

## A. Introduction

1. **Title:** Calculation and Documentation of Transmission Reliability Margin
2. **Number:** MOD-008-0
3. **Purpose:** To promote the consistent calculation and documentation of each Transmission Service Provider's Transmission Reliability Margin
4. **Applicability:**
  - 4.1. Transmission Service Provider
5. **Effective Date:**

## B. Requirements

**R1.** Transmission Reliability Margin consists of three components, provision for the outage of a critical unit, the uncertainty component and the generation reserve sharing component. The uncertainty component will by definition be zero. Only the generation reserve sharing component may be a non-zero quantity for the TRM calculation.

**R1.1.**

**R1.2.** Each Transmission Service Provider will define and document the MW amounts of transfer capability (on interfaces) or facility ratings (of facilities used as limits in ATC calculations) set aside as the generation reserve sharing component of the Transmission Reliability Margin.

**R1.3.1.** The Transmission Service Provider will include in its documentation, the methodology describing how the amounts are defined and a copy of the study in which the current amounts are calculated.

**R1.3.2.** If the amount is zero or the Transmission Service Provider does not participate in generation reserve sharing, all that is needed is a statement reflecting this in the documentation.

**R1.3.** The Transmission Service Provider will, at a minimum, review its Transmission Reliability Margin quarterly and update any required studies or explanations required in its documentation at that time.

**R1.4.** The Transmission Service Provider will document the amount of Transmission Reliability Margin that will be subtracted from the Total Transfer Capacity (TTC) on each interface. This amount is the values previously defined in R1.2, if the Transmission Service Provider chose to set a part of Transmission Reliability Margin aside as interface transfer capability.

**R1.5.** The Transmission Service Provider will document the amount of Transmission Reliability Margin that will be made available to the market as Non-Firm Transmission Service.

**R1.6.** The Transmission Service Provider will make available its most recent version of its Transmission Reliability Margin documentation on their OASIS website.

## C. Measures

Adopted by NERC Board of Trustees: February 8, 2005  
Effective Date: April 1, 2005

1 of 3

Deleted: and Content

Deleted: Each Regional

Deleted: Methodology

Deleted: To promote the consistent application of transmission Transfer Capability margin calculations among Transmission Service Providers and Transmission Owners, each Regional Reliability Organization shall develop a methodology for calculating Transmission Reliability Margin (TRM). This methodology shall comply with the NERC definition for TRM, the NERC Reliability Standards, and applicable Regional criteria.

Deleted: Regional Reliability Organization

Deleted: April 1, 2005

Deleted: wo

Formatted: Bullets and Numbering

Deleted: Each Transmission Service Provider must define, within the limits of the standard, and document an amount set aside to make up each component of the Transmission Reliability Margin.

Deleted: Each Transmission Service Provider will define a percentage of transmission element facility ratings (of facilities used as limits in ATC calculations) as the uncertainty component of the Transmission Reliability Margin. Each element or groups of elements may have different percentages set aside as long as it is clear in the documentation what percentage is set aside for each element or group of

Deleted: elements

Deleted: The uncertainty component of TRM will be zero unless a non-zero value can be justified through historical evidence or some yet to be defined method based on good utility practice.

Deleted: .

Deleted:

Deleted: <#>If the percentage defined for a specific element or group of elements, used as limits in ATC calculations, is between 0% and 2%, then the Transmission Service Provider must provide an explanation in its documentation why that percentage is used.¶ ... [1]

Deleted: <#>Each Regional Reliability Organization, in conjunction with its members, shall develop and docur ... [2]

Deleted: <#>Describe the formal process for the Regional Reliability Organization to grant any variance ... [3]

Deleted: <#>¶

- M1. The Transmission Service Provider's most recent version of the Transmission Reliability Margin documentation is available on their OASIS.
- M2. The Transmission Service Provider's most recent version of the documentation contains all items in Reliability Standard MOD-008-1 R1.

The following requirements were extracted from MOD-009 – unsure how to integrate them into this standard.

**R2.1.** Indicate the frequency under which the verification review shall be implemented.

Put in MOD-008

**R2.2.** Require review of the process by which TRM values are updated, and their frequency of update, to ensure that the most current TRM values are available to transmission users.

Put in MOD-008

**R2.3.** Require review of the consistency of the Transmission Service Provider's TRM components with its published planning criteria. A TRM value is considered consistent with published planning criteria if the same components that comprise TRM are also addressed in the planning criteria. The methodology used to determine and apply TRM does not have to involve the same mechanics as the planning process, but the same uncertainties must be considered and any simplifying assumption explained.

Put in MOD-008

**R2.4.** Require TRM values to be periodically updated (at least prior to each season — winter, spring, summer, and fall), as necessary, and made available to the Regional Reliability Organizations, NERC, and transmission users. See R1.3.

Put in MOD-008

**R3.** The TSP shall make documentation of the results of the most current implementation of its TRM review procedure available to NERC on request (within 30 calendar days).

Put in MOD-008

**Deleted:** The Regional Reliability Organization's

**Deleted:** of its TRM methodology

**Deleted:** a website accessible by NERC, the Regional Reliability Organizations, and transmission users

**Deleted:** .

**Deleted:** Regional Reliability Organization's

**Deleted:** of its TRM

**Deleted:** 0

**Formatted:** Not Highlight

**Formatted:** Bullets and Numbering

**Formatted:** Bullets and Numbering

**Formatted:** Not Highlight

**Formatted:** Bullets and Numbering

**Formatted:** Not Highlight

**Formatted:** Not Highlight

**Formatted:** Bullets and Numbering

**Formatted:** Not Highlight

**Formatted:** Not Highlight

**Formatted:** Bullets and Numbering

**Formatted:** Not Highlight

## D. Compliance

### 1. Compliance Monitoring Process

#### 1.1. Compliance Monitoring Responsibility

Compliance Monitor: NERC.

#### 1.2. Compliance Monitoring Period and Reset Timeframe

Each Regional Reliability Organization shall report compliance and violations to NERC via the NERC Compliance Reporting process.

#### 1.3. Data Retention

None specified.

#### 1.4. Additional Compliance Information

None.

## **Standard MOD-008-0 — Documentation and Content of Each Regional TRM Methodology**

### **2. Levels of Non-Compliance**

- 2.1. Level 1:** The Regional Reliability Organization's documented TRM methodology does not address one of the five items required for documentation under Reliability Standard MOD-008-0\_R1.
- 2.2. Level 2:** Not applicable.
- 2.3. Level 3:** Not applicable.
- 2.4. Level 4:** The Regional Reliability Organization's documented TRM methodology does not address two or more of the five items required for documentation under Reliability Standard MOD-008-0\_R1.

**Or**

The Regional Reliability Organization does not have a documented TRM methodology.

### **E. Regional Differences**

- 1.** None identified.

### **Version History**

<b>Version</b>	<b>Date</b>	<b>Action</b>	<b>Change Tracking</b>
0	April 1, 2005	Effective Date	New

If the percentage defined for a specific element or group of elements, used as limits in ATC calculations, is between 0% and 2%, then the Transmission Service Provider must provide an explanation in its documentation why that percentage is used.

If a percentage defined for a specific transmission element or group of elements is greater than 5% then the Transmission Service Provider must provide in its documentation an explanation of why the higher percentage is need and historical data that reinforces the explanation. The historical data may include, but is not limited to: load forecast error, load distribution error, loop flow impacts, variations in generation dispatch. A study of the transmission system may be substituted for the historical data if large simultaneous path interactions are the reason a larger amount is used.

Each Regional Reliability Organization, in conjunction with its members, shall develop and document a Regional TRM methodology. The Region's TRM methodology shall specify or describe each of the following five items, and shall explain its use, if any, in determining TRM values. Other items that are Region-specific or that are considered in each respective Regional methodology shall also be explained along with their use in determining TRM values.

Specify the update frequency of TRM calculations.

Specify how TRM values are incorporated into Available Transfer Capability calculations.

Specify the uncertainties accounted for in TRM and the methods used to determine their impacts on the TRM values. Any component of uncertainty, other than those identified in MOD-008-0\_R1.3.1 through MOD-008-0\_R1.3.7, shall benefit the interconnected transmission systems as a whole before they shall be permitted to be included in TRM calculations. The components of uncertainty identified in MOD-008-0\_R1.3.1 through MOD-008-0\_R1.3.7, if applied, shall be accounted for solely in TRM and not CBM.

Aggregate Load forecast error (not included in determining generation reliability requirements).

Load distribution error.

Variations in facility Loadings due to balancing of generation within a Balancing Authority Area.

Forecast uncertainty in transmission system topology.

Allowances for parallel path (loop flow) impacts.

Allowances for simultaneous path interactions.

Variations in generation dispatch.

Short-term System Operator response (Operating Reserve actions not exceeding a 59-minute window).

Describe the conditions, if any, under which TRM may be available to the market as Non-Firm Transmission Service.

Page 1: [3] Deleted

Charles Z Falls

1/30/2007 1:52:00 PM

Describe the formal process for the Regional Reliability Organization to grant any variances to individual Transmission Service Providers from the Regional TRM methodology.

The Regional Reliability Organization shall make its most recent version of the documentation of its TRM methodology available on a web site accessible by NERC, the Regional Reliability Organizations, and transmission users.