

NATF Risk Construct for Prioritizing Facility Ratings Reviews

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This document supplements the “Key NATF Practices for Facility Ratings” document (<https://www.natf.net/docs/natf/documents/resources/facility-ratings/key-natf-practices-for-facility-ratings.pdf>) by providing a risk-based approach for prioritizing baseline reviews of facilities. These reviews establish an accurate baseline for existing facilities, including all equipment in the series electrical path. This same risk construct may also be applied to the implementation of periodic reviews to validate facility ratings on an ongoing basis. These reviews are done after the baseline reviews and on an appropriate frequency to verify that ratings remain consistent with the entity’s facility ratings methodology.

Scope

Given the magnitude of performing a comprehensive baseline review of all facilities, a Transmission Owner may want to consider a phased approach, with an emphasis on higher-risk facilities as the starting point. **A good starting point is to conduct a review of a limited sample of facilities, evaluate the results, and, if necessary, expand the sample for review.** This is best accomplished by initially targeting facilities with higher risk to BES reliability or higher likelihood for facility ratings error and continuing until all facilities have been reviewed.

Similarly, this risk construct can be applied to prioritize implementation and set the frequency of periodic reviews to verify ongoing accuracy of facility ratings. These periodic reviews confirm that the entity’s comprehensive work processes, including internal controls, are resulting in facility ratings consistent with the associated methodology and consistently applied throughout the organization.

Note: implementation will vary by (1) entity (e.g., size, scope of operations, and organizational structure) and (2) type of review activity conducted (baseline vs. periodic).

Relative Facility Risks

The construct below outlines a method for entities to prioritize reviews by determining facilities’ relative risks, considering both the (1) inherent risk of facilities based upon potential reliability impact and (2) likelihood that errors could have been introduced since the last review. Entities should apply both facets to perform a risk assessment and determine the overall priorities.

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The construct can be used to prioritize work for the following:

- **Establishing a baseline review.** Due to the large scope of work implied by establishing a baseline for all facilities, these projects may take months or years to complete. The risk construct advises entities on prioritization of that work, leading to completion of baseline reviews for the highest-risk facilities earlier in the project.
- **Validating through periodic reviews.** The risk construct is helpful in identifying which facilities to review earlier in the cycle as well as the periodicity of reviews for various groups of facilities, as determined by relative risk. Facilities with higher inherent reliability risk and greater likelihood of error should be reviewed sooner and more frequently to verify accuracy of ratings and, in turn, confirm ongoing effectiveness of the comprehensive work processes and internal controls.

Determining Relative Inherent Reliability Risk

The inherent risks in the table below are based on the potential for a facility ratings error to impact reliability. Specifically, the table generally categorizes various facility types by their relative inherent risks to reliability. There may be circumstances where an entity determines necessary variances to the higher/medium/lower designations for certain facilities or groups of facilities. In this case, clear documentation and explanations of exceptions are recommended.

Using the table below, entities review their facilities and assign a degree of inherent reliability risk for each.

Relative Inherent Risk of Facilities Based upon Potential Reliability Impact
<p>Priority 1: Higher Risk BES Facility Type</p> <ul style="list-style-type: none"> • 200 kV and above (for transformers, 200 kV and above on the low-voltage side) • Facilities identified as an element of an Interconnection Reliability Operating Limit (IROL) • Lines that are frequently congested, including interconnection points • Cranking Paths, including connections to blackstart resources • Facilities that are a part of a Remedial Action Scheme (RAS) • Connections to nuclear generation • Sources of off-site power for nuclear units • Connections to other generation deemed critical • Facilities that serve highest-priority critical loads as determined by entity (e.g., critical defense facilities, gas compressor stations) • CIP-014 stations and substations not included above, as determined by entity
<p>Priority 2: Medium Risk BES Facility Type</p> <ul style="list-style-type: none"> • 100-199 kV (for transformers, 100-199 kV on the low-voltage side) • Facilities that contain capacitors/reactors/FACTS devices • Jointly owned facilities (including tie lines or connection points to generators and customers) • Facilities that serve priority loads (not included in the higher risk category) as determined by entity
<p>Priority 3: Lower Risk BES Facility Type/Non-BES Facilities</p> <ul style="list-style-type: none"> • <100 kV (for transformers, <100 kV on the low-voltage side) • BES facilities not covered in medium or higher categories • Non-BES facilities such as radial facilities

Determining Relative Likelihood of Error Introduction

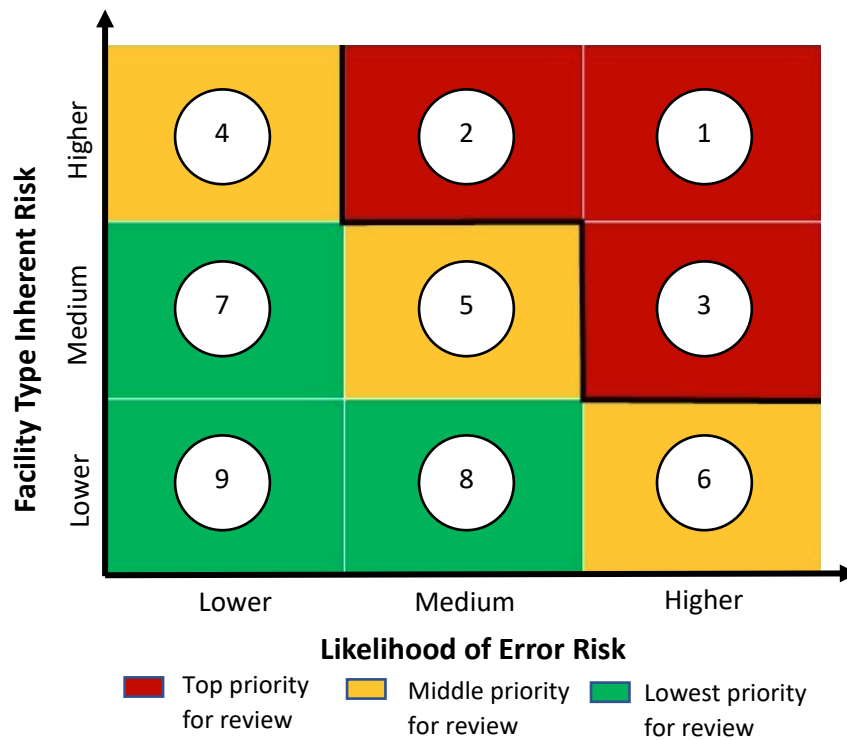
In addition to the inherent reliability risks discussed above, entities may identify certain areas of their systems or specific facilities that could be at a higher risk for the introduction of facility ratings errors. A few example scenarios where the likelihood of error may be increased are listed below:

- Significant number or scope of line/station construction project(s)
- Significant number or scope of storm damage and restoration work
- Acquired facilities
- Field work performed by contractors or external parties
- Facilities where clearance encroachment is more likely to occur (e.g., third-party activities, construction, grading, stockpiling, underbuilds)
- Facilities with temporary ratings

This is not an all-inclusive list and other scenarios may be identified and used in a risk assessment. Considering these scenarios and other pertinent information, entities assess their facilities and assign a relative likelihood of errors risk for each.

Determining Overall Relative Risk

Using the higher/medium/lower risk determinations for both inherent and likelihood of errors risks as described above, facilities can be mapped to areas 1-9 in the figure below to translate the risks into priorities. In generic terms, facilities mapping to areas ①, ②, and ③ need to be reviewed first and more frequently; facilities in ④, ⑤, and ⑥ fall into the second phase and periodicity of reviews; and ⑦, ⑧, and ⑨ are the lowest priority facilities for review.



For example, if an entity has a facility that is part of a Cranking Path (i.e., higher inherent risk) and deems the likelihood of errors for that facility is lower (e.g., due to little/no work done on the facility since the last review), then the overall risk maps to area ④, which is a middle priority for review. However, if that same facility has medium likelihood of error risk, that facility would map to area ② and is a top priority for review.