Available Transfer Capability & Transmission Reliability Margin Implementation Document (ATCID & TRMID)

Prepared by Electric Transmission System Planning



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## 1 INTRODUCTION (MOD-001-1a R1, R2, R3.3, R3.5 & R8, MOD-028-1, R1.3)

In accordance with the North American Electric Reliability Corporation ("NERC") reliability standards MOD-001-1a and MOD-028-1 and the Federal Energy Regulatory Commission ("FERC"), this Available Transfer Capability Implementation Document<sup>1</sup> ("ATCID") is used by the City of Tallahassee – Electric Utility ("TAL"), as the Transmission Service Provider ("TSP"), to ensure that calculations are performed to maintain awareness of available transmission system capability and future flows on the TAL transmission system and neighboring transmission systems.

TAL, as the Transmission Operator ("TOP"), selected the Area Interchange Methodology as described in reliability standard MOD-028-1 for calculation of Total Transfer Capability<sup>2</sup> ("TTC") and Available Transfer Capability<sup>3</sup> ("ATC") for each ATC Path on those Facilities within its Transmission Operator Area.

All TOPs in the Florida Reliability Coordinating Council, Inc. ("FRCC") Region also selected the MOD-028-1 Area Interchange Methodology for calculation of ATC values. As a result, the FRCC Region formed the Florida Transmission Capability Determination Group ("FTCDG") to develop a system for providing ATC values to the regional electric market that are transparent, coordinated, timely, and accurate. The FTCDG contracted Open Access Technology International, Inc. ("OATI") to develop, provide, and host a calculation program that would work alongside the existing OATI webTrans product to provide ATC / TTC values as a collective system that would be known as the "ATC Engine".

The TOPs at the Florida - Southern Interface ("FL/SO"), which exists at the points of interconnection between the Balancing Authority Areas of Florida Power & Light Company ("FPL"), Florida Power Corporation DBA Progress Energy Florida, Inc. ("PEF"), JEA (formerly Jacksonville Electric Authority), TAL, and Southern Company Services, Inc. (in SERC Reliability Corporation Region – referred to as "Southern Company Services, Inc. – Trans" in NERC Compliance Registry List), which is the Balancing Authority ("BA") for its subsidiaries, and the other members of the Georgia Integrated Transmission System<sup>4</sup> ("ITS") also selected the MOD-028-1 Area Interchange Methodology for calculation of ATC values.

<sup>&</sup>lt;sup>1</sup> Terms defined in the *Glossary of Terms Used in NERC Reliability Standards* shall be capitalized throughout this document.

<sup>&</sup>lt;sup>2</sup> 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.

 <sup>&</sup>lt;sup>3</sup> 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.

<sup>&</sup>lt;sup>4</sup> The Integrated Transmission System is jointly owned by Georgia Power Company, a subsidiary of Southern Company Services, Inc., Georgia Transmission Corporation ("GTC"), Municipal Electric Authority of Georgia ("MEAG"), and the City of Dalton d/b/a Dalton Utilities. Georgia System Operations Corporation ("GSOC") is a TOP for GTC.

TAL has by Contractual Agreement a 200 MW component of import into TAL from Southern Company Services, Inc., regardless of the allowable import capability of the requisite period, which can only be constrained during system security emergency or loss of the Tallahassee to Bainbridge 230 kV tieline. Export capability is allocated in proportion to ownership rights and the pre-determined actual Florida/Southern export capability of any requisite period.

As the TSP, TAL shall calculate ATC values using the Area Interchange Methodology as per the following time periods identified in MOD-001-1a, R2 & R8:

- Hourly ATC values for at least the next 48 hours, to be provided once per hour as follows:
  - The ATC Engine calculates hourly ATC values for the next 1 72 hours with hourly periodicity (once per hour) to meet the requirements of R2.1 and R8.1
  - Hourly ATC values are also calculated for the next 73 168 hours with daily periodicity (once per day)
  - TSPs are allowed up to 175 hours per calendar year during which calculations are not required to be performed, despite a change in a calculated value identified in the ATC equation
- Daily ATC values for at least the next 31 calendar days, to be provided once per day as follows:
  - The ATC Engine calculates daily ATC values for the next 1 32 days with daily periodicity (once per day) to meet the requirements of R2.2 and R8.2
  - Using the above data for hours 1 168, the ATC values for the first seven (7) days are calculated using the most restrictive hourly ATC value in existence during each daily period.
  - The ATC values for the remaining days 8 32, are calculated at the most restrictive hour of the day (hour beginning 16:00 Eastern Prevailing Time ("EPT") - as agreed upon by the TSPs in the FRCC Region).
- Monthly ATC values for at least the next 12 months (months 2 13), to be provided once per week as follows:
  - The ATC Engine calculates monthly ATC values for the next 2 13 months with weekly periodicity (once per week) to meet the requirements of R2.3 and R8.3
  - The ATC Engine first calculates a daily ATC value for the hour beginning 16:00 EPT, for each of the next 365 days (starting with the ATC value calculated for day 32 of the daily period noted above – Month 2 starts at day 32).
  - Using the 365 days of data above, the monthly ATC values for months 2 -13 are selected from the most restrictive daily ATC value in existence during each monthly period.

## 2 ATC / TTC CALCULATION VALIDATION (MOD-001-1a & MOD-028-1)

Base models are derived from the current FRCC Transmission Working Group ("TWG") seasonal models and represent the BES network topology for the entire FRCC Region as well as the Sub-region of the SERC Reliability Corporation ("SERC") Region immediately adjacent to the FRCC. The remainder of the SERC is an equivalent representation in the models. These models contain detailed Generation and Transmission Facilities and their associated applicable ratings and limits as specified by the Generator and Transmission Owners, including planned additions. Some equivalent representation of transmission facilities rated lower than 115 kV may be used in the study models. (MOD-028-1 R1.1, R2.1, R2.2)

## Interchange (MOD-028-1, R1.2 & R4.3)

Long-term firm and network interchange schedules are included in the calculation through a compiled FRCC list of transactions. The Source / Sink information provided for these transactions maps to the model using the following priorities as available:

- (1) Discretely Modeled Point
- (2) Equivalence / Aggregate Representation
- (3) Adjacent Balancing Authority

## Contractual Obligations (MOD-028-1, R1.3)

TAL limits its TTC to the lower of the physical limitations of the sum of its tie Facility Ratings with the other entity participating in the transfer or any contractual limitations including assigned share.

#### Contingencies / Monitored Branches (MOD-028-1, R1.4 & MOD-001-1a, R3.6.3)

Contingency Outages and Monitored Branches are established by the individual FRCC participants and combined into a single list. TAL includes tie lines, lines 115 kV and above, transformers with a high side winding of 69 kV and above, and additional voltage level branches that create constraints for specific paths. All contingencies considered are modeled.

This is a reduced list of contingencies and monitored branches from those used in operation planning studies ensuring that it is no more limiting (MOD-001 R6 & R7.) Any additional voltage level branches are those that would have been identified through offline transfer studies in which all lines are analyzed as potentially having an impact or being impacted by transfers.

## ATC Paths (MOD-028-1 R1.5, R4.3)

TAL calculates ATC for commercially viable paths and to all Balancing Authority Areas (also referred to as "Control Areas" or "control areas") to which it is directly connected. The source used for ATC is obtained from the Point of Receipt (POR) field of the transmission reservation. The sink used for ATC calculations is obtained from the Point of Delivery (POD) field of the transmission service reservation. Each POR and POD corresponds to an "area" within the model and physically represents a Balancing Authority (BA), a specific generation site, or a subset of generation within a BA.

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TAL-MOD-001\_MOD-004\_MOD-008\_MOD-028-MTD-0

TTC calculated for each path is based on an area-to-area transfer. Service Point TTC is obtained by determining the percentage participation of that particular group of generation in the total transfer of the area.

# TTC Calculation Methodology (MOD-028-1 R1.1, R1.2, R1.3 & R1.4, R2, R3, R4.1 & R4.2, & R6; MOD-001 R3.6.1, R3.6.2, R6, & R7, TOP-002a R12)

OATI creates base case load flow models for each TTC calculation period by taking the base topology model to which it makes the adjustments described in steps 1 - 4 below. The loads, outages, topology, interchange, generation dispatch, and other assumptions used to perform these calculations are either the same or less limiting than the assumptions used in planning of operations for the corresponding time period studied. 1) Adjust load levels to the forecasted load provided per Balancing Authority Area.

- a) Hourly loads supplied for hours 1 168
  - b) Daily loads supplied for days 8 395 (used to provide monthly calculations)
  - c) The base case load flow models include all customer loads. Interruptible demands are not utilized in determining ATC values.
- 2) The model topology is adjusted to reflect scheduled FRCC generation and transmission outages that will be active for the period. Specific outages within the SERC Region that have been identified as impacting the TTC are also reflected in the model. Future facilities that are included within the model are taken out of service for the time periods prior to which they are scheduled to be commissioned. The following criteria describe the consideration of outages for the different time periods of calculation.
  - a) Outages scheduled for a part of a day impact hourly calculations only for the hours during which they are scheduled. Daily ATC calculations for days 1 7 are based on the most restrictive hour of the day; therefore these outages are accounted for if they are active for the hour that is determined to be most restrictive for these days.
  - b) Outages impact daily calculations for days 8 395 if they are scheduled to be out during the hour starting at 16:00 EPT for that particular day.
  - c) Outages scheduled for a part of a month impact monthly calculations by impacting the associated daily calculations. Each day of the month has its own calculation and will account for the outage if scheduled on that day. The monthly calculation is posted as lowest daily number for each specific path
- 3) Apply interchange based on the list of long term firm interchange transactions scheduled to be active for the period calculated
- 4) Dispatch generation per area to meet the sum of the forecasted load and the net interchange of the area. This dispatch is based on a unit block dispatch order (Merit Order) supplied by each FTCDG member to reflect the expected run order of generation based on economics or any other commitment or legal obligation for the unit.

Beginning with this base case model, the First Contingency Incremental Transfer Capability ("FCITC") for each transmission path is calculated. The generation is increased in the source area and decreased in the sink area, according to the merit order. The transfer capability increases until either a base or contingency System Operating Limit ("SOL") violation occurs, provided the transaction has at least a 5% Outage Transfer Distribution Factor ("OTDF"). The value of the transfer calculated when the violation is reached is listed as the FCITC. The ATC Engine identifies the contingency / monitored element pair associated with the SOL violation.

If the source area's generation is fully dispatched and a SOL violation has not been reached, a limited amount of artificial generation is added to that area and dispatched until a SOL violation occurs; otherwise the FCITC equals the value at which the maximum adjustment was applied (the ATC Engine reports "Maximum Adjustment Applied"). If the sink area's generation is fully reduced to zero before a SOL violation occurs, the flow to the sink area is increased through the use of an artificial negative generator until a SOL violation occurs; otherwise the FCITC equals the value at which the maximum adjustment was applied.

The final value of TTC is the lower of the sum of Facility Ratings of all ties comprising the ATC Path, contractual limitations for the path, or the FCITC added to the "impacts of firm transmission services." The value for this "impact of firm transmission service" is based on the transmission services modeled in the study case.

## TTC Calculation Databases (MOD-028-1 R2, R3, & R4)

The ATC Engine builds the model for calculating the FCITC using the following databases:

- Topological Transmission model of FRCC and parts of SERC
- Additions and retirements of Facilities are captured within:
  - ➤ the FRCC base models
  - ➤ the Florida Transaction Management System or "FTMS"
  - ➤ the coordinated inter-regional transfer models
- Generator Dispatch Merit Order
- Expected Interchange (Transmission Services to be modeled)
- Monitored elements and Facility Ratings
- Contingencies
- Load Forecast
- Generator and Line Outages (from "FTMS" and the coordinated inter-regional transfer models)

ATC Methodology (Mathematical Algorithm)

TAL uses the following specific algorithms to calculate ATC, according to the Area Interchange Methodology described in MOD-028-1 standard. The algorithms are applied to each horizon as described below. Details of each component are found in later sections.

#### Non-Firm ATC (MOD-028-1 R11)

The following algorithm is used for non-firm ATC which is available as an hourly, daily, weekly, and monthly product within the scheduling, operating, and planning horizons used by the ATC Engine.

 $ATC_{nonfirm} = TTC - ETC_{firm} - ETC_{nonfirm} - CBM_{nonfirm} - TRM_{nonfirm} + Postbacks_{nonfirm} + Counterflows_{nonfirm}$ 

## Firm ATC (MOD-028-1 R10)

The following algorithm is used for firm ATC which is available as a daily, weekly, and monthly product within the operating and planning horizon. Though not available as an hourly product, firm ATC can be bought during the scheduling horizon but must be reserved as at least a full day.

 $ATC_{firm} = TTC - ETC_{firm} - CBM_{firm} - TRM_{firm} + Postbacks_{firm} + Counterflows_{firm}$ 

TAL does not currently offer  $ATC_{firm}$ . Therefore, TAL does not post  $ATC_{firm}$  and its associated fields.

ETC<sup>1</sup>(MOD-028-1 R8, R9)

When calculating Existing Transmission Commitments (ETCs) for firm commitments (ETC<sub>F</sub>) for all time periods for an ATC Path, TAL, the TSP shall use the following algorithm:

$$\text{ETC}_{\text{F}} = \text{NITS}_{\text{F}} + \text{GF}_{\text{F}} + \text{PTP}_{\text{F}} + \text{ROR}_{\text{F}} + \text{OS}_{\text{F}}$$

## Where:

- NITS<sub>F</sub> is the firm capacity set aside for Network Integration Transmission Service (including the capacity used to serve bundled load within the TAL TSP's area with external sources) on ATC Paths that serve as interfaces with other Balancing Authorities.
- $\mathbf{GF}_{\mathbf{F}}$  is the firm capacity set aside for Grandfathered Firm Transmission Service and contracts for energy and/or Transmission Service, where executed prior to the effective date of a TSP's Open Access Transmission Tariff or safe harbor tariff on ATC Paths that serve as interfaces with other Balancing Authorities.
- $\mathbf{PTP}_{\mathbf{F}}$  is the firm capacity reserved for confirmed Point-to-Point Transmission Service.
- ROR<sub>F</sub> is the capacity reserved for roll-over rights for Firm Transmission Service 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.
- $OS_{r}$  is the firm capacity reserved for any other service(s), contract(s), or agreement(s)

not specified above using Firm Transmission Service, including any other firm adjustments to reflect impacts from other ATC Paths of the Transmission Service Provider as specified in the ATCID.

<sup>&</sup>lt;sup>1</sup> Committed uses of a Transmission Service Provider's Transmission system considered when determining ATC or AFC (as defined in *Glossary of Terms Used in NERC Reliability Standards*).

When calculating ETC for non-firm commitments (ETC<sub>NF</sub>) for all time periods for an ATC Path, TAL, the TSP shall use the following algorithm:

$$\text{ETC}_{\text{NF}} = \text{NITS}_{\text{NF}} + \text{GF}_{\text{NF}} + \text{PTP}_{\text{NF}} + \text{OS}_{\text{NF}}$$

## Where:

- **NITS** is the non-firm capacity set aside for Network Integration Transmission Service (i.e. secondary service, including the capacity used to serve bundled load within the TSP's area with external sources) reserved on ATC Paths that serve as interfaces with other Balancing Authorities.
- $\mathbf{GF}_{NF}$  is the non-firm capacity set aside for Grandfathered Non-Firm Transmission

Service and contracts for energy and/or Transmission Service, where executed prior to the effective date of a TSP's Open Access Transmission Tariff or safe harbor tariff on ATC Paths that serve as interfaces with other Balancing Authorities.

- $\mathbf{PTP}_{NF}$  is the non-firm capacity reserved for confirmed Point-to-Point Transmission Service.
- $OS_{NE}$  is the non-firm capacity reserved for any other service(s), contract(s), or

agreement(s) not specified above using Non-Firm Transmission Service, including any other non-firm adjustments to reflect impacts from other ATC Paths of the Transmission Service Provider as specified in the ATCID.

#### Network Integration Transmission Service

TAL native and network customer loads are incorporated within the Transmission Model used to develop the FCITC; therefore, the transmission capacity set aside to serve this load is inherently present in the determination of FCITC but is not explicitly counted as ETC.

Generation resources for TAL and other network customers which are located external to TAL's Balancing Authority Area are included as either NITS<sub>F</sub> or NITS<sub>NF</sub>, and are explicitly counted as ETC.

Non-OATT customers only have capacity set aside through ETC when there is a place holder network service reservation or transmission service reservation on the TAL OASIS system.

## Point to Point Transmission Service

Point-to-Point Transmission service requests are accounted for in ETC through the use of reservations in OASIS. Long term firm point-to-point requests (i.e. greater than a year) are included as interchange (impact of firm transmission service) in which case they are

added to the FCITC to arrive at TTC and then subtracted by the appropriate ETC reservation.

## Grandfathered Transmission Service

Grandfathered customer loads are incorporated within the Transmission Model used to develop the FCITC. The transmission capacity set aside to serve this load is inherently present in the determination of FCITC, but is not explicitly counted as ETC.

Other Grandfathered Transmission Service is counted as ETC through the use of Set Aside reservations.

## Roll-over Rights

Generally a decision regarding the "roll-over" of a firm transmission service is settled prior to the ATC Planning Interval. However, in cases where it is has not been settled TAL makes a determination based on discussion with the various parties to the transmission service. At a minimum, the contract must be eligible for roll-over, system changes (if any) required to support that roll-over must be within the model and parties involved must have indicated that a roll-over is going to be pursued. In those cases the roll-over service is included as a place holder transmission service through the use of interchange transactions in the base model.

#### Other Transmission Services

To address the impact of non-firm reservations on network postings, TAL uses the OS component to post non-firm transmission as non-firm network on the Southern to TAL path. TAL accomplishes this in the OATI webTrans module through the use of a tool called CU/MI.

#### Postbacks (Release of Unscheduled Capacity)

#### Definition of Postbacks

Positive adjustments to ATC or AFC as defined in Business Practices. Such Business Practices may include processing of redirects and unscheduled service.

#### Postback Usage

Firm capacity reserved through ETC that is not scheduled (tagged) is released within the Scheduling and Operating intervals (i.e. posted back) by reducing the amount of ETC that is subtracted. This "postback" adds the released capacity only to non-firm ATC.

Non-firm NITS (network secondary) capacity not scheduled within the Scheduling and Operating Intervals is released as non-firm ATC through a "postback" as well.

## City of Tallahassee – Electric Utility Available Transfer Capability Implementation Document (ATCID) TAL-MOD-001\_MOD-004\_MOD-008\_MOD-028-MTD-0 <u>Transmission Reliability Margin ("TRM")</u>

## TRM - As defined in *Glossary of Terms Used in NERC Reliability Standards*

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.

## TRM Usage

TAL uses TRM for Non-Firm ATC. Within the Scheduling, Operating, and through day 7 in the planning interval, TRM is used to adjust for the difference between RATE C (short-term Emergency Facility Ratings) and RATE B (long term Emergency Facility Rating, which is currently set equal to the Normal Rating RATE A for TAL).

The specifics of the TAL TRM methodology and associated databases can be found in section **4 TRM Implementation Document ("TRMID")**.

## **3** CAPACITY BENEFIT MARGIN ("CBM") (MOD-004-1)

## CBM - As defined in Glossary of Terms Used in NERC Reliability Standards

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. Preservation of CBM for an LSE allows that entity to reduce its installed generating capacity below that which may otherwise have been necessary without interconnections to meet its 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.

#### **CBM** Application

Neither TAL, as the TSP, Resource Planner (RP), Transmission Planner (TP), and Load-Serving Entity (LSE), nor any of its network customers currently reserve, use, or maintain CBM; therefore the CBM component for Firm and Non-Firm ATC is zero (0). Since, TAL, as the TSP, does not maintain CBM, it has not prepared or kept a Capacity Benefit Margin Implementation Document ("CBMID") as per MOD-004-1.

## City of Tallahassee – Electric Utility Available Transfer Capability Implementation Document (ATCID) TAL-MOD-001\_MOD-004\_MOD-008\_MOD-028-MTD-0 Counterflows (MOD-001-1a R3.2)

## **Definition of Counterflows**

Counterflows are adjustments to ATC to reflect the impact of transactions on the inverse path.

## **Counterflows Application**

Counterflows for long term firm transactions are inherently accounted for in determining FCITC by their inclusion within the study model. By nature these transactions' presents as interchange in the model impact the calculation of FCITC on the inverse path.

TAL does not use counterflows for other transactions due to the level of uncertainty associated with the scheduling of such reservations.

## ATC Path Allocation (MOD-001 R3.5)

TAL has a contractually assigned 200 MW import and an allocated export (determined yearly) TTC on the TAL portion of the FL/SO. The FRCC Region, including the TAL transmission system, is connected to the Eastern Interconnection solely through the FL/SO. All flows into or out of the FRCC Region flow on this interface; therefore, the modeling of scheduled interchange within the ATC models accounts for the total power flow on this transmission interface. The FCITC and TTC values for the entire FL/SO are determined using the methodology given in the document, "Fla-Sou TTC Methodology 032511.pdf", available on the TAL OASIS (see section 5 NOTIFICATION AND REQUESTS FOR DATA for further details). TAL allows for reservation of non-firm transmission on the TAL portion of the FL/SO.

## 4 TRM IMPLEMENTATION DOCUMENT ("TRMID") (MOD-008-1)

TAL, as the TOP, utilizes two main components to establish TRM.

The first component is a short term TOP response calculated from the OATI OASIS TTC Engine.

The second component is a reserve sharing component specified by the FRCC Contingency (Operating) Reserve Policy in conjunction with the Florida Reserve Sharing Group (FRSG), to establish TRM. (MOD-008-1, R1.1)

TAL does not use the following components of uncertainty to establish TRM: (R1.1)

- Aggregate Load forecast.
- Load distribution uncertainty.
- Forecast uncertainty in Transmission system topology (including, but not limited to, forced or unplanned outages and maintenance outages).
- Allowances for parallel path (loop flow) impacts.
- Allowances for simultaneous path interactions.
- Variations in generation dispatch (including, but not limited to, forced or unplanned outages, maintenance outages and location of future generation).
- Inertial response and frequency bias.

## Description of Method used to Allocate TRM across ATC Paths (MOD-008-1 R1.2)

TAL uses the following two (2) components in its TRM calculation:

#### Short-term TOP Response (TTC Calculator component)

For the calculation of Total Transfer Capability (TTC), some TPs (TAL included) choose to provide short-term facility ratings that are higher than the continuous ratings and reflect System Operating Limits (SOLs) which have time restrictions. The short-term TOP response component is the difference between the TTC calculation using the RATE C (short-term Emergency Facility Ratings) and TTC calculation using the RATE B (long term Emergency Facility Rating, which is currently set equal to the Normal Rating RATE A for TAL).

Since these SOLs are time dependent and TOPs have the option to curtail non-firm transactions as a mitigation measure, this component is used to prevent this higher capacity from being used for firm transactions which cannot be curtailed.

This component of TRM is determined for each individual ATC path each time TTC is calculated, and is applicable only if the limiting Facility has a difference in RATE C (short-term Emergency Facility Ratings) and RATE B (long term Emergency Facility Rating, which is currently set equal to the Normal Rating RATE A for TAL).

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#### Added TRM Value

TAL, the TSP, may provide a TRM value specified by the FRCC Contingency (Operating) Reserve Policy. This TRM reflects the transfer capability needed to deliver TAL's operating reserve obligations to the Florida Reserve Sharing Group (FRSG) for the TAL-FPC path.

## TRM as Applied to the FL/SO Paths

The TTC on TAL's FL/SO path is TAL's contractual allocation calculated export TTC limit / contractual assigned import TTC limit for the specific path. For the calculated TTC limit the TRM components described above are applied. For the contractual allocation a TRM as described in the "Fla-Sou TTC Methodology\_032511.pdf" document is used. This TRM is used only on paths where Southern Company Services, Inc., its subsidiaries, and the other members of the Georgia ITS are the point of receipt. The contractual TRM is also made available as non-firm for all horizons.

## Identification of TRM Time Periods (MOD-008-1 R1.3)

TAL, identification of the TRM calculation used for the following time periods:

- Same day and real-time (Scheduling Horizon) For this horizon only, the shortterm TOP response component of TRM is applied and / or the added TRM value specified by the FRCC Contingency (Operating) Reserve Policy in conjunction with the Florida Reserve Sharing Group (FRSG). [which is detailed in the current FRCC Contingency Reserve Policy document]
- Day-ahead and pre-schedule (Operating Horizon) For this horizon, only the short-term TOP response component of TRM is applied and / or the added TRM value specified by the FRCC Contingency (Operating) Reserve Policy in conjunction with the Florida Reserve Sharing Group (FRSG). [which is detailed in the current FRCC Contingency Reserve Policy document
- Beyond day-ahead and pre-schedule, up to thirteen (13) months ahead (Planning Horizon) For this horizon, only the short-term TOP response component of TRM is applied and / or the added TRM value specified by the FRCC Contingency (Operating) Reserve Policy in conjunction with the Florida Reserve Sharing Group (FRSG). [which is detailed in the current FRCC Contingency Reserve Policy document]

The time periods for the Scheduling Horizon, Operating Horizon and Planning Horizon are summarized in the following table:

Horizon Type	Total Duration	Calculation Step
SCH (Scheduling Horizon)	1-4 hours	Hourly
OP (Operating Horizon)	5-72 hours	Hourly
STPH (Short-Term Planning Hourly)	72-168 hours	Daily
STP (Short-Term Planning Daily)	395 days	Weekly

## Calculation Frequencies

Both components of TRM may be determined every time TTC is calculated, which is hourly for the next 72 hours, daily for hours 73 - 168, and weekly for day eight (8) through month thirteen (13). This TRM component is immediately included in the ATC equation upon calculation.

## Components of Uncertainty (MOD-008-1 R2)

TAL, as the TOP shall only use the components of uncertainty from MOD-008-1, R1.1 to establish TRM, and shall not include any of the components of CBM. Transmission capacity set aside for reserve sharing agreements, namely the Florida Reserve Sharing Group (FRSG), may be included in TRM as follows (MOD-008-1 R2):

- TAL uses two different components of uncertainty for individual ATC paths. The first component allows for a difference between RATE C (short-term Emergency Facility Ratings) and RATE B (long term Emergency Facility Rating, which is currently set equal to the Normal Rating RATE A for TAL) and the corresponding short-term TOP response. The second component is the added TRM value specified by the FRCC Contingency (Operating) Reserve Policy in conjunction with the Florida Reserve Sharing Group (FRSG). [which is detailed in the current FRCC Contingency Reserve Policy document]
- The TAL path involving the Southern Company Services, Inc., its subsidiaries, and the other members of the Georgia ITS has a contractual, as well as a physical limitation.

## Notification and Requests for Data (MOD-008-1 R3)

TAL, as the TOP shall make available its TRMID, and if requested, underlying documentation (if any) used to determine TRM, in the format used by the TAL TOP, to any of the following entity types who make a written request no more than thirty (30) calendar days after receiving the request:

- TSP
- Reliability Coordinator ("RC")
- Planning Coordinator ("PC")
- Transmission Planner ("TP")
- **TOP**

TAL, as the TOP, shall make available the current TAL TRMID to all TSP, RC, PC, TP, and TOP entities as specified in MOD-008-1, R3, by posting it to the TAL OASIS website (see section 5 NOTIFICATION AND REQUESTS FOR DATA for further details).

TAL, as the TOP that maintains TRM shall establish TRM values in accordance with the TRMID at least once every 13 months (MOD-008-1 R4).

TAL, as the TOP that maintains TRM shall provide the TRM values to its TSP(s) and TP(s) no more than seven calendar days after a TRM value is initially established or subsequently changed (MOD-008-1 R5).

# 5 NOTIFICATION AND REQUESTS FOR DATA (MOD-001-1a R4, R5, & R9)

TAL, as the TSP shall notify the following types of entities before implementing a new or revised ATCID (MOD-001-1a R4):

- Each PC associated with the TAL TSP area (TAL is the PC associated with the TAL TSP)
- Each RC associated with the TAL TSP area
- Each TOP associated with the TAL TSP area (TAL is the TOP associated with the TAL TSP)
- Each PC adjacent to the TAL TSP area
- Each RC adjacent to the TAL TSP area
- Each TSP whose area is adjacent to the TAL TSP area
- NOTE 1: Notifications shall be sent to the above types of entities designated by TAL to be associated / adjacent to the TAL TSP in the spreadsheet "TAL-MOD-001-1a-R4LST-0.xls". The spreadsheet is available upon request and is posted to the TAL OASIS website.
- NOTE 2: TAL, as the TSP, shall make available the current TAL ATCID to all PC, RC, TSP, and TOP entities as specified in MOD-001-1a, R4, by posting it to the TAL OASIS website.

Entity	Entity Registration	
Florida Power & Light Company	TOP, TSP	
Beaches Energy Services of Jacksonville Beach	ТОР	
Florida Keys Electric Cooperative Association	ТОР	
Florida Municipal Power Agency	PC	
Gainesville Regional Utilities	ТОР	
City of Homestead	TOP, TSP	
JEA	TOP, TSP	
Kissimmee Utility Authority	ТОР	
Lakeland Electric	TOP, TSP	

TSPs/TOPs, TAL TXs/RXs<sup>1</sup> data for ATC & TTC Calculation (MOD-001-1a R3.3 & R3.4)

<sup>&</sup>lt;sup>1</sup> TXs/RXs – Provides and Receives

Lee County Electric Cooperative, Inc.	ТОР
Utilities Commission of New Smyrna Beach	ТОР
Orlando Utilities Commission	TOP, TSP
Progress Energy Florida, Inc.	TOP, TSP
Seminole Electric Cooperative, Inc.	TOP, TSP
City of Tallahassee - Electric Utility	TOP, TSP
Tampa Electric Company	TOP, TSP
City of Vero Beach	ТОР
Southern Company Services, Inc. – Trans	TOP, TSP
Georgia System Operations Corporation	ТОР
Georgia Transmission Corporation	TSP
Municipal Electric Authority of Georgia	TSP

Within thirty (30) calendar days of receiving a request by any TSP, PC, RC, or TOP for data from the list below, solely for use in the requestor's ATC or AFC calculations, TAL as the TSP receiving said request shall begin to make the requested data available to the requestor, subject to the conditions specified in MOD-001-1a, R9.1 and R9.2:

- Expected generation and transmission outages, additions and retirements.
- Load forecasts
- Unit commitments and order of dispatch, to include all designated network resources and other resources that are committed or have the legal obligation to run, as they are expected to run, in the following format selected by TAL, as the data provider: Block Dispatch
- Aggregated firm capacity set aside for Network Integration Transmission Service and aggregated non-firm capacity set aside for Network Integration Transmission Service (i.e. Secondary Service), as applicable
- Firm and non-firm Transmission reservations
- Aggregated capacity set aside for grandfathered obligations
- Firm roll-over rights
- Any firm and non-firm adjustments applied by TAL, as the TSP to reflect parallel path impacts
- Power flow models and underlying assumptions
- Contingencies, provided in the following format selected by TAL as the TOP and TSP: A list of Elements
- Facility Ratings
- Any other services that impact Existing Transmission Commitments (ETCs).
- Values of Capacity Benefit Margin (CBM) and Transmission Reliability Margin (TRM) for all ATC Paths, as applicable
- Values of TTC and ATC for all ATC Paths (Flowgates not considered; the TAL TOP selected the MOD-028-1 Area Interchange Methodology for its Transmission Operator Area)
- Source and sink identification and mapping to the model

TAL, as the TSP shall make its own current data available, in the format maintained by the TAL TSP, for up to 13 months into the future as specified by the requestor (but no

# City of Tallahassee – Electric Utility Available Transfer Capability Implementation Document (ATCID)

TAL-MOD-001\_MOD-004\_MOD-008\_MOD-028-MTD-0 more frequently than once per hour, unless mutually agreed to by the requester and the TAL TSP) as follows (MOD-001-1a, R9.1 & R9.2):

- If the TAL TSP uses the data requested in its transfer capability calculations, it shall make the data used available (MOD-001-1a, R9.1.1)
- If the TAL TSP does not use the data requested in its transfer capability calculations, but maintains that data, it shall make that data available (MOD-001-1a, R9.1.2)
- If the TAL TSP does not use the data requested in its transfer capability calculations, and does not maintain that data, it shall not be required to make that data available (MOD-001-1a, R9.1.3)

This document, the TAL "Available Transfer Capability &Transmission Reliability Margin Implementation Document (ATCID & TRMID)" – TAL-MOD-001\_MOD-004\_MOD-008\_MOD-028-MTD-0.pdf is posted and available on TAL's OASIS website by selecting the link "Current Available Transfer Capability & TRM Implementation Document – ATCID & TRMID" which is accessible by Regional Reliability Organizations / Regional Entities, NERC, and other entities such as those defined by MOD-001-1a, R4, MOD-008-1, R3, and other related standards.

OASIS website: <u>https://www.oatioasis.com/frcc\_default.htm</u>

Once the OASIS website is entered, select the City of Tallahassee link:



Select the "Current Available Transfer Capability & TRM Implementation Document – ATCID & TRMID" link within the "ATC Information" folder within the gray area entitled "**Documents**" to access the TAL "Available Transfer Capability &Transmission Reliability Margin Implementation Document (ATCID & TRMID)" – TAL-MOD-001\_MOD-004\_MOD-008\_MOD-028-MTD-0.pdf.

Additionally, within the "ATC Information" folder, please find the following documents:

- Fla-Sou TTC Methodology\_032511.pdf
- TAL-MOD-001-1a-R4LST-0.xls