where:

PRPA’s Considerations

NITS_{NF} is the non-firm capacity set aside for Network Integration Transmission Service serving Load (i.e., secondary service), to include losses, and load growth not otherwise included in Transmission Reliability Margin or Capacity Benefit Margin.	PRPA does not set aside non-firm capacity for Network Integration Transmission Service serving Load.
GF_{NF} is the non-firm capacity set aside for grandfathered Transmission Service and contracts for energy and/or Transmission Service, where executed prior to the effective date of a Transmission Service Provider’s Open Access Transmission Tariff or “safe harbor tariff.”	PRPA sets aside non-firm capacity for grandfathered Transmission Service and contracts for energy and/or Transmission Service as required. Refer to “PRPA ATC Path” Table 1 for more information.
PTP_{NF} is non-firm capacity reserved for confirmed Point-to-Point Transmission Service.	PRPA accounts for the non-firm capacity of a transmission reservation for confirmed Point-to-Point Transmission Service.
OS_{NF} is the non-firm capacity reserved for any other service(s), contract(s), or agreement(s) not specified above using non-firm transmission service as specified in the ATCID.	PRPA does not set aside any non-firm capacity reserved for any other service(s), contract(s), or agreement(s) not specified above using Firm Transmission Service as specified in the ATCID.

3.3.3. ATC is determined as follows:

3.3.3.1. Firm:

$$ATC_F = TTC - ETC_F - CBM - TRM + Postbacks_F + Counterflows_F$$

3.3.3.2. Non – Firm

$$ATC_{NF} = TTC - ETC_F - ETC_{NF} - CBMS - TRMU + Postbacks_{NF} + Counterflows_{NF}$$

3.4. Postbacks:

3.4.1. Postbacks are not credited to Firm ATC.

3.4.2. Postbacks from unscheduled Firm capacity are credited to Non-Firm ATC.

3.5. Counterflow is interpreted to be counter schedules for the calculation of ATC.

3.5.1. Counterflow / counter schedules only apply to the four PRPA ATC Paths associated with TOT1A and TOT5.

3.5.2. PRPA does not consider Counterflow / counter schedules in its Firm or Non-Firm ATC in all ATC paths because:

3.5.2.1. Schedules historically are in the primary direction of the ATC Path (CRG-AU and CRG-BOZ) and no schedules exist in the opposing direction.

3.5.2.2. For simplification of scheduling and operations.

3.5.3. Counterflow will be assumed to be zero (0) in all ATC Path calculations.

3.5.4. PRPA will continually re-evaluate the need to implement Counterflow / counter schedules in the ATC calculation and revise as necessary.

3.6. ATC Data Received from Other Entities:

3.6.1. PRPA receives data from the following entities for use in its ATC calculation:

3.6.1.1. Xcel Energy / Public Service Company of Colorado.

3.6.1.2. Western Area Power Administration, Western Area Colorado Missouri.

3.7. TTC Data Delivered to Others

3.7.1. PRPA provides data to the following entities for their use in calculations of TTC:

3.7.1.1. Xcel Energy / Public Service Company of Colorado.

3.7.1.2. Western Area Power Administration, Western Area Colorado Missouri.

3.8. Allocation:

3.8.1. The TTC allocation processes are described below for each ATC Path. Platte River's allocation of transfer capability on any ATC Path is not impacted by congestion management or seams coordination activities.

3.8.1.1. TOT 5 W-E (aka WECC Path 39)

3.8.1.1.1. Applicable to ATC Paths CRG-AU and CRG-BLUE

3.8.1.1.2. TOT 5 TTC is divided among four Transmission Owners based on ownership in the individual transmission facilities that comprise the path.

3.8.1.1.3. PRPA's 28% ownership in the Craig-Ault 345 kV line and 22% ownership in the Craig-Hayden-Gore Pass-Blue River 230 kV line are used to determine the PRPA TTC allocation for System Intact conditions. When there are outages that affect TTC, the Path Operator (Western Area Power Administration) communicates the "Outage TTC" values to the path owners

based on methodologies for determining owner responsibilities in sharing TTC curtailments.

3.8.1.1.4. This is the only path that PRPA applies its TTC allocation alternately on two different lines within the path (based on status of the Craig-Ault 345 kV line) because there are two different points of receipt on TOT 5 W-E.

3.8.1.1.5. When the Craig-Ault 345 kV line is in-service, all of the PRPA TTC allocation is applied to ATC Path CRG-AU.

3.8.1.1.6. When the Craig-Ault 345 kV line is out-of-service, all of the PRPA TTC allocation is applied to ATC Path CRG-BLUE at a curtailed amount.

3.8.1.2. TOT 5 E-W

3.8.1.2.1. Applicable to ATC Path AU-CRG

3.8.1.2.2. TOT 5 TTC is divided among four Transmission Owners based on ownership in the individual transmission facilities that comprise the path.

3.8.1.2.3. PRPA's 28% ownership in the Craig-Ault 345 kV line and 22% ownership in the Craig-Hayden-Gore Pass-Blue River 230 kV line are used to determine the PRPA TTC allocation for System Intact conditions. When there are outages that affect TTC, the Path Operator (Western Area Power Administration) communicates the "Outage TTC" values to the path owners based on methodologies for determining owner responsibilities in sharing TTC curtailments.

3.8.1.2.4. (BLUE is a POD only)

3.8.1.2.5. When the Craig-Ault 345 kV line is in-service, all of the PRPA TTC allocation is applied to ATC Path AU-CRG.

3.8.1.1. TOT 5 W-E (aka WECC Path 39)

3.8.1.1.1. Applicable to ATC Paths CRG-AU and CRG-BLUE

3.8.1.1.2. TOT 5 TTC is divided among four Transmission Owners based on ownership in the individual transmission facilities that comprise the path.

3.8.1.1.3. PRPA's 28% ownership in the Craig-Ault 345 kV line and 22% ownership in the Craig-Hayden-Gore Pass-Blue River 230 kV line are used to determine the PRPA TTC allocation for System Intact conditions. When there are outages that affect TTC, the Path Operator (Western Area Power Administration) communicates the "Outage TTC" values to the path owners

based on methodologies for determining owner responsibilities in sharing TTC curtailments.

3.8.1.1.4. This is the only path that PRPA applies its TTC allocation alternately on two different lines within the path (based on status of the Craig-Ault 345 kV line) because there are two different points of receipt on TOT 5 W-E.

3.8.1.1.5. When the Craig-Ault 345 kV line is in-service, all of the PRPA TTC allocation is applied to ATC Path CRG-AU.

3.8.1.1.6. When the Craig-Ault 345 kV line is out-of-service, all of the PRPA TTC allocation is applied to ATC Path CRG-BLUE at a curtailed amount.

3.8.1.2. TOT 5 E-W

3.8.1.2.1. Applicable to ATC Path AU-CRG

3.8.1.2.2. TOT 5 TTC is divided among four Transmission Owners based on ownership in the individual transmission facilities that comprise the path.

3.8.1.2.3. PRPA's 28% ownership in the Craig-Ault 345 kV line and 22% ownership in the Craig-Hayden-Gore Pass-Blue River 230 kV line are used to determine the PRPA TTC allocation for System Intact conditions. When there are outages that affect TTC, the Path Operator (Western Area Power Administration) communicates the "Outage TTC" values to the path owners based on methodologies for determining owner responsibilities in sharing TTC curtailments.

3.8.1.2.4. (BLUE is a POD only)

3.8.1.2.5. When the Craig-Ault 345 kV line is in-service, all of the PRPA TTC allocation is applied to ATC Path AU-CRG.

3.8.1.2.6. When the Craig-Ault 345 kV line is out-of-service, there is no TTC on ATC Path AU-CRG.

3.8.1.3. TOT 1A E-W

3.8.1.3.1. Applicable to ATC Path CRG-BOZ

3.8.1.3.2. TOT 1A TTC is divided among four Transmission Owners based on ownership in the individual transmission facilities that comprise the path.

3.8.1.3.3. PRPA's 10% ownership in the Craig-Bonanza 345 kV line is used to determine the PRPA TTC allocation for System Intact conditions. When there are outages that affect TTC, the Path Operator (Western Area Power

Administration) communicates the “Outage TTC” values to the path owners based on methodologies for determining owner responsibilities in sharing TTC curtailments.

3.8.1.3.4. When the Craig-Bonanza 345 kV line is in-service, all of the PRPA TTC allocation is applied to ATC Path CRG-BOZ.

3.8.1.3.5. When the Craig-Bonanza 345 kV line is out-of-service, there is no TTC on ATC Path CRG-BOZ.

3.8.1.4. TOT 1A W-E

3.8.1.4.1. Applicable to ATC Path BOZ-CRG

3.8.1.4.2. TOT 1A TTC is divided among four Transmission Owners based on ownership in the individual transmission facilities that comprise the path.

3.8.1.4.3. PRPA’s 10% ownership in the Craig-Bonanza 345 kV line is used to determine the PRPA TTC allocation for System Intact conditions. When there are outages that affect TTC, the Path Operator (Western Area Power Administration) communicates the “Outage TTC” values to the path owners based on methodologies for determining owner responsibilities in sharing TTC curtailments.

3.8.1.4.4. When the Craig-Bonanza 345 kV line is in-service, all of the PRPA TTC allocation is applied to ATC Path BOZ-CRG.

3.8.1.4.5. When the Craig-Bonanza 345 kV line is out-of-service, there is no TTC on ATC Path BOZ-CRG.

3.8.1.5. TOT 7 N-S

3.8.1.5.1. Applicable to ATC Path AU-STVRN

3.8.1.5.2. TOT 7 TTC is divided among two Transmission Owners based on ownership in the individual transmission facilities that comprise the path.

3.8.1.5.3. PRPA’s 100% ownership in the Ault-Timberline-Harmony-Portner-Boyd-Longs Peak-Fort St.Vrain 230 kV line and 40% ownership in the Ault-Windsor-Fort St.Vrain 230 kV line are used to determine the PRPA TTC allocation for System Intact conditions. When there are outages that affect TTC, either the Path Operator (Public Service of Colorado) or PRPA determines and communicates the “Outage TTC” value to the other path owner based on methodologies for determining owner responsibilities in sharing TTC curtailments.

3.8.1.5.4. There are three parallel 230 kV line corridors connecting Ault and Fort St.Vrain that comprise the TOT 7 path. For any outage that causes a curtailment, the “Outage TTC” value is applied to ATC Path AU-STVRN.

3.8.1.6. Rawhide-Ault

3.8.1.6.1. Applicable to ATC Path RAW-AU

3.8.1.6.2. Rawhide-Ault TTC is 100% PRPA.

3.8.1.6.3. PRPA’s 100% ownership in the Rawhide-Ault 230 kV line and 100% ownership in the Rawhide-Timberline-Ault 230 kV line are used to determine the PRPA TTC for System Intact conditions. When there are outages that affect TTC, PRPA determines the “Outage TTC” value.

3.8.1.6.4. For any outage that causes a curtailment, the “Outage TTC” value is applied to ATC Path RAW-AU.

3.9. Generation and Transmission Considerations in ATC Calculations:

3.9.1. The minimum outage duration of a facility which impacts the daily, weekly, monthly and yearly ATC calculations is described below.

3.9.1.1. One hour for daily ATC calculations.

3.9.1.2. One hour for weekly ATC calculations.

3.9.1.3. One hour for monthly ATC calculations.

3.9.1.4. One month for yearly ATC calculations.

3.9.2. The transmission model used to develop TTC is a complete WECC-wide detailed model prepared and reviewed by all Transmission Operators and Transmission Service Providers. All facilities are represented in the model and the facility outages are accounted for.

Version	Date	Action	Change Tracking
1	3/28/2011	Created Version 1.0	New
2	7/22/2016	Review, updated format. Nothing is new or revised.	Review