



## **Tri-State Generation & Transmission Association, Inc.**

### **Available Transfer Capability Implementation Document (ATCID)**

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#### **Determination and Posting of Total Transfer Capability (TTC) and Available Transfer Capability (ATC)**

**April 2016**

## 1. PURPOSE

The Available Transfer Capability Implementation Document (ATCID) provides the documentation of required information as specified in the NERC Modeling, Data, and Analysis (MOD) Standards and the NAESB OASIS Standards, regarding the calculation methodology and information sharing of Available Transfer Capability (ATC) specific to this Transmission Provider.

## 2. GENERAL OVERVIEW

Tri-State Generation and Transmission Association, Inc. (TSGT) has over 5,200 miles of Transmission in the WECC and MRO Regions, primarily located in the states of Wyoming, Colorado, New Mexico, and Nebraska. The TSGT Transmission System is characterized by geographically separated load serving regions which are dependent, to a great extent, upon other Transmission Providers to serve its' member loads. Many of TSGT's loads are served through Network Integration Transmission Service Agreements (NITSA) with other Transmission Providers. TSGT serves loads in the WECC Region primarily, within four (4) Balancing Authority Areas; WACM, PSCO, PNM, and PACE. The TSGT Transmission System, plus its' NITSA's, is adequate to deliver the TSGT Designated Network Resources to its' scattered member loads in a reliable manner. The major load serving regions of TSGT are typically separated by WECC Rated Interface Paths (Rated Paths), and the Total Transfer Capability (TTC) values have been determined under a methodology consistent with the *MOD-029-1a* Rated System Path Methodology.

## 3. TTC GENERAL METHODOLOGY

The TSGT TTC values for jointly owned paths (that are identified and rated through WECC processes and OTC determinations) are based upon the Rated System Path Methodology, found in *MOD-029-1a*. TSGT has TTC allocations on WECC Rated Paths 30 (TOT1A), 31 (TOT2A), 36 (TOT3), 39 (TOT5), 47 (SNMI) and 48 (NNMI). These paths are studied by the Path Operator utilizing actual flow levels at the combined path ratings and under simulated N-1 scenarios to ensure that the planning criterion is being met. The path participants have previously used studies and negotiations to determine the manner in which the TTC will be allocated to each of the participants.

For jointly owned paths that are not WECC Rated Paths, the Transmission Providers determine the appropriate combined TTC and the allocation to each path owner is based upon contractual capacity entitlements. This allocation is done outside of any WECC approval process since these paths are not part of an interface and do not impact any major recognized WECC Rated Paths.

If, during simulation to determine TTC in accordance with *MOD-029-1a*, a reliability limit is not identified, TSGT will base the TTC on the Thermal Facility Ratings for that studied segment. If the *MOD-029-1a* (R2.1) simulation studies result in sufficient flow on an ATC Path segment to determine a reliability limit, then the TTC on the ATC Path segment is set to that simulated reliability limit, while at the same time satisfying all planning criteria.

In addition, TSGT has created many extended ATC Paths that are defined by a serial concatenation of rated path segments. The resulting TTC and ATC for each extended ATC Path is based upon the lowest TTC and ATC of all the serial path segments included in each path definition. TSGT will continue to determine the posted TTC and ATC for its extended paths using this approach.

## 4. CALCULATION OF ATC

### 4.1 ATC Calculation Intervals

TSGT utilizes the *MOD-029-1a* Rated System Path Methodology stated above to calculate ATC values. The ATC values are calculated for the following time frames:

**Hourly** values are calculated for the next **168 hours**

**Daily** values are calculated for the next **31 calendar days**

**Monthly** values are calculated for the next **12 months**

#### 4.1.1 Methodology Used for ATC Calculation, per Intervals Defined in 4.1

##### 4.1.1.1 ATC (Firm) in the Scheduling Horizon:

$$ATCF = TTC - ETC_F - CBM - TRM + POSTBACKS_F + COUNTERFLOWS_F^*$$

##### 4.1.1.2 ATC (Firm) in the Operating Horizon:

$$ATCF = TTC - ETC_F - CBM - TRM + POSTBACKS_F + COUNTERFLOWS_F^*$$

##### 4.1.1.3 ATC (Firm) in the Planning Horizon:

$$ATCF = TTC - ETC_F - CBM - TRM + POSTBACKS_F$$

##### 4.1.1.4 ATC (Non-Firm) in the Scheduling Horizon:

$$ATCNF = TTC - ETC_F - ETC_{NF} - CBM - TRM + POSTBACKS + COUNTERFLOWS$$

##### 4.1.1.5 ATC (Non-Firm) in the Operating Horizon:

$$ATCNF = TTC - ETC_F - ETC_{NF} - CBM - TRM + POSTBACKS + COUNTERFLOWS$$

##### 4.1.1.6 ATC (Non-Firm) in the Planning Horizon:

$$ATCNF = TTC - ETC_F - ETC_{NF} - CBM - TRM + CERTAIN POSTBACKS$$

\* See definition of counterflow at the end of Section 4.2

## 4.2 Firm ATC Derivations

$$ATCF = TTC - ETC_F - CBM - TRM + POSTBACKS_F + COUNTERFLOWS_F^*$$

Firm ATC is the amount of TTC that remains after the  $ETC_F$ , CBM, and TRM have been subtracted, and  $Postbacks_F$  and  $Counterflows_F^*$  have been added back in.

$ETC_F$  includes Firm Transmission Service Reservations (TSR) for serving Network Service Customers loads, Grandfathered Firm Transmission obligations, and any OATT Firm Transmission Sales. Some Firm ATC set-aside values have been created and are included for various paths to recognize system backup obligations and to handle unusual operating configurations when portions of the system become isolated from normal feeds. For the majority of the TSGT Path segments, the TTC is fully utilized for ETC and TRM components. One exception includes the Path segments associated with WECC Rated Path 30 (TOT1A), which connect to an adjacent Balancing Authority system where no TSGT Network Resources or Network Loads exist.

### ***ETC<sub>F</sub> IS CALCULATED AS FOLLOWS:***

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

$NL_F$  is the Firm Transmission Capacity set-aside to serve Peak, Native Load forecast commitments. TSGT does not have any Native Load, and as such, this value is set to zero (0).

$NITS_F$  is the Firm Transmission Capacity reserved for Network Integration Transmission Service (NITS) that is serving Designated Network Load. TSGT has represented all of its NITS obligations with a *Service Code* of NETWORK SERVICE and a *Service Type* of NETWORK. The amount of NITS reservation allocations for each path segment is determined by the delivery analysis of the Designated Network Resources available to serve Designated Network Loads, as constrained by the TTC of the TSGT paths that are available for delivery.

$GF_F$  represents those Firm Grandfathered (GF) agreements implemented prior to July 1996, under which TSGT has reserved capacity to serve transmission customers. TSGT currently has two GF agreements for which it has reserved

Firm capacity. Those agreements affect WECC Rated Path 31 (TOT 2A N>S), and individual TSGT Paths, NYUM > STY and STY>NYUM.

$PTP_F$  represents the Confirmed, Firm TSR's with a *Service Code* of FIRM and a *Service Type* of POINT-TO-POINT.

$ROR_F$  represents Confirmed, Yearly Firm TSR's that have an initial duration of 5-years or longer. Because of the initial duration, these Reservations qualify for Rollover Rights. Those Rollover Rights are represented in the  $ROR_F$  value.

$OS_F$  represents those other obligations not accounted for elsewhere in the  $ETC_F$  calculation. TSGT has several Firm commitments in the  $OS_F$  category to account for unusual operating configurations.

CBM is not utilized by TSGT for any TSGT line segments, nor does TSGT maintain CBM for any of its Network Service Customers. As such, the value for CBM in the equation is always set to zero (0).

TRM is utilized by TSGT. FERC Order 890 Paragraph 273, notes the appropriate uses of TRM. Among the acceptable uses found in the above reference, TRM is allowed to be used for "automatic sharing of reserves". As such, TSGT utilizes TRM for the delivery and receipt of reserves associated with the Rocky Mountain Reserve Group (RMRG) and the Southwest Reserve Sharing Group (SRSG).

Postbacks of Firm Capacity include Firm TSR's that have been Annulled, Redirected (on a Firm basis), or have been subject to a Recall of the Transmission Capacity. Other Postbacks that can occur on the TSGT system would be associated with the Undesignation of a Designated Network Resource in order for the Network Customer to make a Firm sale to a third party. When these types of Undesignations occur, Firm Capacity equal to the amount of the Undesignation will be Recalled and made available through a Postback on a defined path that is connected to the Undesignated Network Resource.

Counterflows are the adjustments to capacity that increase the ATC in a counter direction to the prevailing TTC. **TSGT has no counterflows that are allowed to create Firm ATC in the opposite direction.**

The Scheduling, Operating, and Planning Horizons all use the same ATC Calculation formulas for Firm ATC. TSGT assumes that 100% of all Firm TSR's must be included in the ETC for the Firm ATC Calculations within all OASIS Horizons.

### 4.3 Non-Firm ATC Derivations:

$$ATCNF = TTC - ETCF - ETCNF - CBM - TRM + POSTBACKS + COUNTERFLOWS$$

TSGT uses the above Non-Firm ATC formula when determining the ATC for the Scheduling Horizon (next 8 hours, relative to the current hour) and the Operating Horizon (next 7 days, relative to the current day, beyond the Scheduling Horizon). However, the ATC Calculation for the Planning Horizon (all postings beyond the Operating Horizon) performs different Non-Firm ATC derivations than the Scheduling Horizon and Operating Horizon, as TSGT assumes that all Firm and Non-Firm TSR's will be fully utilized in the Planning Horizon. In addition, Counterflows and Postbacks for unscheduled TSR's are not included in the Planning Horizon.

In the  $ATC_{NF}$  Calculation,  $ETC_{NF}$  includes any Non-Firm TSR's made on the TSGT OASIS, plus any Grandfathered Non-Firm Transmission obligations. Some Non-Firm ATC Set-Aside amounts have been created and are included for various paths to recognize system backup obligations, in order to handle unusual operating configurations when portions of the system become isolated from normal feeds, and to comply with Path Operator requirements.

#### *ETCNF IS CALCULATED AS FOLLOWS:*

$$ETCNF = NITSNF + GFNF + PTPNF + OSNF$$

$NITS_{NF}$  is the Non-Firm TSR's procured through the OASIS for Network Integration Transmission Service that is serving Designated Network Load, from an Undesignated Network Resource. TSGT offers Non-Firm Network Integrated Transmission Service with a *Service Code* of NETWORK NF with a *Service Type* of NETWORK. This service can be reserved only by Network Integration Transmission Service Customers, and the Confirmed TSR's are included in the  $NITS_{NF}$  value.

$GF_{NF}$  represents the Non-Firm Grandfathered (GF) agreements implemented prior to July 1996, under which TSGT has reserved capacity to serve Transmission Customers.

$PTP_{NF}$  represents the Non-Firm, Confirmed TSR's that are procured through the OASIS with a *Service Code* of POINT-TO-POINT, and a *Service Type* of NON-FIRM.

$OS_{NF}$  represents other obligations that are not accounted for elsewhere in the  $ETC_{NF}$  calculation. TSGT does not have any Non-Firm commitments in the  $OS_{NF}$  bucket and as such that value is set to zero (0).

CBM is not utilized by TSGT for any of the TSGT line segments and as such, the value for CBM in the equation is set to zero (0).

TRM is utilized by TSGT. FERC Order 890 Paragraph 273, notes the appropriate uses of TRM. Among the acceptable uses found in the above reference, TRM is allowed to be used for "automatic sharing of reserves". As such, TSGT utilizes TRM for the delivery and receipt of reserves associated with the Rocky Mountain Reserve Group (RMRG) and the Southwest Reserve Sharing Group (SRSG). TRM will reduce the utilized paths' Non-Firm ATC for all Horizons.

Postbacks for the Non-Firm ATC Calculation are accounted for in accordance with the NAESB Business Practice Standards. TSGT includes the full capacity amount of a Firm Transmission Service Reservation as a reduction to the Non-Firm ATC, and then implements a Postback of any unscheduled Firm capacity. The Postback of unscheduled Firm capacity is added back into the Non-Firm ATC Calculation as an increase to Non-Firm ATC, for both the Scheduling Horizon and Operating Horizon.

Counterflows (i.e. Counter Schedules) are allowed to positively increase the Non-Firm ATC for a path in the direction counter to the prevailing TTC rating. TSGT accounts for Confirmed Transmission Service Reservations, expected interchange, and internal Counterflows in the Firm and Non-Firm ATC Calculations in the following manner, relative to the use of Counterflows:

***THE FOLLOWING FORMULAS ARE USED IN CALCULATING FIRM AND NON-FIRM ATC:***

$$ATC_F = TTC - ETC_F - CBM - TRM + POSTBACKS_F + COUNTERFLOWS_F$$

$$ATC_{NF} = TTC - ETC_F - ETC_{NF} - CBM - TRM + POSTBACKS_{(F \& NF)} + COUNTERFLOWS_{(F \& NF)}$$

Confirmed TSR's included in the ETC parameters by themselves do not contribute to Counterflow increases of the Non-Firm ATC in the counter direction unless they are scheduled. Schedules using both Firm and Non-Firm TSR's create Non-Firm ATC from Counterflows. These schedules are never allowed to create Firm ATC from Counterflows. Expected interchange for the Pre-Schedule period always requires the use of TSR's that are included in both Firm and Non-Firm ETC parameters. Interchange schedules for both Firm and Non-Firm TSR's are allowed to create Non-Firm ATC in the opposite path direction for the Scheduling Horizon and Operating Horizon. There is no difference in the way Counterflow adjustments to Non-Firm ATC are made for internal path boundaries. Counterflows are only included in the Non-Firm ATC Calculation. TSGT segments, and those for ATC Path segments that cross Balancing Authority Areas, allows all schedules associated with Confirmed Firm and Non-Firm TSR's to positively increase the Non-Firm ATC on the path in the counter direction to the scheduled direction. No schedules are ever allowed to create Firm ATC from Counterflows.

TSGT has fully implemented the FERC requirement for Counterflow treatment (as stated in FERC Order 890) for the creation of Non-Firm ATC in the counter direction. All schedules using both Firm and Non-Firm TSR's across all ATC Paths (including internal paths) create Non-Firm ATC in the counter direction. TSGT does not allow for the creation of Firm ATC from schedules in the counter direction due to the unpredictability of counter schedules and the potential degradation in service to Firm ETC users in the impacted direction. Both, the Postbacks and Counterflow, calculations are performed whenever one of the TTC or ATC parameters change. The calculation is performed hourly, at minimum.

For the Planning Horizon, neither unscheduled use of Firm or Non-Firm TSR's is posted back to Non-Firm ATC, since TSGT's calculation always assumes that Firm and Non-Firm TSR's will be fully utilized beyond the Operating Horizon. Likewise, Counterflows do not impact Non-Firm ATC in the Planning Horizon due to the unpredictability of the counter schedules and the inability to submit schedules beyond the WECC Pre-Schedule period.



## 5. TRANSMISSION OPERATORS AND TRANSMISSION SERVICE PROVIDERS THAT PROVIDE TTC INFORMATION TO TSGT

### 5.1 TSGT receives TTC allocations on several jointly owned paths from the following path operators:

#### Western Area Power Administration (WACM)

- WECC Rated Paths 30, 31, 36, and 39

#### Western Area Power Administration (WALC)

- Common Bus line Shiprock 345kV to Four Corners 345kV

#### Public Service of New Mexico (PNM)

- WECC Rated Path 48
- Common Bus line San Juan 345kV to Shiprock 345kV
- Common Bus line San Juan 345kV to Four Corners 345kV

#### El Paso Electric Company (EPE)

- WECC Rated Path 47

## 6. TRANSMISSION OPERATORS AND TRANSMISSION SERVICE PROVIDERS THAT TSGT PROVIDES TTC INFORMATION TO

### 6.1 None

## 7. PATH-SPECIFIC ALLOCATION INFORMATION

### 7.1 WACM Paths 30, 31, 36, and 39:

WACM (Path Operator for WECC Rated Paths 30, 31, 36, and 39) continuously provides real-time TTC allocations based upon current operating conditions. TTC allocations are based on the studies run by WACM, and TTC values are allocated according to contractual agreements. With all lines in service, each of the following paths has an optimal, path-specific TSGT TTC allocation as follows:

**7.1.1 Path 30: Maximum total TTC path rating of 650 MW. Two TSGT line segments:**

1. Craig to Bonanza 345kV= TSGT TTC of 29 MW
2. Craig/Calamity Ridge/Southwest Rangely 138 kV (Craig/Hayden 138kV/Axial Basin/Meeker/Southwest Rangely 138kV)= TSGT TTC of 105 MW

**7.1.2 Path 31: Maximum total TTC path rating of 690 MW:**

1. 1. Craig to San Juan 345kV= TSGT TTC of 135 MW N>S
2. 2. San Juan to Craig 345kV= TSGT TTC of 70 MW S>N

**7.1.3 Path 36: Maximum total TTC path rating of 1680 MW:**

1. Path Gateway= Limits TTC to 443 MW
2. Laramie River Station to Ault= TSGT TTC of 289 MW if all Path 36 schedules are on this line
3. Laramie River Station to Story= TSGT TTC of 203 MW if all Path 36 schedules are on this line during outage of the Laramie River Station to Ault line

**7.1.4 Path 39: Maximum total TTC path rating of 1680 MW West to East. 1305 MW East to West:**

1. Path Gateway= Limits TSGT TTC to 260MW W>E and 210 MW E>W
2. Craig to Ault 345kV= TSGT TTC of 260 MW W>E and 150 MW E>W
3. Craig to Blue River 230kV= TSGT TTC of 110 MW W>E and 52 MW E>W

**7.2 WALC Common Bus Line:**

1. Shiprock 345kV to Four Corners 345kV= Total TTC line rating is 1200 MW. TSGT TTC allocation is 150 MW.

\*Total TTC line ratings established at the thermal facility rating

**7.3 PNM Common Bus Line:**

1. San Juan 345kV to Shiprock 345kV= Total TTC line rating of 1075 MW. TSGT TTC allocation of 134 MW.
2. San Juan 345kV to Four Corners 345kV= Total TTC path rating of 1195 MW. TSGT TTC allocation of 149 MW.

\*Total TTC line ratings established at the thermal facility rating

## **7.4 EPE Path 47 Southern New Mexico Import (SNMI):**

EPE is the Path Operator for WECC Path 47 (SNMI), and the path allocations are shared between EPE, PNM, and TSGT.

### **7.4.1 Path 47. Maximum total TTC of 940 MW with all lines in service:**

1. Belen/Bernardo/Socorro 115 kV= Total TTC path rating of 940MW. TSGT TTC of 75 MW N>S, 0 MW S>N

## **7.5 PNM Path 48: Northern New Mexico Import (NNMI)**

PNM is the Path Operator for WECC Path 48 (NNMI). The TSGT rights on Path 48 are limited to serving TSGT Network Loads in Northern New Mexico, as well as some loads in Colorado. The TTC value that TSGT posts for Path 48 is determined from a Powerflow Study performed by PNM:

### **7.5.1 Path 48. Maximum total TTC path rating of 1849 MW with all lines in service:**

1. Walsenburg to Gladstone 230kV with load serving TSGT= TTC of 207 MW N>S
2. Gladstone to Walsenburg 230kV with load serving TSGT= TTC of 207 MW S>N

## **7.6 Common Bus Agreement: SJ345 > Four Corners345**

TSGT has Transmission Capacity Rights across two separate 345kV paths from San Juan to Four Corners

1. San Juan-Four Corners
2. San Juan-Shiprock-Four Corners.

TSGT receives a pro-rata TTC allocation for each of the two paths, based on contractual agreements.

## **7.7 Missouri Basin Power Project (MBPP)**

TSGT is a participant in the Missouri Basin Power Project. TSGT receives capacity allocations on peripheral line segments associated with the MBPP and its' associated contracts. WACM is the Path Operator for the MBPP. TSGT receives TTC information from WACM and then determines TSGT's respective share of the TTC, based on contractual agreements. Participants are not allowed to post any Firm Transmission Capacity on the transmission lines that are part of the project. As such, TSGT does not post Firm Capacity on those paths that are part of the original MBPP agreement.

## 8. MINIMUM FREQUENCY OF RECALCULATION OF ATC

**8.1 ATC is to be recalculated, at a minimum, in the following intervals, using the methodology selected:**

**Hourly** values recalculate at least **once per hour**

**Daily** values recalculate at least **once per day**

**Monthly** values recalculate at least **once per day**

In addition, the TSGT Transmission System is configured as such that any impact that is defined as having an effect on the TTC value will trigger the recalculation of ATC for the impacted paths, at intervals more frequent than those defined for minimum recalculations. Whenever new information arrives that impacts an ATC Path, the system will recalculate ATC to ensure that the most current and accurate ATC values are posted. Also, Daily values will be determined based upon the minimum Hourly value within a day; Monthly values will be determined based upon the minimum Daily value within a month.

## 9. OUTAGE POSTING IMPACTS ON TTC/ATC FOR POSTED PATHS

### 9.1 Transmission outages and any impacting generator outages

Transmission outages and any impacting generator outages are entered into the OATI webTrans system as soon as notifications are provided by the TSGT Outage Coordinators, TSGT Real-Time System Operators, and jointly owned path operators. Generator outages do not impact the TTC values for any TSGT posted ATC Paths that aren't part of a jointly owned path. However, WACM (the Path Operator for several WECC Rated Paths which TSGT is a participant in) has determined through technical studies that a reduction in specific generation for WECC Path 31 and Path 36 will reduce the TTC for those paths. If the TTC for a jointly owned path is impacted by an outage, the TSGT TTC allocation will be determined and provided by the responsible path operator. The adjusted TTC values will be utilized in the ATC Calculation for all Transmission Services and time increments for the duration of the outage, on each impacted path. Based upon the outage information received, the magnitude and duration of impacts on the TTC of each bi-directional impacted path is determined prior to entry into the webTrans system. Once entered, the

webTrans system will utilize the TTC values entered for the duration of the outage, and at such a time that the outage is no longer in effect, the webTrans system will revert back to using the TTC values normally set for that particular path.

## **9.2 If an outage will impact only a portion of a transmission service time period**

If an outage will impact only a portion of a Transmission Service time period, then the TTC and ATC will be reduced for the entire Transmission Service time period to prevent over-scheduling of the impacted path. An outage record may be changed to extend an outage, terminate an outage, or update pertinent information within the outage posting. As soon as an action is taken on the outage record, the record is immediately updated to reflect the new TTC value and associated path ATC values. Outage information entered into webTrans is posted on the secure OATI OASIS website (via the software configuration between webTrans and webOASIS) and is accessible only by OATI OASIS users with digital certificates.

## **9.3 Transmission outages that cannot be mapped directly to the TSGT system model**

Transmission outages that cannot be mapped directly to the TSGT system model but may have an impact on modeled paths on the system are evaluated by the transmission path operator to determine if a change in capacity is warranted due to the outage. If the outage results in a negative impact to a path that is a TSGT posted path, then the path operator will post the outage which will trigger a reduction in the TTC for the time period.

## **10. TSGT Total Transfer Capability (TTC) Summary Table**

Attachment A is a summary table of the TSGT Bulk Electric System path segments that are included in TSGT posted ATC Paths, along with their associated TTC values.

## **11. Entities to be Notified Prior to Implementation of ATCID Changes**

Attachment B includes the table of entities to be notified of ATCID changes.

## 12. ACRONYMS AND DEFINITIONS USED IN THIS DOCUMENT

**BEPC** – Basin Electric Power Cooperative

**EPE** – El Paso Electric Company

**MBPP** – Missouri Basin Power Project

**NNMI** – Northern New Mexico Imports

**OASIS** – Open Access Same-Time Information System

**OATI** – Open Access Technology International

**PACE** – PacifiCorp

**PNM** – Public Service Company of New Mexico

**PSCO** – Public Service Company of Colorado

**SNMI** – Southern New Mexico Imports

**TSGT** – Tri-State Generation and Transmission Association, Inc.

**WACM** – Western Area Power Administration - CM

**WALC** – Western Area Power Administration-DSE

**WECC** – Western Electric Coordinating Council

**ATC (Available Transfer Capability)**- A measure of the transfer capability remaining in the physical transmission network for further commercial activity over and above already committed uses. It is defined as Total Transfer Capability less Existing Transmission Commitments (including retail customer service), less a Capacity Benefit margin, less a Transmission Reliability Margin, plus Postbacks, plus counterflows.

**CBM (Capacity Benefit Margin)** - The amount of firm transmission transfer capability preserved by the transmission provider for Load-Serving Entities (LSEs), whose loads are located on that Transmission Service Provider's system, to enable access by the LSEs to generation from interconnected systems to meet generation reliability requirements. The transmission transfer capability preserved as CBM is intended to be used by the LSE only in times of emergency generation deficiencies.

**Counterflow** -A variable component of the Transmission Provider's selected ATC calculation methodology that impacts ATC in a direction counter to prevailing TTC rating.

**ETC (Existing Transmission Commitments)** - Committed uses of a Transmission Service Provider's Transmission system considered when determining ATC or AFC.

**OTC (Operating Transfer Capability)**- The amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected transmission systems by way of all transmission lines (or paths) between those areas under current or projected operating conditions.

**Postback** -A variable component of the Transmission Provider's selected ATC calculation methodology that positively impacts ATC based on a change in status of a TSR or use of reserved capacity, or other conditions as specified by the Transmission Provider.

**TRM (Transmission Reliability Margin)** -The amount of transmission transfer capability necessary to provide reasonable assurance that the interconnected transmission network will be secure. TRM accounts for the inherent uncertainty in system conditions and the need for operating flexibility to ensure reliable system operation as system conditions change.

**TTC (Total Transfer Capability)** -The amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected transmission systems by way of all transmission lines (or paths) between those areas under specified system conditions. TSGT is allocated a share of the TTC on Paths 30, 31, 36, 39, 47, and 48 and it is that allocated share that TSGT posts as its TTC on those Paths.

### 13. Version History

Revision history log of TSGT Available Transfer Capability Implementation Document (ATCID)

Version	Release Date	File	Comments	Reviewed By (initials)	Approved By (initials)
2.2	March 9, 2012	ATCID 3-9-12 Clean_FINAL 3-5-12 FINAL.pdf	Include MOD references; clarify language; adjust for WACM removal of firm counterflow.	CJ, LJS, RDR, KC	KC
3.0	April 10, 2013	ATCID 4-10-2013_Final.pdf	Updates TTCs and ETCs.	IS, CP, RDR, KC	KC
4.0	April 1, 2014	ATCID 4-1-2014_Final.pdf	WECC Path information, TTCs	IS, CP, RDR, KC	KC
5.0	April 1, 2015	ATCID 4-1-2015 FINAL.pdf	13 Month review and update	SG, CP, RDR, KC	KC
6.0	April 1, 2016	ATCID 4-1-2016 FINAL.pdf	Updated MOD references. 13 Month Review.	SG, CP, RDR, KC	KC

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See Attachment B to the ATCID for external distribution listing (MOD-001-1, R4)	Various	Various