

Standard Development Roadmap

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. Draft SAR Version 1 posted January 20, 2009. Posting included draft of FAC-008-2.
2. Draft SAR Version 1 Comment Period ended February 14, 2009.
3. Draft SAR Version 2 and comment responses on SAR version 1 posted August 10, 2009. Posting included revised draft of FAC-008-2.
4. Draft Version 2 SAR comment period ended September 9, 2009

Proposed Action Plan and Description of Current Draft:

The SDT has been working on revisions to the SAR and standard since the second posting ended in September 2009. The current SAR and standard contains revisions based on stakeholder comments on the second draft. The team is seeking SC approval to proceed to ballot.

Future Development Plan:

Anticipated Actions	Anticipated Date
1. SAR version 3 and comment responses for SAR version 2 submitted to SC.	December 2009
2. Post Standards for pre-ballot period.	January 2009
3. Standards posted for initial and recirculation ballots.	February 2009
4. Standards sent to BOT for approval.	April 2009
5. Standards filed with regulatory authorities.	August 2009

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**
 - ~~4.1.~~ Transmission Owner.
 - ~~4.2.~~ 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 main step up transformer~~ if the Generator Owner does not own the main step up transformer and, or the high side terminals of the main step up transformer if the Generator Owner owns the main step up transformer ~~(location as specified by the Generator Owner)~~. [Violation Risk Factor: Lower~~Medium~~] [Time Horizon: Long-term Planning]
 - 1.1. The documentation shall contain assumptions used to rate the generator and 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 that has been verified by testing or engineering analysis. ~~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~~ 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.
- R2. Each Generator Owner shall have a documented methodology for determining Facility Ratings (Facility Ratings mMethodology) 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: Lower~~Medium~~] [Time Horizon: Long-term Planning]
 - 2.1. The methodology used to establish the Ratings of the eEquipment that comprises the Facility(ies) shall be consistent with at least one of the following:

- 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.
- R4.** Each Transmission Owner shall make its Facility Ratings [mMethodology](#) and each Generator Owner shall each make its documentation for determining its Facility Ratings [and its Facility Ratings methodology](#) 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 [mMethodology](#) or Generator Owner's documentation for determining its Facility Ratings [and its Facility Rating methodology](#), 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 [mMethodology](#) and, if no change will be made to that Facility Ratings [Mmethodology](#), 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 [mMethodology](#) 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), [Transmission Owner\(s\)](#) 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 [R1](#).

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

- M2. Each Generator Owner shall have a documented Facility Ratings ~~m~~Methodology that includes all of the items identified in Requirement [R2](#), Parts 2.1 through 2.4.
- M3. Each Transmission Owner shall ~~each~~ have a documented Facility Ratings ~~m~~Methodology that includes all of the items identified in Requirement [R3](#), 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 ~~m~~Methodology available for inspection within 21 calendar days of a request in accordance with Requirement ~~34~~. The Generator Owner shall have evidence, such as a copy of a dated electronic note, or other comparable evidence to show that it made its documentation for determining theits Facility Ratings or its Facility Ratings methodology available for inspection within 21 calendar days of a request in accordance with Requirement R4.
- 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 ~~m~~Methodology or a Generator Owner's documentation for determining theits Facility Ratings., 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 [R5](#).
- M6. Each Transmission Owner and Generator Owner shall have evidence to show that its Facility Ratings are consistent with the documentation ~~used to develop~~for determining its Facility Ratings as specified in Requirement R1 or consistent with its Facility Ratings ~~m~~Methodology as specified in Requirements R2 and R3 (Requirement [R6](#)).
- 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), Transmission Owner(s) and Transmission Operator(s) in accordance with Requirement [R7](#).

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 mMethodology (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 Mmethodology (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

Violation Severity Levels

R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	N/A	<p>The Generator Owner's Facility Rating documentation ed did not address either of the following:</p> <p>☐ Requirement R1, Part 1.1.4</p> <ul style="list-style-type: none"> • 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 mMethodology one of the following Parts of Requirement R2:</p> <ul style="list-style-type: none"> • 2.1.4 ☐ 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 mMethodology two of the following Parts of Requirement R2:</p> <ul style="list-style-type: none"> • 2.1.4 ☐ 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"> • 2.1.4 ☐ 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 mMethodology 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"> • 2.1.4 ☐ 2.1.2 • 2.1.3 • 2.2.1 • 2.2.2 • 2.2.3 • 2.2.4

R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
R3	<p>The Transmission Owner failed to include in its Facility Rating mMethodology 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 mMethodology 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 mMethodology 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 mMethodology 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 mMethodology 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 mMethodology 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
R4 3	<p>The responsible entity made its Facility Ratings mMethodology or Facility Ratings documentation 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 mMethodology or Facility Ratings documentation available within <u>more than</u> 31 calendar days but less than or equal to 41 calendar days after a request.</p>	<p>The responsible entity made its Facility Rating mMethodology or Facility Ratings documentation 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 mMethodology or Facility Ratings documentation available in more than 51 calendar days after a request. (R3)</p>
R5	<p>The responsible entity provided a response in more than 45 calendar days but less than or equal to 60</p>	<p>The responsible entity provided a response in more than 60 calendar days but less than or equal to 70</p>	<p>The responsible entity provided a response in more than 70 calendar days but less than ore equal to 80</p>	<p>The responsible entity failed to provide a response as required in more than 80 calendar days after</p>

R #	Lower VSL	Moderate VSL	High VSL	Severe VSL
	calendar days after a request. (R5)	calendar days after a request. OR 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 or Facility Ratings documentation but did not indicate why no change will be made. (R5)	calendar days after a request. OR 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 or Facility Ratings documentation . (R5)	the comments were received. (R5)
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	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)