

A. Introduction

1. **Title:** Facility Ratings
2. **Number:** FAC-008-45
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:**
 - 4.1. Transmission Owner
 - 4.2. Generator Owner
5. **Effective Date:** See Implementation Plan.

B. Requirements and Measures

- R1.** Each Generator Owner shall have documentation for determining the Facility Ratings of its solely and jointly owned generator Facility(ies) up to the low side terminals of the main step up transformer if the Generator Owner does not own the main step up transformer and the high side terminals of the main step up transformer if the Generator Owner owns the main step up transformer. *[Violation Risk Factor: Lower] [Time Horizon: Long-term Planning]*
- 1.1.** The documentation shall contain assumptions used to rate the generator and at least one of the following:
- 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 that has been verified by testing or engineering analysis.
 - 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 consistent with the principle that the Facility Ratings do not exceed the most limiting applicable Equipment Rating of the individual equipment that comprises that Facility.
- M1.** Each Generator Owner shall have documentation that shows how its Facility Ratings were determined as identified in Requirement 1.
- 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 location specified in R1 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:
- Ratings provided by equipment manufacturers or obtained from equipment manufacturer specifications such as nameplate rating.
 - 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).
 - A practice that has been verified by testing, performance history 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 process by which the Rating of equipment that comprises a Facility is determined.
 - 2.4.1.** The scope of equipment addressed shall include, but not be limited to, conductors, transformers, relay protective devices, terminal equipment, and series and shunt compensation devices.
 - 2.4.2.** The scope of Ratings addressed shall include, as a minimum, both Normal and Emergency Ratings.
- 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.
- R3.** Each Transmission Owner shall 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 and R2) 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:
 - Ratings provided by equipment manufacturers or obtained from equipment manufacturer specifications such as nameplate rating.
 - 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).
 - A practice that has been verified by testing, performance history or engineering analysis.

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

- 3.2.** The underlying assumptions, design criteria, and methods used to determine the Equipment Ratings identified in Requirement R3, Part 3.1 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
- 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.
- M3.** Each Transmission Owner shall have a documented Facility Ratings methodology that includes all of the items identified in Requirement 3, Parts 3.1 through 3.4.
- R4.** Reserved.
- M4.** Reserved.
- R5.** Reserved.
- M5.** Reserved.
- 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]*
- M6.** Each Transmission Owner and Generator Owner shall have evidence to show that its Facility Ratings are consistent with the documentation for determining its Facility Ratings as specified in Requirement R1 or consistent with its Facility Ratings methodology as specified in Requirements R2 and R3 (Requirement R6).
- R7.** Reserved.
- M7.** Reserved.

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

R8. ~~Reserved.~~ Each Transmission Owner (and each Generator Owner subject to Requirement R2) shall provide requested information as specified below (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), Transmission Owner(s) and Transmission Operator(s): [Violation Risk Factor: Medium] [Time Horizon: Operations Planning]

8.1. As scheduled by the requesting entities:

8.1.1. Facility Ratings

8.1.2. Identity of the most limiting equipment of the Facilities

8.2. Within 30 calendar days (or a later date if specified by the requester), for any requested Facility with a Thermal Rating that limits the use of Facilities under the requester’s authority by causing any of the following: 1) An Interconnection Reliability Operating Limit, 2) A limitation of Total Transfer Capability, 3) An impediment to generator deliverability, or 4) An impediment to service to a major load center:

8.2.1. Identity of the existing next most limiting equipment of the Facility

8.2.2. The Thermal Rating for the next most limiting equipment identified in Requirement R8, Part 8.2.1.

M8. ~~Reserved.~~ Each Transmission Owner (and Generator Owner subject to Requirement R2) shall have evidence, such as a copy of a dated electronic note, or other comparable evidence to show that it provided its Facility Ratings and identity of limiting equipment to its associated Reliability Coordinator(s), Planning Coordinator(s), Transmission Planner(s), Transmission Owner(s) and Transmission Operator(s) in accordance with Requirement R8.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority: “Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Compliance Monitoring and Enforcement Processes:

- Self-Certifications
- Spot Checking
- Compliance Audits

- Self-Reporting
- Compliance Violation Investigations
- Complaints

1.3. Evidence Retention: The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- 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 Transmission Owner (and Generator Owner that is subject to Requirement R2) shall keep evidence for Measure M8 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.

1.4. Compliance Monitoring and Enforcement Program: As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” 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.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	The Generator Owner’s Facility Rating documentation did not address Requirement R1, Part 1.1.	The Generator Owner’s Facility Rating documentation did not address Requirement R1, Part 1.2.	The Generator Owner failed to provide documentation for determining its Facility Ratings.
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. • 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 • 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. • 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 • 2.2.1 • 2.2.2 • 2.2.3 • 2.2.4

R #	Violation Severity Levels			
	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 • 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 • 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 • 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 • 3.2.1 • 3.2.2 • 3.2.3 • 3.2.4
R4. Reserved.				
R5. Reserved.				

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R6.	The responsible entity failed to establish Facility Ratings consistent with the associated Facility Ratings methodology or documentation for determining the Facility Ratings 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 or documentation for determining the Facility Ratings 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 or documentation for determining the Facility Ratings 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 or documentation for determining the Facility Ratings for more than 15% of its solely owned and jointly owned Facilities. (R6)
R7. Reserved.				
R8. Reserved.	<p><u>The responsible entity provided its Facility Ratings to all of the requesting entities but missed meeting the schedules by up to and including 15 calendar days. (R8, Part 8.1)</u></p> <p><u>OR</u></p> <p><u>The responsible entity provided less than 100%,</u></p>	<p><u>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. (R8, Part 8.1)</u></p> <p><u>OR</u></p> <p><u>The responsible entity provided less than 95%, but</u></p>	<p><u>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. (R8, Part 8.1)</u></p> <p><u>OR</u></p> <p><u>The responsible entity provided less than 90%, but</u></p>	<p><u>The responsible entity provided its Facility Ratings to all of the requesting entities but missed meeting the schedules by more than 35 calendar days. (R8, Part 8.1)</u></p> <p><u>OR</u></p> <p><u>The responsible entity provided less than 85% of the required Rating information to all of the</u></p>

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
	<p><u>but not less than or equal to 95% of the required Rating information to all of the requesting entities. (R8, Part 8.1)</u></p> <p><u>OR</u></p> <p><u>The responsible entity provided the required Rating information to the requesting entity, but the information was provided up to and including 15 calendar days late. (R8, Part 8.2)</u></p> <p><u>OR</u></p> <p><u>The responsible entity provided less than 100%, but not less than or equal to 95% of the required Rating information to the requesting entity. (R8, Part 8.2)</u></p>	<p><u>not less than or equal to 90% of the required Rating information to all of the requesting entities. (R8, Part 8.1)</u></p> <p><u>OR</u></p> <p><u>The responsible entity provided the required Rating information to the requesting entity, but did so more 15 calendar days but less than or equal to 25 calendar days late. (R8, Part 8.2)</u></p> <p><u>OR</u></p> <p><u>The responsible entity provided less than 95%, but not less than or equal to 90% of the required Rating information to the requesting entity. (R8, Part 8.2)</u></p>	<p><u>not less than or equal to 85% of the required Rating information to all of the requesting entities. (R8, Part 8.1)</u></p> <p><u>OR</u></p> <p><u>The responsible entity provided the required Rating information to the requesting entity, but did so more than 25 calendar days but less than or equal to 35 calendar days late. (R8, Part 8.2)</u></p> <p><u>OR</u></p> <p><u>The responsible entity provided less than 90%, but no less than or equal to 85% of the required Rating information to the requesting entity. (R8, Part 8.2)</u></p>	<p><u>requesting entities. (R8, Part 8.1)</u></p> <p><u>OR</u></p> <p><u>The responsible entity provided the required Rating information to the requesting entity, but did so more than 35 calendar days late. (R8, Part 8.2)</u></p> <p><u>OR</u></p> <p><u>The responsible entity provided less than 85 % of the required Rating information to the requesting entity. (R8, Part 8.2)</u></p> <p><u>OR</u></p> <p><u>The responsible entity failed to provide its Rating information to the requesting entity. (R8, Part 8.1)</u></p>

D. Regional Variances

None.

E. Associated Documents

None.

Version History

Version	Date	Action	Change Tracking
1	Feb 7, 2006	Approved by Board of Trustees	New
1	Mar 16, 2007	Approved by FERC	New
2	May 12, 2010	Approved by Board of Trustees	Complete Revision, merging FAC_008-1 and FAC-009-1 under Project 2009-06 and address directives from Order 693
3	May 24, 2011	Addition of Requirement R8	Project 2009-06 Expansion to address third directive from Order 693
3	May 24, 2011	Adopted by NERC Board of Trustees	
3	November 17, 2011	FERC Order issued approving FAC-008-3	
3	May 17, 2012	FERC Order issued directing the VRF for Requirement R2 be changed from "Lower" to "Medium"	
3	February 7, 2013	R4 and R5 and associated elements approved by NERC Board of Trustees for retirement as part of the Paragraph 81 project (Project 2013-02) pending applicable regulatory approval.	
3	November 21, 2013	R4 and R5 and associated elements approved by FERC for retirement as part of the Paragraph 81 project (Project 2013-02)	
4	TBD <u>May 9, 2020</u>	R7 and R8 and associated elements adopted by NERC Board of Trustees for retirement as part of Project 2018-03 Standards Efficiency Review Retirements. Adopted by NERC Board of Trustees	R7 and R8 and associated elements approved by NERC Board of Trustees for retirement as part of Project 2018-03 Standard Efficiency Review Retirements
<u>4</u>	<u>September 17, 2020</u>	<u>Remanded by FERC (Order No. 873).</u>	<u>Withdrawn</u>

Version	Date	Action	Change Tracking
<u>5</u>	<u>February 4, 2021</u>	<u>Adopted by NERC Board of Trustees</u>	<u>Requirement R8 and associated elements restored in response to FERC Order No. 873.</u>