

A. Introduction

1. **Title:** Facility Ratings
2. **Number:** FAC-008-2
3. **Purpose:** To ensure that Facility Ratings used in the reliable planning and operation of the Bulk Electric System (BES) are determined based on technically sound principles. A Facility Rating is essential for the determination of System Operating Limits.
4. **Applicability**
 - Transmission Owner.
 - Generator Owner.
5. **Effective Date:** The first day of the first calendar quarter that is twelve months beyond the date approved by applicable regulatory authorities, or in those jurisdictions where regulatory approval is not required, the first day of the first calendar quarter twelve months following BOT adoption.

B. Requirements

- R1. Each Generator Owner shall have documentation for determining the Facility Ratings of its solely and jointly owned turbine-generator Facility(ies) up to the generator terminals or the low side terminals of the step up transformer, or the high side terminal of the step up transformer (location as specified by the Generator Owner). [*Violation Risk Factor: Medium*] [*Time Horizon: Long-term Planning*]
 - 1.1. The documentation shall contain at least one of the following:
 - 1.1.1. Design or construction information such as design criteria, ratings provided by equipment manufacturers, equipment drawings and/or specifications, engineering analyses, method(s) consistent with industry standards (e.g. ANSI and IEEE), or an established engineering practice having a successful implementation record.
 - 1.1.2. Operational information such as commissioning test results, performance testing or historical performance records, any of which may be supplemented by engineering analyses.
 - 1.2. The documentation shall be capable of demonstrating consistency with the principle that the Facility Ratings do not exceed the most limiting applicable Equipment Rating of the individual equipment that comprises that Facility.
- R2. Each Generator Owner shall have a documented methodology for determining Facility Ratings (Facility Ratings Methodology) of its solely and jointly owned equipment connected between the generator terminals, or the low voltage side of the step up transformer, or the high voltage side of the transformer (consistent with location specified in R1 by the Generator Owner) and the point of interconnection with the Transmission Owner that contains all of the following. [*Violation Risk Factor: Medium*] [*Time Horizon: Long-term Planning*]
 - 2.1. The methodology used to establish the Ratings of the Equipment that comprises the Facility(ies) shall be consistent with at least one of the following:
 - 2.1.1. Ratings provided by equipment manufacturers or obtained from equipment manufacturer specifications such as nameplate rating.

- 2.1.2. One or more industry standards developed through an open process such as Institute of Electrical and Electronic Engineers (IEEE) or International Council on Large Electric Systems (CIGRE).
 - 2.1.3. A practice that has been verified by testing or engineering analysis.
 - 2.2. The underlying assumptions, design criteria, and methods used to determine the Equipment Ratings identified in Requirement R2, Part 2.1 including identification of how each of the following were considered:
 - 2.2.1. Equipment Rating standard(s) used in development of this methodology.
 - 2.2.2. Ratings provided by equipment manufacturers or obtained from equipment manufacturer specifications.
 - 2.2.3. Ambient conditions (for particular or average conditions or as they vary in real-time).
 - 2.2.4. Operating limitations.¹
 - 2.3. A statement that a Facility Rating shall respect the most limiting applicable Equipment Rating of the individual equipment that comprises that Facility.
 - 2.4. The scope of equipment addressed shall include, but not limited to, conductors, transformers, relay protective devices, terminal equipment, and series and shunt compensation devices.
 - R3. Each Transmission Owner shall each have a documented methodology for determining Facility Ratings (Facility Ratings Methodology) of its solely and jointly owned Facilities (except for those generating unit Facilities addressed in R1) that contains all of the following: [*Violation Risk Factor: Medium*] [*Time Horizon: Long-term Planning*]
 - 3.1. The methodology used to establish the Ratings of the Equipment that comprises the Facility shall be consistent with at least one of the following:
 - 3.1.1. Ratings provided by equipment manufacturers or obtained from equipment manufacturer specifications such as nameplate rating.
 - 3.1.2. One or more industry standards developed through an open process such as Institute of Electrical and Electronics Engineers (IEEE) or International Council on Large Electric Systems (CIGRE).
 - 3.1.3. A practice that has been verified by testing or engineering analysis.
 - 3.2. The underlying assumptions, design criteria, and methods used to determine the Equipment Ratings identified in R2.1 including identification of how each of the following were considered:
 - 3.2.1. Equipment Rating standard(s) used in development of this methodology.
 - 3.2.2. Ratings provided by equipment manufacturers or obtained from equipment manufacturer specifications.
 - 3.2.3. Ambient conditions (for particular or average conditions or as they vary in real-time).
 - 3.2.4. Operating limitations.²

¹ Such as temporary de-ratings of impaired equipment in accordance with good utility practice.

- 3.3.** A statement that a Facility Rating shall respect the most limiting applicable Equipment Rating of the individual equipment that comprises that Facility.
- 3.4.** The process by which the Rating of equipment that comprises a Facility is determined.
 - 3.4.1.** The scope of equipment addressed shall include, but not be limited to, transmission conductors, transformers, relay protective devices, terminal equipment, and series and shunt compensation devices.
 - 3.4.2.** The scope of Ratings addressed shall include, as a minimum, both Normal and Emergency Ratings.
- R4.** Each Transmission Owner shall make its Facility Ratings Methodology and each Generator Owner shall each make its documentation for determining its Facility Ratings available for inspection and technical review by those Reliability Coordinators, Transmission Operators, Transmission Planners and Planning Coordinators that have responsibility for the area in which the associated Facilities are located, within 21 calendar days of receipt of a request. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- R5.** If a Reliability Coordinator, Transmission Operator, Transmission Planner or Planning Coordinator provides documented comments on its technical review of a Transmission Owner's Facility Ratings Methodology or Generator Owner's documentation for determining its Facility Ratings, the Transmission Owner or Generator Owner shall provide a response to that commenting entity within 45 calendar days of receipt of those comments. The response shall indicate whether a change will be made to the Facility Ratings Methodology and, if no change will be made to that Facility Ratings Methodology, the reason why. *[Violation Risk Factor: Lower] [Time Horizon: Operations Planning]*
- R6.** Each Transmission Owner and Generator Owner shall have Facility Ratings for its solely and jointly owned Facilities that are consistent with the associated Facility Ratings Methodology or documentation for determining its Facility Ratings. *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning]*
- R7.** Each Transmission Owner and Generator Owner shall provide Facility Ratings for its solely and jointly owned Facilities that are existing Facilities, new Facilities, modifications to existing Facilities and re-ratings of existing Facilities to its associated Reliability Coordinator(s), Planning Coordinator(s), Transmission Planner(s), and Transmission Operator(s) as scheduled by such requesting entities. *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning]*

C. Measures

- M1.** Each Generator Owner shall have documentation that shows how its Facility Ratings were determined as identified in Requirement 1.
- M2.** Each Generator Owner shall have a documented Facility Ratings Methodology that includes all of the items identified in Requirement 2, Parts 2.1 through 2.4.
- M3.** Each Transmission Owner shall each have a documented Facility Ratings Methodology that includes all of the items identified in Requirement 3, Parts 3.1 through 3.4.
- M4.** Each Transmission Owner and Generator Owner shall each have evidence, such as a copy of a dated electronic note, or other comparable evidence to show that it made its Facility Ratings

² Such as temporary de-ratings of impaired equipment in accordance with good utility practice.

Methodology available for inspection within 21 calendar days of a request in accordance with Requirement 34.

- M5.** If the Reliability Coordinator, Transmission Operator, Transmission Planner or Planning Coordinator provides documented comments on its technical review of a Transmission Owner's or Generator Owner's Facility Ratings Methodology, the Transmission Owner or Generator Owner shall have evidence, (such as a copy of a dated electronic or hard copy note, or other comparable evidence from the Transmission Owner or Generator Owner addressed to the commenter that includes the response to the comment,) that it provided a response to that commenting entity in accordance with Requirement 5.
- M6.** Each Transmission Owner and Generator Owner shall have evidence to show that its Facility Ratings are consistent with the documentation used to develop its Facility Ratings as specified in Requirement R1 or consistent with its Facility Ratings Methodology as specified in Requirements R2 and R3 (Requirement 6).
- M7.** Each Transmission Owner and Generator Owner shall have evidence, such as a copy of a dated electronic note, or other comparable evidence to show that it provided its Facility Ratings to its associated Reliability Coordinator(s), Planning Coordinator(s), Transmission Planner(s), and Transmission Operator(s) in accordance with Requirement 7.

D. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

Regional Entity

1.2. Compliance Monitoring Period and Reset Timeframe

Not Applicable

1.3. Compliance Monitoring and Enforcement Processes:

- Self-Certifications
- Spot Checking
- Compliance Audits
- Self-Reporting
- Compliance Violation Investigations
- Complaints

1.4. Data Retention

The Generator Owner shall keep its current documentation (for R1) and any modifications to the documentation that were in force since last compliance audit period for Measure M1 and Measure M6.

The Generator Owner shall keep its current, in force Facility Ratings Methodology (for R2) and any modifications to the methodology that were in force since last compliance audit period for Measure M2 and Measure M6. The Transmission Owner shall keep its current, in force Facility Ratings Methodology (for R3) and any modifications to the methodology that were in force since the last compliance audit for Measure M3 and Measure M6.

The Transmission Owner and Generator Owner shall keep its current, in force Facility Ratings and any changes to those ratings for three calendar years for Measure M6.

The Generator Owner and Transmission Owner shall each keep evidence for Measure M4, Measure M5, and Measure M7 for three calendar years.

If a Generator Owner or Transmission Owner is found non-compliant, it shall keep information related to the non-compliance until found compliant.

The Compliance Enforcement Authority shall keep the last audit and all subsequent compliance records.

1.5. Additional Compliance Information

None

2. Violation Severity Levels

R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	N/A	<p>The Generator Owner’s Facility Rating documentation did not address either of the following:</p> <ul style="list-style-type: none"> • Requirement R1, Part 1.1.1 • Requirement R1, Part 1.1.2. 	<p>The Generator Owner’s Facility Rating documentation did not address Requirement R1, Part 1.2.</p>	<p>The Generator Owner failed to provide documentation for determining its Facility Ratings.</p>
R2	<p>The Generator Owner failed to include in its Facility Rating Methodology one of the following Parts of Requirement R2:</p> <ul style="list-style-type: none"> • 2.1.1 • 2.1.2 • 2.1.3 • 2.2.1 • 2.2.2 • 2.2.3 • 2.2.4 	<p>The Generator Owner failed to include in its Facility Rating Methodology two of the following Parts of Requirement R2:</p> <ul style="list-style-type: none"> • 2.1.1 • 2.1.2 • 2.1.3 • 2.2.1 • 2.2.2 • 2.2.3 • 2.2.4 	<p>The Generator Owner’s Facility Rating methodology did not address all the components of Requirement R2, Part 2.4.</p> <p>OR</p> <p>The Generator Owner failed to include in its Facility Rating Methodology, three of the following Parts of Requirement R2:</p> <ul style="list-style-type: none"> • 2.1.1 • 2.1.2 • 2.1.3 • 2.2.1 • 2.2.2 • 2.2.3 • 2.2.4 	<p>The Generator Owner’s Facility Rating Methodology failed to recognize a facility’s rating based on the most limiting component rating as required in Requirement R2, Part 2.3</p> <p>OR</p> <p>The Generator Owner failed to include in its Facility Rating Methodology four or more of the following Parts of Requirement R2:</p> <ul style="list-style-type: none"> • 2.1.1 • 2.1.2 • 2.1.3 • 2.2.1 • 2.2.2 • 2.2.3 • 2.2.4

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R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
R3	<p>The Transmission Owner failed to include in its Facility Rating Methodology one of the following Parts of Requirement R3:</p> <ul style="list-style-type: none"> • 3.1.1 • 3.1.2 • 3.1.3 • 3.2.1 • 3.2.2 • 3.2.3 • 3.2.4 	<p>The Transmission Owner failed to include in its Facility Rating Methodology two of the following Parts of Requirement R3:</p> <ul style="list-style-type: none"> • 3.1.1 • 3.1.2 • 3.1.3 • 3.2.1 • 3.2.2 • 3.2.3 • 3.2.4 	<p>The Transmission Owner’s Facility Rating Methodology did not address either of the following Parts of Requirement R3:</p> <ul style="list-style-type: none"> • 3.4.1 • 3.4.2 <p>OR</p> <p>The Transmission Owner failed to include in its Facility Rating Methodology three of the following Parts of Requirement R3:</p> <ul style="list-style-type: none"> • 3.1.1 • 3.1.2 • 3.1.3 • 3.2.1 • 3.2.2 • 3.2.3 • 3.2.4 	<p>The Transmission Owner’s Facility Rating Methodology failed to recognize a Facility’s rating based on the most limiting component rating as required in Requirement R3, Part 3.3</p> <p>OR</p> <p>The Transmission Owner failed to include in its Facility Rating Methodology four or more of the following Parts of Requirement R3:</p> <ul style="list-style-type: none"> • 3.1.1 • 3.1.2 • 3.1.3 • 3.2.1 • 3.2.2 • 3.2.3 • 3.2.4
R3	<p>The responsible entity made its Facility Ratings Methodology available within more than 21 calendar days but less than or equal to 31 calendar days after a request. (R3)</p>	<p>The responsible entity made its Facility Ratings Methodology available within 31 calendar days but less than or equal to 41 calendar days after a request.</p>	<p>The responsible entity made its Facility Rating Methodology available within more than 41 calendar days but less than or equal to 51 calendar days after a request.</p>	<p>The responsible entity failed to make its Facility Ratings Methodology available in more than 51 calendar days after a request. (R3)</p>

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R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
R5	The responsible entity provided a response in more than 45 calendar days but less than or equal to 60 calendar days after a request. (R5)	<p>The responsible entity provided a response in more than 60 calendar days but less than or equal to 70 calendar days after a request.</p> <p>OR</p> <p>The responsible entity provided a response within 45 calendar days, and the response indicated that a change will not be made to the Facility Ratings Methodology but did not indicate why no change will be made. (R5)</p>	<p>The responsible entity provided a response in more than 70 calendar days but less than or equal to 80 calendar days after a request.</p> <p>OR</p> <p>The responsible entity provided a response within 45 calendar days, but the response did not indicate whether a change will be made to the Facility Ratings Methodology. (R5)</p>	The responsible entity failed to provide a response as required in more than 80 calendar days after the comments were received. (R5)
R6	The responsible entity failed to establish Facility Ratings consistent with the associated Facility Ratings Methodology for 5% or less of its solely owned and jointly owned Facilities. (R6)	The responsible entity failed to establish Facility Ratings consistent with the associated Facility Ratings Methodology for more than 5% or more, but less than up to (and including) 10% of its solely owned and jointly owned Facilities. (R6)	The responsible entity failed to establish Facility Ratings consistent with the associated Facility Ratings Methodology for more than 10% up to (and including) 15% of its solely owned and jointly owned Facilities. (R6)	The responsible entity failed to establish Facility Ratings consistent with the associated Facility Ratings Methodology for more than 15% of its solely owned and jointly owned Facilities. (R6)
R7	The responsible entity provided its Facility Ratings to all of the requesting entities but missed meeting the schedules by up to 15 calendar days. (R7)	The responsible entity provided its Facility Ratings to all of the requesting entities but missed meeting the schedules by more than 15 calendar days but less than or equal to 25 calendar days. (R7)	The responsible entity provided its Facility Ratings to all of the requesting entities but missed meeting the schedules by more than 25 calendar days but less than or equal to 35 calendar days. (R7)	The responsible entity provided its Facility Ratings to all of the requesting entities but missed meeting the schedules by more than 35 calendar days. (R7)