

Violation Risk Factor and Violation Severity Level Assignments

2010-05.1 – Phase 1 of Protection Systems (Misoperations)

This document provides the drafting team’s justification for assignment of violation risk factors (VRFs) and violation severity levels (VSLs) for each requirement in the following draft standards:

- PRC-004-3 — Protection System Misoperation Identification, Correction and Reporting

Each primary requirement is assigned a VRF and a set of one or more VSLs. These elements support the determination of an initial value range for the Base Penalty Amount regarding violations of requirements in FERC-approved Reliability Standards, as defined in the ERO Sanction Guidelines.

Justification for Assignment of Violation Risk Factors

The Protection Systems Misoperations Rapid Development Team applied the following NERC criteria when proposing VRFs for the requirements under this project:

High Risk Requirement

A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures, or could place the bulk electric system at an unacceptable risk of instability, separation, or cascading failures, or could hinder restoration to a normal condition.

Medium Risk Requirement

A requirement that, if violated, could directly affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system. However, violation of a medium risk requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures; or, a requirement in a planning time frame that, if violated, could, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. However, violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead to bulk electric system instability, separation, or cascading failures, nor to hinder restoration to a normal condition.

Lower Risk Requirement

A requirement that is administrative in nature and a requirement that, if violated, would not be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor and control the bulk electric system; or, a requirement that is administrative in nature and a requirement in a planning time frame that, if violated, would not, under the emergency, abnormal, or restorative conditions anticipated by the preparations, be expected to adversely affect the electrical state or capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. A planning requirement that is administrative in nature.

The RDT also considered consistency with the FERC Violation Risk Factor Guidelines for setting VRFs¹:

Guideline (1) — Consistency with the Conclusions of the Final Blackout Report

The Commission seeks to ensure that Violation Risk Factors assigned to Requirements of Reliability Standards in these identified areas appropriately reflect their historical critical impact on the reliability of the Bulk-Power System.

In the VSL Order, FERC listed critical areas (from the Final Blackout Report) where violations could severely affect the reliability of the Bulk-Power System:²

- Emergency operations
- Vegetation management
- Operator personnel training
- Protection systems and their coordination
- Operating tools and backup facilities
- Reactive power and voltage control
- System modeling and data exchange
- Communication protocol and facilities
- Requirements to determine equipment ratings
- Synchronized data recorders
- Clearer criteria for operationally critical facilities
- Appropriate use of transmission loading relief

Guideline (2) — Consistency within a Reliability Standard

The Commission expects a rational connection between the sub-Requirement Violation Risk Factor assignments and the main Requirement Violation Risk Factor assignment.

Guideline (3) — Consistency among Reliability Standards

The Commission expects the assignment of Violation Risk Factors corresponding to Requirements that address similar reliability goals in different Reliability Standards would be treated comparably.

¹ North American Electric Reliability Corp., 119 FERC 61,145, order on reh'g and compliance filing, 120 FERC 61,145 (2007) (“VRF Rehearing Order”).

² Id. at footnote 15.

Guideline (4) — Consistency with NERC’s Definition of the Violation Risk Factor Level

Guideline (4) was developed to evaluate whether the assignment of a particular Violation Risk Factor level conforms to NERC’s definition of that risk level.

Guideline (5) — Treatment of Requirements that Co-mingle More Than One Obligation

Where a single Requirement co-mingles a higher risk reliability objective and a lesser risk reliability objective, the VRF assignment for such Requirements must not be watered down to reflect the lower risk level associated with the less important objective of the Reliability Standard.

The following discussion addresses how the RDT considered the FERC VRF Guidelines 2 through 5. The team did not address Guideline 1 directly because of an apparent conflict between Guidelines 1 and 4. Guideline 1 identifies a list of topics that encompass nearly all topics within the NERC Reliability Standards and implies that these requirements should be assigned a High VRF. Guideline 4 directs assignment of VRFs based on the impact of a specific requirement on the reliability of the system. The RDT believes that Guideline 4 better reflects the intent for assigning VRFs since this approach is focused on the reliability impact of the requirement.

VRF for PRC-004-3:

There is one requirement in PRC-004-3. The VRF was determined as follows:

VRF for PRC-004-3, Requirements R1: HIGH

- FERC Guideline 2 — Consistency within a Reliability Standard exists, as there is only one requirement in the standard.
- FERC Guideline 3 — Consistency among Reliability Standards exists. The requirement is similar to EOP-004-1 R2, which was assigned a “Medium” VRF. However, the RDT believes specifying a “High” VRF is appropriate because this requirement, unlike EOP-004-1 R2, requires that entities also implement a procedure to correct the causes of Misoperations to prevent their reoccurrence in the future.
- FERC Guideline 4 — Consistency with NERC’s Definition of the VRF Level selected exists. Not correcting the cause or causes of a Protection System Misoperation could directly cause or contribute to bulk electric system instability, separation, or a cascading sequence of failures. Accordingly, the VRF has been established as “High.”
- FERC Guideline 5 — Treatment of Requirements that Co-mingle More Than One Obligation is satisfactory. The Requirement does not co-mingle more than one obligation. All Parts are related to the creation and implementation of the procedure to identify and correct the causes of Protection System Misoperations.

Justification for Assignment of Violation Severity Levels:

In developing the VSLs for the standards under this project, the RDT anticipated the evidence that would be reviewed during an audit, and developed its VSLs based on the noncompliance an auditor may find during a typical audit. The RDT based its assignment of VSLs on the following NERC criteria:

Lower	Moderate	High	Severe
<p>Missing a minor element (or a small percentage) of the required performance The performance or product measured has significant value as it almost meets the full intent of the requirement.</p>	<p>Missing at least one significant element (or a moderate percentage) of the required performance. The performance or product measured still has significant value in meeting the intent of the requirement.</p>	<p>Missing more than one significant element (or is missing a high percentage) of the required performance or is missing a single vital component. The performance or product has limited value in meeting the intent of the requirement.</p>	<p>Missing most or all of the significant elements (or a significant percentage) of the required performance. The performance measured does not meet the intent of the requirement or the product delivered cannot be used in meeting the intent of the requirement.</p>

FERC VSL guidelines are presented below, followed by an analysis of whether the VSLs proposed for each requirement in standards under this project meet the FERC Guidelines for assessing VSLs:

Guideline 1: Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance

Compare the VSLs to any prior levels of non-compliance and avoid significant changes that may encourage a lower level of compliance than was required when levels of non-compliance were used.

Guideline 2: Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties

A violation of a “binary” type requirement must be a “Severe” VSL.

Do not use ambiguous terms such as “minor” and “significant” to describe noncompliant performance.

Guideline 3: Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement

VSLs should not expand on what is required in the requirement.

Guideline 4: Violation Severity Level Assignment Should Be Based on a Single Violation, Not on a Cumulative Number of Violations

Unless otherwise stated in the requirement, each instance of non-compliance with a requirement is a separate violation. Section 4 of the Sanction Guidelines states that assessing penalties per violation per day basis is the “default” for penalty calculations.

Justification for Assignment of Violation Risk Factors and Violation Severity Levels for Project 2010-05.1 – Phase 1 of Protection Systems (Misoperations)

VSLs for PRC-004-3 Requirement R1:

R#	Compliance with NERC VSL Guidelines	Guideline 1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance	Guideline 2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language	Guideline 3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement	Guideline 4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations
R1.	The NERC VSL guidelines are satisfied by grading of the requirement. Because of the interdependence of the various Parts and the manner in which they contribute to the ultimate goal of correcting Misoperations, each Part has been considered independently, and missing a precursor Part has the potential to result in a Severe violation.	PRC-003-1 proposed VSL elements are similar to PRC-004-2 approved VSL elements. Complete failures to analyze Misoperations are treated as Severe violations, similar to the current standard. Proposed VSL assignments do not have the unintended consequence of lowering current compliance.	Proposed VSLs are graded and address each of the Parts of the requirement. Proposed VSL language does not include ambiguous terms and ensures uniformity and consistency in the determination of penalties.	Proposed VSL's do not expand on what is required in the requirement. Proposed VSL's are consistent with the requirement, and all Parts of the requirement have been addressed in the VSLs.	Proposed VSL's are based on a single violation and not a cumulative number of violations.