

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Development Steps Completed

1. SAR posted for comment on July 11, 2013

Description of Current Draft

This draft standard is concluding informal development and will move to formal development when authorized by the Standards Committee.

Anticipated Actions	Anticipated Date
SAR Authorized by the Standards Committee	July
45-Day Comment Period Opens	July
Nomination Period Opens	July
Standard Drafting Team Appointed	July
Initial Ballot is Conducted	August
Final Ballot is Conducted	September
Board of Trustees (Board) Adoption	November
Filing to Applicable Regulatory Authorities	December

Effective Dates

1. MOD-001-2 shall become effective the first day of the seventh calendar quarter after the effective date of the order providing applicable regulatory approval.
2. In those jurisdictions where no regulatory approval is required, MOD-001-2 shall become effective the first day of the fifth calendar quarter after Board’s approval, or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities.

Version History

Version	Date	Action	Change Tracking
1	August 26, 2008	Adopted by the NERC Board	
1a	November 5, 2009	NERC Board Adopted Interpretation of R2 and R8	Interpretation (Project 2009-15)
2	TBD	Consolidation of MOD-001-1a, MOD-004-1, MOD-008-1, MOD-028-1, MOD-029-1a, and MOD-030-2	

Definitions of Terms Used in the Standard

None.

DRAFT

When this standard receives ballot approval, the text boxes will be moved to the “Guidelines and Technical Basis” section of the standard.

A. Introduction

1. **Title:** Available Transmission System Capability
2. **Number:** MOD-001-2
3. **Purpose:** (1) To ensure the reliable calculation of Total Flowgate Capability (TFC) and Total Transfer Capability (TTC) values when those values are used by a Transmission Service Provider to calculate Available Flowgate Capability (AFC) or Available Transfer Capability (ATC) or used by a Reliability Coordinator; (2) to require disclosure of how TFC, TTC, Capacity Benefit Margin (CBM), and Transmission Reliability Margin (TRM) values are calculated for entities with a reliability need for the information; and (3) to require the sharing of data with other entities with a reliability need for the AFC, ATC, TFC, TTC, CBM, or TRM values.
4. **Applicability:**
 - 4.1. **Functional Entity**
 - 4.1.1 Transmission Operator
 - 4.1.2 Transmission Service Provider
 - 4.2. **Exemptions:** The following is exempt from MOD-001-2.
 - 4.2.1 Functional Entities operating within ERCOT

B. Requirements and Measures

Rationale for R1: TFC and TTC values are important to the reliability of the bulk power system when they are used to determine AFC and ATC or in the real-time operation of the transmission system. The Transmission Operator needs to calculate a value that protects reliability both on its system and neighboring systems. Having a current and accurate description of this process allows neighboring systems and their Transmission Service Provider to understand how the values were determined. In addition, if a Transmission Operator's method by default does not monitor one or more constraints on another Transmission Operator's system, then they should describe how they are monitoring those constraints when requested to by that affected Transmission Operator. Those off-system constraints should be monitored at a Power Transfer Distribution Factor (PTDF) or Outage Transfer Distribution Factor (OTDF) of five percent or less, if appropriate to the means of determining TFC or TTC.

- R1.** Each Transmission Operator shall prepare, keep current, and implement a TFC or TTC methodology for calculating its TFC or TTC, if: [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]
- Used by that Transmission Operator;
 - Requested by its Transmission Service Provider(s); or
 - Requested by its Reliability Coordinator.
- 1.1.** The methodologies shall include:
- A statement that the TTC or TFC shall incorporate facility ratings, voltage limits, and stability limits pre- and post-contingency;
 - A description of how this is accomplished;
 - What criteria (if any) is used to select which of the limits, or System Operating Limits (SOLs), are relevant to the calculation; and
 - The rationale for the selection of the TTC or TFC method being used.
- 1.2.** The methodologies shall address, at a minimum, the following elements of the TFC or TTC calculation:
- How simulation of transfers are performed through the adjustment of generation, Load, or both;
 - Transmission topology, including, but not limited to, additions and retirements;
 - Currently approved and projected transmission uses;
 - Planned outages;
 - Parallel path (loop flow) adjustments;
 - Load forecast; and
 - Generator dispatch, including, but not limited to, additions and retirements.

- 1.3.** The methodologies shall include any reliability-related constraints that are requested to be included by another Transmission Operator, provided the constraints are also used in that Transmission Operator’s TFC or TTC calculation.
- 1.3.1** The Transmission Operator shall use a distribution factor (Power Transfer Distribution Factor (PTDF) or Outage Transfer Distribution Factor (OTDF)) of five percent or less when determining if these constraints should be monitored.
- 1.4.** The methodologies shall address the periodicity for the Transmission Operator to provide updated TFC or TTC values to the Transmission Service Provider.

M1. Examples of evidence include, but are not limited to:

- A dated effective methodology that is posted on the Transmission Operator's website, or their Transmission Service Provider’s website, or on the Open Access Same-Time Information System (OASIS);
- Descriptions within the methodology regarding how constraints identified by another Transmission Operator are included and how a distribution factor is applied, or a statement that such a request has not been made, or the TTC or TFC calculation does not use PTDF or OTDF in the calculation; or
- Language in the TFC or TTC methodology that specifies the periodicity of providing updated TFC or TTC values to the Transmission Service Provider and evidence that the updated values were provided according to the specified timeframes.

If the Transmission Operator and Transmission Service Provider are the same entity then evidence of providing the values can be established by a statement that they are the same entity.

Rationale for R2:

ATC is a prediction of the remaining amount of power that can be transferred on a path between two systems for defined system conditions. AFC is a prediction of the amount of additional power for defined system conditions that could flow over a particular flowgate, which may involve one or more paths between systems. The ATC or AFC value influences, to varying degrees depending on the locality, the system conditions that the operator inherits in real time, which gives the Transmission Operator and others an interest in understanding how the values are calculated. To ensure that the Transmission Operator and others have this information, the Transmission Service Provider must have an Available Transfer Capability Implementation Document (ATCID) that accurately describes the current process of determining this value.

- R2.** Each Transmission Service Provider shall prepare, keep current, and implement an Available Transfer Capability Implementation Document (ATCID) that describes the methodology used to calculate ATC or AFC values. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*

- M2.** Examples of evidence include, but are not limited to, a dated effective ATCID that is posted on the Transmission Service Provider’s website or OASIS and a demonstration that select currently active values of ATC were calculated based on the current ATCID.

Rationale for R3:

Capacity Benefit Margin (CBM) is a value used by a Transmission Service Provider when determining ATC. To ensure transparency and reliability, the Transmission Service Provider must have a Capacity Benefit Margin Implementation Document (CBMID) that accurately describes the current process of determining this value that can be shared with other entities with a reliability need to understand the Transmission Service Provider’s process for creating the CBM value. When a Transmission Service Provider does not use CBM, the value in the ATC calculation is zero.

The CBM value could have been included in the ATCID. However, Transmission Service Providers have other obligations (tariffs, contracts, future NAESB standards) that reference the CBMID; keeping it as its own document seemed to be less burdensome than requiring its inclusion in the ATCID.

- R3.** Each Transmission Service Provider shall prepare, keep current, and implement a Capacity Benefit Margin Implementation Document (CBMID) that describes its method for establishing margins to protect system reliability during a declared NERC Energy Emergency Alert 2 or higher.
- Transmission Service Providers that do not use Capacity Benefit Margin (CBM) shall state this in the CBMID. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- M3.** Examples of evidence include, but are not limited to, a dated effective CBMID that is posted on the Transmission Service Provider’s website or OASIS and a demonstration, such as a study report, that select currently active values of CBM were determined per the CBMID, if the Transmission Service Providers uses CBM.

Rationale for R4:

Transmission Reliability Margin (TRM) is additional capacity held by a Transmission Service Provider when determining ATC and providing additional operating margin to a Transmission Operator. To ensure transparency and reliability, the Transmission Operator must have a Transmission Reliability Margin Implementation Document (TRMID) that accurately describes their current process of determining this value and can be shared with entities that have a reliability need to understand the Transmission Operator’s process for creating the TRM value. When a Transmission Service Provider does not utilize TRM, the value in the ATC calculation is zero.

The TRM value could have been included in the ATCID. However, there are other obligations upon a Transmission Service Provider (tariffs, contracts, future NAESB standards) that reference the TRMID, so keeping it as its own document seemed to be less burdensome than requiring its inclusion in the ATCID.

- R4.** Each Transmission Operator shall prepare, keep current, and implement a Transmission Reliability Margin Implementation Document (TRMID) that describes its method for establishing margins to protect system reliability.

Transmission Operators that do not use Transmission Reliability Margin (TRM) shall state this in the TRMID. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*

- M4.** Examples of evidence include, but are not limited to, a dated effective TRMID that is posted on the Transmission Operator’s website or OASIS and a demonstration, such as a study report, that select currently active values of TRM were determined per the TRMID, if the Transmission Operator uses TRM.

Rationale for R5:

One of this standard’s primary goals is transparency in the methods used to determine ATC or AFC. To support that goal, this requirement requires the Transmission Service Provider and Transmission Operator to share their implementation document (if not already posted publicly) and respond to questions when asked in writing to do so under the standard. This requirement establishes a threshold for a question to fall under the requirement, so that routine and customary discussions do not need to be documented.

- R5.** Within 30 calendar days of receiving a written request that references this requirement from a Planning Coordinator, Reliability Coordinator, Transmission Operator, Transmission Planner, Transmission Service Provider, or any other registered entity that demonstrates a reliability need, each Transmission Service Provider and Transmission Operator (subject to confidentiality, regulatory, or security requirements) shall provide: *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- 5.1.** A written response to any request for clarification of its ATC or AFC methodology.
 - 5.2.** If not publicly posted on OASIS or its company website, the Transmission Operator’s effective:
 - 5.2.1.** CBMID; and
 - 5.2.2.** TFC or TTC methodology.
 - 5.3.** If not publicly posted on OASIS or its company website, the Transmission Service Provider’s effective:
 - 5.3.1.** ATCID; and
 - 5.3.2.** TRMID.
- M5.** Examples of evidence include, but are not limited to, dated records of the request from a Planning Coordinator, Reliability Coordinator, Transmission Operator, Transmission Planner, Transmission Service Provider, or another registered entity who demonstrates a reliability need; the

Transmission Service Provider's response to the request; and a statement by the Transmission Service Provider that they have received no requests.

Rationale for R6:

A Transmission Service Provider or Transmission Operator may need data (e.g., load forecast, expected dispatch, planned outages) from its neighbor in order to accurately calculate TTC, TFC, ATC, or AFC values. This requirement allows them to pursue accessing that data with the limitation that the owner of the data is not obligated to modify it for another entity's use, nor provide data that is otherwise accessible. This requirement should not discourage data exchanges and data requests, especially those already in place. Therefore, the requirement is specific in that it is invoked only when specifically invoked by the requestor and assumes that there may have been other attempts to get the data that were unsuccessful.

- R6.** Within 30 days of a written request that references this requirement from another Transmission Service Provider or Transmission Operator, a Transmission Service Provider or Transmission Operator shall share data used in their respective AFC, ATC, TFC, or TTC calculations (subject to confidentiality, regulatory, or security requirements). [*Violation Risk Factor: Lower*] [*Time Horizon: Operations Planning*]
- 6.1.** To be valid, the request must specify that the data is for use in the requesting party's AFC, ATC, TFC, or TTC calculations.
- 6.2.** The Transmission Service Provider and Transmission Operator are not required to modify the data from the format in which they maintain, use, or currently make available the data.
- M6.** Examples of evidence include, but are not limited to:
- Dated records of a registered entity's request, and the Transmission Service Provider's or Transmission Operator's response to the request;
 - A statement from the requestor that the request was met; or
 - A statement by the Transmission Service Provider or Transmission Operator that they have received no requests under this requirement.

In the case of a data request that involves the providing of data on regular intervals, examples of evidence include, but are not limited to:

- Dated records of the registered entity's request;
- Examples of the Transmission Service Provider or Transmission Operator providing the data at intervals; or
- A statement from the requestor that the request is being met.

C. Compliance

1. Compliance Monitoring Process:

1.1. Compliance Enforcement Authority:

As defined in the NERC Rules of Procedure, “Compliance Enforcement Authority” refers to NERC or the Regional Entity in their respective roles of monitoring and enforcing compliance with the NERC Reliability Standards.

1.2. Evidence Retention:

The following evidence retention periods identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances in which the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask the entity to provide other evidence to show that it was compliant for the full time period since the last audit.

- Implementation and methodology documents shall be retained for five years.
- Calculations and other components of implementation and methodology documents shall be retained to show compliance in calculating:
 - Hourly values for the most recent 14 days;
 - Daily values for the most recent 30 days; and
 - Monthly values for the most recent 60 days.
- If a responsible entity is found non-compliant, it shall keep information related to the non-compliance until mitigation is complete and approved.
- The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.

1.3. Compliance Monitoring and Assessment Processes:

- As defined in the NERC Rules of Procedure, “Compliance Monitoring and Assessment Processes” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

1.4. Additional Compliance Information:

- None

D. Regional Variances

None.

E. Interpretations

None.

F. Associated Documents

None.

Table of Compliance Elements

R #	Time Horizon	VRF	Violation Severity Levels (VSLs)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Operations Planning	Lower	The Transmission Operator prepared, kept current, and implemented a methodology that is used by its Transmission Service Provider, but does not address one of the requirement parts.	The Transmission Operator prepared, kept current, and implemented a methodology that is used by its Transmission Service Provider, but does not address two of the requirement parts.	The Transmission Operator prepared, kept current, and implemented a methodology that is used by its Transmission Service Provider, but does not address three of the requirement parts.	The Transmission Operator did not prepare, keep current, or implement a methodology.
R2	Operations Planning	Lower	None.	None.	None.	The Transmission Service Provider has not prepared an ATCID. OR The Transmission Service Provider has not kept current an ATCID.

R #	Time Horizon	VRF	Violation Severity Levels (VSLs)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
						OR The Transmission Service Provider has not implemented an ATCID.
R3	Operations Planning	Lower	None.	None.	None.	The Transmission Service Provider has not prepared a CBMID. OR The Transmission Service Provider has not kept current a CBMID. OR The Transmission Service Provider has not implemented a CBMID.
R4	Operations Planning	Lower	None.	None.	None.	The Transmission Operator has not prepared a TRMID. OR The Transmission Operator has not kept current a TRMID. OR The Transmission Operator has not implemented a

R #	Time Horizon	VRF	Violation Severity Levels (VSLs)			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
						TRMID.
R5	Operations Planning	Lower	The responsible entity responds to a written request by one or more of the entities specified in requirement R5 in 31 or more calendar days, but not more than 60 calendar days after the request.	The responsible entity responds to a written request by one or more of the entities specified in requirement R5 in 61 or more calendar days, but not more than 90 calendar days after the request.	The responsible entity responds to a written request by one or more of the entities specified in requirement R5 in 91 or more calendar days, but not more than 120 calendar days after the request.	The responsible entity fails to respond to a written request by one or more of the entities specified in requirement R5.
R6	Operations Planning	Lower	The responsible entity responds to a written request by one or more of the entities specified in requirement R6 to share data used in their TTC or ATC calculation in 31 or more calendar days, but not more than 60 calendar days after the request.	The responsible entity responds to a written request by one or more of the entities specified in requirement R6 to share data used in their TTC or ATC calculation in 61 or more calendar days, but not more than 90 calendar days after the request.	The responsible entity responds to a written request by one or more of the entities specified in requirement R6 to share data used in their TTC or ATC calculation in 91 or more calendar days, but not more than 120 calendar days after the request.	The responsible entity fails to respond to a written request by one or more of the entities specified in requirement R6.

Guidelines and Technical Basis

Please see the MOD A White Paper for further information regarding the technical basis for each requirement.