

## A. Introduction

1. ~~Title: — Methodologies for Determining Electrical Facility Ratings~~
2. ~~Number: — FAC-004-0 (060.1)~~
3. ~~Purpose: — To ensure that electrical facilities used in the transmission and storage of electricity are rated in compliance with applicable Regional Reliability Organization requirements.~~
4. ~~Applicability:~~
  - 4.1. ~~Transmission Owner~~
  - 4.2. ~~Generator Owner~~
5. ~~Proposed Effective Date: — April 1, 2005~~

## B. Requirements

- ~~R1. The Transmission Owner and Generator Owner shall each document the methodology(ies) used to determine its electrical facility and equipment Rating. Further, the methodology(ies) shall comply with applicable Regional Reliability Organization requirements. The documentation shall address and include~~
  - ~~R1.1. The methodology(ies) used to determine Facility and equipment Rating of the items listed for both normal and emergency conditions:~~
    - ~~R1.1.1. Transmission circuits.~~
    - ~~R1.1.2. Transformers.~~
    - ~~R1.1.3. Series and shunt reactive elements.~~
    - ~~R1.1.4. Terminal equipment (e.g., switches, breakers, current transformers, etc).~~
    - ~~R1.1.5. VAR compensators.~~
    - ~~R1.1.6. High voltage direct current converters.~~
    - ~~R1.1.7. Any other device listed as a Limiting Element.~~
  - ~~R1.2. The Rating of a facility shall not exceed the Rating(s) of the most Limiting Element(s) in the circuit, including terminal connections and associated equipment.~~
  - ~~R1.3. In cases where protection systems and control settings constitute a loading limit on a facility, this limit shall become the Rating for that facility.~~
  - ~~R1.4. Ratings of jointly owned and jointly operated facilities shall be coordinated among the joint owners and joint operators resulting in a single set of Ratings.~~
  - ~~R1.5. The documentation shall identify the assumptions used to determine each of the facility and equipment Ratings, including references to industry Rating practices and standards (e.g., ANSI, IEEE, etc.). Seasonal Ratings and variations in assumptions shall be included.~~
- ~~R2. The Transmission Owner and Generator Owner shall provide documentation of the methodology(ies) used to determine its transmission facility and equipment Ratings to the Regional Reliability Organization(s) and NERC on request (30 calendar days).~~

## C. Measures

~~M1. The Transmission Owner or Generator Owner shall provide documentation that the methodology(ies) used for determining Facility and equipment Ratings meets the requirements of Standard FAC-004-0\_R1 as specified in Standard FAC-004-0\_R2.~~

**D. Compliance**

**1. Compliance Monitoring Process**

**1.1. Compliance Monitoring Responsibility**

~~Compliance Monitor: Regional Reliability Organization.~~

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

~~On request (30 calendar days.)~~

**1.3. Data Retention**

~~None specified.~~

**1.4. Additional Compliance Information**

~~None.~~

**2. Levels of Non-Compliance**

~~2.1. Level 1: — Facility and equipment Rating methodology(ies) do not address one of the five elements listed in Reliability Standard FAC-004-0\_R1.~~

~~2.2. Level 2: — N/A.~~

~~2.3. Level 3: — Facility and equipment Rating methodology(ies) do not address two of the five elements listed in Reliability Standard FAC-004-0\_R1.~~

~~2.4. Level 4: — Facility and equipment Rating methodology(ies) do not address three or more of the five elements listed in Reliability Standard FAC-004-0\_R1, or no Facility and equipment Rating methodology was provided.~~

**E. Regional Differences**

~~1. None identified.~~

**Version History**

Version	Date	Action	Change Tracking

## **A. Introduction**

- 1. Title:** ~~Electrical Facility Ratings for System Modeling~~
- 2. Number:** ~~FAC-005-0 (060.2)~~
- 3. Purpose:** ~~To ensure that electrical facilities used in the transmission and storage of electricity are Rated in compliance with applicable Regional Reliability Organization requirements.~~
- 4. Applicability:**
  - 4.1.** ~~Transmission Owner~~
  - 4.2.** ~~Generator Owner~~
- 5. Proposed Effective Date:** ~~April 1, 2005~~

## **B. Requirements**

- R1.** ~~The transmission Owner, and Generator Owner shall each have on file or be able to readily provide, a document or database identifying the Normal and Emergency Ratings of all of its transmission facilities (e.g., lines, transformers, terminal equipment, and storage devices) that are part of the interconnected transmission systems. Seasonal variations in Ratings shall be included as appropriate.~~
  - R1.1.** ~~The Ratings shall be consistent with the entity's methodology(ies) for determining Facility Ratings and shall be updated as facility changes occur.~~
- R2.** ~~The Transmission Owner and Generator Owner shall provide the Normal and Emergency Facility Ratings of all its transmission facilities to the Regional Reliability Organization(s) and NERC on request (30 calendar days).~~

## **C. Measures**

- M1.** ~~The Transmission Owner and Generator Owner shall provide documentation of its facility Ratings as specified in Reliability Standard FAC-005-0\_R1 and Standard FAC-005-0\_R2.~~

## **D. Compliance**

- 1. Compliance Monitoring Process**
  - 1.1. Compliance Monitoring Responsibility**

~~Compliance Monitor: Regional Reliability Organization.~~
  - 1.2. Compliance Monitoring Period and Reset Timeframe**

~~On request (30 calendar days.)~~
  - 1.3. Data Retention**

~~None specified.~~
  - 1.4. Additional Compliance Information**

~~None.~~
- 2. Levels of Non-Compliance**
  - 2.1. Level 1:** ~~Facility Ratings were incomplete or the methodology(ies) were inconsistently applied in one facility type.~~
  - 2.2. Level 2:** ~~Facility Ratings were incomplete or the methodology(ies) were inconsistently applied in two facility types.~~

~~2.3. Level 3: Facility Ratings were incomplete or the methodology(ies) were inconsistently applied in three or more facility types.~~

~~2.4. Level 4: Facility Ratings were not provided.~~

~~E. Regional Differences~~

~~1. None identified.~~

**Version History**

Version	Date	Action	Change Tracking

**A. Introduction**

1. **Title:** Transmission Operations
2. **Number:** TOP-004-~~0~~1
3. **Purpose:** \_\_\_\_\_ To ensure that the transmission system is operated so that instability, uncontrolled separation, or cascading outages will not occur as a result of the most severe single Contingency and specified multiple Contingencies.
4. **Applicability:**
  - 4.1. Transmission Operators
5. **Proposed Effective Date:** ~~April~~July 1, 200~~5~~6

**B. Requirements**

- R1. Each Transmission Operator shall operate within the Interconnection Reliability Operating Limits (IROLs) and System Operating Limits (SOLs).
- R2. Each Transmission Operator shall operate so that instability, uncontrolled separation, or cascading outages will not occur as a result of the most severe single contingency.
- R3. Each Transmission Operator shall, when practical, operate to protect against instability, uncontrolled separation, or cascading outages resulting from multiple outages, as specified by Regional Reliability Organization policy.
- R4. If a Transmission Operator enters an unknown operating state (i.e. any state for which valid operating limits have not been determined), it will be considered to be in an emergency and shall restore operations to respect proven reliable power system limits within 30 minutes.
- R5. Each Transmission Operator shall make every effort to remain connected to the Interconnection. If the Transmission Operator determines that by remaining interconnected, it is in imminent danger of violating an IROL or SOL, the Transmission Operator may take such actions, as it deems necessary, to protect its area.
- R6. Transmission Operators, individually and jointly with other Transmission Operators, shall develop, maintain, and implement formal policies and procedures to provide for transmission reliability. These policies and procedures shall address the execution and coordination of activities that impact inter- and intra-Regional reliability, including:

~~R6.1. Equipment ratings.~~

~~R6.2.~~R6.1. \_\_\_\_\_ Monitoring and controlling voltage levels and real and reactive power flows.

~~R6.3.~~R6.2. \_\_\_\_\_ Switching transmission elements.

~~R6.4.~~R6.3. \_\_\_\_\_ Planned outages of transmission elements.

~~R6.5. Development of IROLs and SOLs.~~

~~R6.6.~~R6.4. \_\_\_\_\_ Responding to IROL and SOL violations.

**C. Measures**

Not specified.

**D. Compliance**

Not specified.

**E. Regional Differences**

## Standard TOP-004-~~0~~1— Transmission Operations

---

None identified.

### Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
0	August 8, 2005	Removed “Proposed” from Effective Date	Errata