Tri-State Generation & Transmission Association, Inc.

Available Transfer Capability Implementation Document (ATCID)

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

April 2015
1. PURPOSE

The Available Transfer Capability Implementation Document (ATCID) provides for the documentation of required information as specified in the NERC MOD Standards and the NAESB OASIS Standards regarding the calculation methodology and information sharing of Available Transfer Capability 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 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 which are served through Network Integration Transmission Service (Network) Agreements with other transmission providers. TSGT serves loads in the WECC region primarily within four (4) Balancing Authority Areas which are WACM, PSCO, PNM, and PACE. The TSGT owned transmission system, plus its Network Agreements are adequate to deliver the TSGT 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 with the TTC values having been determined under a methodology consistent with the MOD-29 Rated Path Methodology.

3. TTC GENERAL METHODOLOGY

The TSGT path TTC values for jointly owned paths that are interfaces identified and rated through WECC processes and OTC determinations are based upon the Rated System Path Methodology (WECC MOD-29-1). 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 with actual flow levels at the combined path ratings under simulated N-1 scenarios to ensure that the planning reliability criteria are being met. The path participants have previously used studies and negotiations to determine the manner in which the Total 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 are minor paths that are not part of an interface and do not impact any major recognized WECC paths.

If during simulation to determine TTC in accordance with MOD-029 a reliability limit is not identified TSGT will base the TTC on the thermal facility ratings for that studied segment. If
the NERC MOD-029-1 requirement R2.1 simulation studies result in sufficient flow ability on a path segment to determine a reliability limit, then the TTC on the ATC Path segment is set to the simulated flow corresponding to the 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 methodology, stated above, to calculate ATC values. Those 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 Time Period in 4.1

4.1.1.1 ATC (Firm) in the Scheduling Horizon:

\[ \text{ATCF} = \text{TTC} - \text{ETC}_F - \text{CBM} - \text{TRM} + \text{POSTBACKS}_F + \text{COUNTERFLOWS}_F \]

* See definition of counterflow at the end of Section 4.2

4.1.1.2 ATC (Firm) in the Operating Horizon:

\[ \text{ATCF} = \text{TTC} - \text{ETC}_F - \text{CBM} - \text{TRM} + \text{POSTBACKS}_F + \text{COUNTERFLOWS}_F \]

4.1.1.3 ATC (Firm) in the Planning Horizon:

\[ \text{ATCF} = \text{TTC} - \text{ETC}_F - \text{CBM} - \text{TRM} + \text{POSTBACKS}_F \]

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

\[ \text{ATCNF} = \text{TTC} - \text{ETC}_F - \text{ETC}_{NF} - \text{CBM} - \text{TRM} + \text{POSTBACKS} + \text{COUNTERFLOWS} \]
4.1.1.5 ATC (Non-Firm) in the Operating Horizon:

\[\text{ATCNF} = \text{TTC} - \text{ETC}_F - \text{ETC}_{NF} - \text{CBM} - \text{TRM} + \text{POSTBACKS} + \text{COUNTERFLOWS}\]

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

\[\text{ATCNF} = \text{TTC} - \text{ETC}_F - \text{ETCN}_F - \text{CBM} - \text{TRM} + \text{CERTAIN POSTBACKS}\]

4.2 Firm ATC Derivations

\[\text{ATCF} = \text{TTC} - \text{ETC}_F - \text{CBM} - \text{TRM} + \text{POSTBACKSF} + \text{COUNTERFLOWSF}^*\]

Firm ATC is the amount of TTC that remains after ETC, CBM, and TRM have been subtracted and Postbacks\textsubscript{F} and counterflows\textsubscript{F} have been added.

ETC\textsubscript{F} includes firm reservations 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 line segments, the TTC is fully utilized for ETC and TRM components. One exception includes the line 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\textsubscript{F} is calculated as follows:**

\[\text{ETC}_F = \text{NL}_F + \text{NITS}_F + \text{GF}_F + \text{PTP}_F + \text{ROR}_F + \text{OS}_F\]

NL\textsubscript{F} is the firm 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\textsubscript{F} is the firm capacity reserved for Network Integration Transmission Service serving load. TSGT has represented all of its Network Integration Transmission Service reservations with a Service Code of NETWORK SERVICE and a Type of NETWORK. The amount of Network Service reservation allocated for each path segment is determined by the delivery analysis of the Network Resources available to serve identified Network Loads as constrained by the TTC of the TSGT paths that are available for delivery.
GF_F represents those grandfathered agreements 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 Path 31 (TOT 2A N>S), and individual TSGT paths NYUM > STY and STY>NYUM.

PTP_F represents the firm, confirmed transmission service reservations with a Service Code of FIRM and a Type of POINT-TO-POINT.

ROR_F represents those Confirmed, Yearly Firm transmission service reservations that have an initial duration of 5-years or longer and because of the initial duration, 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 deal with unusual operating configurations.

CBM is not utilized by TSGT for any of the 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. In FERC Order 890, paragraph 273 notes the appropriate uses of TRM. In that statement, among the acceptable uses, TRM is allowed to be used for “automatic sharing of reserves”, and as such, TSGT is utilizing 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 reservations 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 Network Resource in order for the Network Customer to make a firm sale to a third party, in which case firm capacity equal to the amount of such an undesignation would be recalled and will be made available through a postback on a defined path that is connected to the undesignated Network Resource.

Counterflows are those adjustments to capacity that positively increase the ATC in a direction counter 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 transmission reservations must be included in the ETC for the Firm ATC calculations within all OASIS horizons.

4.3 Non-Firm ATC Derivations:

\[ \text{ATCNF} = \text{TTC} - \text{ETCF} - \text{ETCNF- CBM} - \text{TRM + Postbacks + Counterflows} \]

TSGT uses this non-firm ATC formula for determining the ATC for both the
Scheduling (next 8 hours, relative to the current hour) and the Operating (next 7 days, relative to the current day, beyond the Scheduling horizon) horizons. However, the ATC calculation for the Planning Horizon (all postings beyond the Operating Horizon) performs different non-firm ATC derivations than the Scheduling and Operating horizons, as TSGT assumes that all Firm and Non-Firm Reservations will be fully utilized in the Planning Horizon. In addition, counterflows and postbacks for unscheduled reservations are not included in the Planning Horizon.

In the ATC\textsubscript{NF} calculation, ETC\textsubscript{NF} includes any non-firm transmission service reservations 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, 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:**

\[ \text{ETCNF} = \text{NITSNF} + \text{GFNF} + \text{PTPNF} + \text{OSNF} \]

NITS\textsubscript{NF} is the non-firm capacity reserved on the OASIS for Network Integration Transmission Service serving load. TSGT offers transmission service with a Service Code of NETWORK NF with a Type of NETWORK. This service can be reserved only by Network Integration Transmission Service customers and those confirmed reservations are included in the NITS\textsubscript{NF} value.

GF\textsubscript{NF} represents those grandfathered agreements under which TSGT has reserved capacity to serve.
PTP\textsubscript{NF} represents the non-firm, confirmed transmission service reservations that are reserved via the OASIS with a Service Code of POINT-TO-POINT, and a Type of NON-FIRM.

OS\textsubscript{NF} represents those other obligations not accounted for elsewhere in the ETC\textsubscript{NF} calculation. TSGT does not have any non-firm commitments in the OS\textsubscript{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 only used for the delivery or receipt of reserves across specific paths and will reduce these paths’ non-firm ATC for all horizons.

Postbacks are accounted for in accordance with NAESB Business Practice Standards. TSGT includes the full amount of the capacity for a firm reservation as a reduction to the non-firm ATC and then adds (or posts back) any unscheduled firm capacity back to the ATC\textsubscript{NF} calculation as an increase to non-firm ATC for both the Scheduling and Operating horizons.

Counterflows (i.e. counter schedules) are also allowed to positively increase the non-firm ATC for a path in the direction counter to the prevailing TTC rating. TSGT accounts for confirmed reservations, expected interchange, and internal counterflows in the ATC calculations in the following manner relative to the use of counterflows.

\textit{THE FOLLOWING FORMULAS ARE USED IN CALCULATING FIRM AND NON-FIRM ATC:}

\begin{align*}
\text{ATC}_F &= \text{TTC} - \text{ETC}_F - \text{CBM} - \text{TRM} + \text{POSTBACKS}_F + \text{COUNTERFLOWS}_F \\
\text{ATC}_{NF} &= \text{TTC} - \text{ETC}_F - \text{ETC}_{NF} - \text{CBM} - \text{TRM} + \text{POSTBACKS}_{F,NF} + \text{COUNTERFLOWS}_{F,NF}
\end{align*}

Confirmed Transmission reservations included in the ETC parameters by themselves don’t contribute to counterflow increases to the non-firm ATC in the opposite path direction unless scheduled. E-tag schedules using both firm and non-firm transmission reservations create non-firm ATC from counterflows. These e-tag schedules are never allowed to create firm ATC from counterflows. Expected interchange (via a schedule or e-tag) for the pre-schedule period, always require the use of Transmission reservations that are included in both firm and non-firm ETC parameters. Interchange schedules for both firm and non-firm Transmission reservations are allowed to create non-firm ATC in the opposite path direction for the Scheduling and Operating Horizons. 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 ATC\textsubscript{NF} calculation. TSGT segments and
those for ATC path segments that cross Balancing Authority Area allows all
schedules (e-tags) associated with confirmed firm and non-firm reservations to
positively increase the non-firm ATC on the path in the counter direction to the
schedule direction. No e-tag 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 (as shown on e-tags) using both firm and non-firm
transmission reservations 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/ATC parameters changes, with a calculation performed, at minimum,
hourly.

For the Planning Horizon, neither unscheduled use of firm or non-firm reservations is
posted back to non-firm ATC, since TSGT’s calculation always assumes that firm
and non-firm reservations 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 normally
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 FourCorners 345kV

Public Service of New Mexico (PNM)
• WECC Rated Path 48
• Common Bus lines of San Juan 345kV to Shiprock 345kV and San Juan 345kV to FourCorners 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, the path operator for WECC Rated Paths 30, 31, 36, and 39, continually 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. Each of these paths has the following optimal path-specific TSGT TTC allocations, with all lines in service:

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

7.1.2 Path 31: Maximum total TTC path rating of 690 MW
1. 1. Craig to San Juan 345kV single line representation: TSGT TTC of 135 MW N>S.
2. 2. San Juan to Craig 345kV single line representation: 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 410 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 W>E and 1305 MW E>W
1. Path Gateway: Limits TSGT TTC to 260MW W>E and 210 MW E>W.
2. Craig to Ault 345kV path: TSGT TTC of 260 MW W>E, and 150 MW E>W.
3. Craig to Blue River 230kV path: TSGT TTC of 110 MW W>E and 52 MW E>W.

7.2 WALC Common Bus: Total TTC line rating established at thermal facility rating.
1. Shiprock 345kV to FourCorners 345kV line. Total TTC line rating of 1200 MW. TTC allocation of 150 MW.

7.3 PNM Common Bus: Total TTC line ratings established at the thermal facility rating.
1. San Juan 345kV to Shiprock 345kV path. Total TTC line rating of 1075 MW. TTC allocation of 134 MW.
2. San Juan 345kV to FourCorners 345kV. Total TTC path rating of 1195 MW. TTC allocation of 149 MW.

7.4 EPE Path 47: Southern New Mexico Import (SNMI)
EPE is the Path Operator for WECC Path 47, and SNMI path allocations are shared between PNM, EPE, and TSGT. Total SNMI limit is 940 MW on all paths. TSGT’s only element in Path 47 is the Belen>Socorro path, with extremely limited capacity S>N.

7.4.1 Path 47. Maximum total TTC of 940 MW with all lines in service
1. Belen/Bernardo/Socorro 115 kV path. 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). TSGT rights on Path 48 are limited to serving its Network Loads in northern New Mexico and to a lesser extent, serving some loads in Colorado. The TTC value that TSGT posts on 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 rights across two separate 345 kV paths from San Juan to Four Corners: San Juan-Four Corners and San Juan-Shiprock-Four Corners. Contractually, 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 and as such receives capacity allocations on peripheral line segments associated with the Project and its associated contracts. WACM is the path operator for the Missouri Basin Power Project and TSGT receives TTC information from the path operator and then determines its respective share of the TTC, based on contractual agreements. As a result of contractual agreements of the Missouri Basin Power Project, participants are not allowed to post any firm 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 set to be recalculated, at a minimum, on the following interval(s), 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 system is configured such that any impact that is defined as having an effect on the TTC value will trigger the recalculation of ATC for the affected 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 most accurate ATC values are posted. In addition, 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 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 calculation of ATC 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 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 the TTC, and subsequently the 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 the outage, terminate the outage, or update information in 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 transmission path operator will post the outage which will trigger a reduction in the TTC for the time period affected.

10. TSGT Total Transfer Capability (TTC) Summary Table
Attachment A is a summary table of the TSGT BES 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 Transmission Service Reservation 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)

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

**DISTRIBUTION LIST:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="mailto:OATTAdmin@tristategt.org">OATTAdmin@tristategt.org</a></td>
<td>System Operations</td>
<td>OATT/OASIS Workgroup</td>
</tr>
<tr>
<td>Transmission Service Operators (TSO)</td>
<td>System Operations</td>
<td>TSO Workgroup</td>
</tr>
<tr>
<td><a href="mailto:Reliability_Compliance@tristategt.org">Reliability_Compliance@tristategt.org</a></td>
<td>Reliability Compliance Support</td>
<td>Reliability Compliance Specialist</td>
</tr>
<tr>
<td>See Attachment B to the ATCID for external distribution listing (MOD-001-1, R4)</td>
<td>Various</td>
<td>Various</td>
</tr>
</tbody>
</table>