

Project 2010-05.1 – Violation Risk Factors and Violation Severity Level Justifications

PRC-004-3:

– Protection System Misoperation Identification and Correction
Project 2010-05.1 – Protection System (Misoperations)

Violation Risk Factor and Violation Severity Level Justifications

This document provides the drafting team's justification for assignment of violation risk factors (VRFs) and violation severity levels (VSLs) for each requirement in: PRC-004-3 — Protection System Misoperations.

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.

The Protection System Misoperations Standard Drafting Team applied the following NERC criteria and FERC Guidelines when proposing VRFs and VSLs for the requirements under this project:

NERC Criteria - Violation Risk Factors

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.

FERC Violation Risk Factor Guidelines

The standard drafting team (SDT) also considered consistency with the FERC Violation Risk Factor Guidelines for setting VRFs:¹

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

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.](#)

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- 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.

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.

VRF Discussion

The following discussion addresses how the SDT considered FERC’s VRF Guidelines ~~2~~¹ through 5. ~~The team did not address Guideline 1 directly because of an apparent conflict between Guidelines 1 and 4. Whereas Guideline 1 identifies a list of topics that encompass nearly all topics within NERC’s 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 to the reliability of the system. The SDT believes that Guideline 4 is reflective of the intent of VRFs in the first instance and therefore concentrated its approach on the reliability impact of the requirements.~~

PRC-004-3 ~~—~~ Protection System ~~Misoperations~~Misoperation Identification and Correction is a revision of PRC-004-~~2a~~^{2.1a} ~~—~~ Analysis and Mitigation of Transmission and Generation Protection System Misoperations ~~with the stated purpose: Ensure all transmission and generation Protection System Misoperations affecting the reliability of the Bulk Electric System (BES) are analyzed and mitigated.~~ “ The Reliability Standard PRC-003-1 ~~—~~ Regional Procedure

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for Analysis of Misoperations of Transmission and Generation Protection Systems ~~required the Regions requires Regional Entities~~ to establish procedures for analysis of Misoperations. In ~~the NOPR FERC Order No. 693~~, the Commission identified PRC-003-0 as a “fill-in-the-blank” standard. The ~~NOPR Order~~ stated that because the regional procedures had not been submitted, the Commission proposed not to approve or remand PRC-003-0. Because PRC-003-0 (now PRC-003-1) is not enforceable, there is not a mandatory requirement for Regional Entity procedures to support the requirements of PRC-004-~~2a-2.1a~~. This is a potential reliability gap; consequently, PRC-004-3 combines the reliability intent of the two legacy standards PRC-003-1 and PRC-004-~~2a2.1a~~.

The proposed PRC-004-3 Reliability Standard has four (4) six (6) discrete requirements that incorporate and enhance the intent of the requirements of PRC-004-2.1a and PRC-003-1. The First, the revised standard requires entities to identify the Transmission Owner, Generator Owner, and Distribution Provider to review each BES interrupting device operation meeting the criteria in Requirement R1, which includes: when caused by a Protection System operations and designate each operation or by manual intervention in response to a Protection System failure to operate and identify each that is a Misoperation; then investigate each regardless of whether the BES interrupting device owner owns all or part of the Composite Protection System; and when BES interrupting device owner identified that its Protection System component(s) caused the BES interrupting device(s) operation.

Second, the BES interrupting device owner is required to notify the other Protection System component owner(s) when the criteria in Requirement R2 are met, which includes: Composite Protection System ownership is shared with another entity; the BES interrupting device owner determined that a Misoperation and document the findings. If a occurred or cannot rule out a Misoperation; and the BES interrupting device owner determined that its Protection System component(s) did not cause is identified, the entity either creates the BES interrupting device(s) operation or is unsure.

Third, if a Transmission Owner, Generator Owner, or Distribution Provider is notified by a BES interrupting device owner that the Composite Protection System operated, it must review the operation according to Requirement R3. In most cases, Requirement R1 or R3 will reveal the cause of the Misoperation. If not, Requirement R4 mandates the entity perform investigative action(s) to determine the cause as the fourth discrete requirement. If a cause is not identified, the entity either may continue its investigation until a cause is identified or the entity may write a declaration that no cause was identified. If a cause is identified, the entity advances to the fifth requirement.

In Requirement R5, the entity whose Protection System component was identified as the cause of the Misoperation must either develop a Corrective Action Plan (CAP) or writes explain in a

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declaration ~~that they~~why it cannot correct the ~~misoperating device(s)~~. ~~If a cause is not identified, the entity either creates an action plan~~ cause of the Misoperation. In developing a Corrective Action Plan (CAP) for additional investigation or a writes a declaration the identified Protection System component(s), the entity must perform an evaluation of the CAP's applicability to the entity's other Protection Systems including other locations. If the entity determines that corrective actions are beyond the entity's control or would not improve BES reliability, the entity must make a declaration why and that no further ~~work~~corrective actions will be ~~done~~. ~~The next step is~~taken.

~~In the last of the requirements, Requirement R6, the entity must implement and complete the CAP or action plan. If the action plan leads to the determination of a cause, then the entity would either create a Corrective Action Plan (CAP) or write a declaration. The requirements recognize and encompass the possibility that components of a Protection System can be owned by different entities. The entity must update the CAP during implementation when actions or timetables change.~~

The requirements of the proposed PRC-004-3 do not map, one-to-one, with the requirements of the two legacy standards ~~–, PRC-003-1 and PRC-004-2.1a~~. The new requirements combine various reliability attributes of the legacy standards with ~~new~~precise reliability objectives, thus a requirement-to-requirement comparison of VRFs is not possible. In developing the new VRFs for the requirements of PRC-004-3, the Standard Drafting Team carefully considered the NERC criteria for developing VRFs, as well as the FERC VRF guidelines. ~~The VRFs of the FERC approved PRC-004-WECC-1, EOP-008-1, PRC-004-2a and of TPL-001-2~~The VRFs of the FERC approved PRC-004-2.1a – Analysis and Mitigation of Transmission and Generation Protection System Misoperations, PRC-004-WECC-1 – Protection System and Remedial Action Scheme Misoperation, PRC-016-0.1 – Special Protection System Misoperation, and PRC-022-1 – Under-Voltage Load Shedding Program Performance, R1 influenced (citing FERC VRF Guideline 3) the drafting team's VRF decisions, as such, the VRFs for PRC-004-3 Requirements R1, R2 and R3 through R6 are assigned a VRF of Medium, ~~while Requirement R4 is assigned a VRF of High~~.

~~PRC-004-3 Requirements R1, R2 and R3 are related to identifying Protection System operations, designating Misoperations, investigating Misoperations and developing Corrective Action Plans (CAP) or action plans. The SDT determined that the assignment of a VRF of Medium was consistent with the NERC criterion that states "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..."~~

~~PRC-004-3 Requirement R4 relates to implementing and completing CAPs or action plans. The SDT determined that the assignment of a VRF of High was consistent with the NERC criterion that states "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..."~~

NERC Criteria - Violation Severity Levels

Violation Severity Levels (VSLs) define the degree to which compliance with a requirement was not achieved. Each requirement must have at least one VSL. While it is preferable to have four VSLs for each requirement, some requirements do not have multiple “degrees” of noncompliant performance and may have only one, two, or three VSLs.

Violation severity levels should be based on the guidelines shown in the table below:

Lower	Moderate	High	Severe
<p>Missing a minor element (or a small percentage) of the required performance</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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 Order on Violation Severity Levels

In its June 19, 2008 Order on Violation Severity Levels, FERC indicated it would use the following four guidelines for determining whether to approve 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

Guideline 2a: A violation of a “binary” type requirement must be a “Severe” VSL.

Guideline 2b: 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 on a per violation per day basis is the “default” for penalty calculations.

VRF and VSL Justifications – PRC-004-3, R1

Proposed VRF	Medium
NERC VRF Discussion	<p><u>A Violation Risk Factor of Medium is consistent with the NERC VRF Guidelines.</u> Failure to identify and review each <u>BES interrupting device operation caused by a</u> Protection System operation <u>or by manual intervention in response to</u> designate Misoperations, investigate each Protection System failure to <u>operate for</u> Misoperation and document the findings could <u>in the planning time frame, under emergency, abnormal, or restorative conditions anticipated by the preparations,</u> directly and adversely affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and, control, <u>or restore</u> the bulk electric system. Unresolved Misoperations could contribute to more severe <u>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.</u></p> <p><u>Protection System operations reviewed for proper operation by their owner(s) is the first step in preventing the</u> future <u>severity of</u> disturbances affecting a wider area, or result in potential equipment damage. However, violation of this requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures. The applicable entities are always responsible for maintaining the reliability of the bulk electric system regardless of the situation. This requirement meets NERC's criterion for a Medium VRF.</p>
FERC VRF G1 Discussion	<p>Guideline 1- Consistency w/ Blackout Report: N/A</p> <p><u>The blackout report and subsequent technical analysis noted that zone 3 relays increased the severity of the blackout. Reviewing Protection System for Misoperation, identifying an unnecessary operation and taking corrective actions would reduce the likelihood of reoccurrence. This requirement is consistent with Recommendation 8: Improve System Protection to Slow or Limit the Spread of Future Cascading Outages.</u></p>
FERC VRF G2 Discussion	<p>Guideline 2- Consistency within a Reliability Standard:</p> <p>The requirement has Parts that all supports <u>single reliability activity associated with</u> the reliability objective so only one and no sub-Requirement(s) which allows a single VRF <u>wasto be</u> assigned; therefore no</p>

VRF and VSL Justifications – PRC-004-3, R1

	<p>conflict(s) exist.</p>
<p>FERC VRF G3 Discussion</p>	<p>Guideline 3- Consistency among Reliability Standards: The SDT has assigned a Medium VRF which is consistent with EOP-008-1 Requirement R8 (which is similar in nature to PRC-004-3 Requirement R1.) This requirement replaces one of the three performance components of PRC-004-2a, R1 (TO & DP) and R2 (GO). The three performance components (paraphrased) are “analyze Protection System Misoperations,” “develop a Correction Action Plan,” and “implement a Corrective Action Plan” which have a VRF of High. This proposed Requirement R1, to “review” (similar to “analyze”), comports with Reliability Standards PRC-016-0.1 – Special Protection System Misoperations, R1 (“...shall analyze its SPS operations and maintain a record of all misoperations...”) and PRC-022-1 – Under-Voltage Load Shedding Program Performance, R1 (“...shall analyze and document all UVLS operations and Misoperations.”) which both have a VRF of Medium.</p> <p>The proposed VRF of Medium is not inadvertently lowering the identified VRF of High in the former Requirements R1 and R2 because the proposed Requirement now provides a clear and concise single reliability activity whereas the former Requirement contained multiple activities and is ambiguous.</p>
<p>FERC VRF G4 Discussion</p>	<p>Guideline 4- Consistency with NERC Definitions of VRFs: Failure to identify and review each <u>BES interrupting device operation caused by a Protection System operation or by manual intervention in response to designate Misoperations, investigate each a Protection System failure to operate for</u> Misoperation and document the findings could <u>in the planning time frame, under emergency, abnormal, or restorative conditions anticipated by the preparations,</u> directly <u>and adversely</u> affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and, control, <u>or restore</u> the bulk electric system. Unresolved Misoperations could contribute to more severe 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. Protection System operations reviewed for proper operation by their owner(s) is the first step in preventing the future <u>severity of</u> disturbances affecting a wider area, or result in potential equipment damage. However,</p>

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	violation of this requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures. The applicable entities are always responsible for maintaining the reliability of the bulk electric system regardless of the situation. This requirement meets NERC’s criterion for a Medium VRF.
FERC VRF G5 Discussion	Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation: This requirement does not co-mingle reliability objectives of differing risk; <u>therefore</u> , the assigned VRF of Medium is consistent throughout the requirement.

Proposed VSL

Lower	Moderate	High	Severe
<p>The responsible entity performed the actions identified whether or not its Protection System component(s) caused a Misoperation in accordance with Requirement R1, Parts 1.1 and 1.2 but in more than 120 calendar days but and less than or equal to 150 calendar days of the operation’s occurrence.</p> <p style="text-align: center;">OR</p> <p>The responsible entity identified a Protection System operation that operated one of its BES interrupting devices but failed to review the operation in</p>	<p>The responsible entity performed the actions identified whether or not its Protection System component(s) caused a Misoperation in accordance with Requirement R1, Parts 1.1 and 1.2 but in more than 150 calendar days but and less than or equal to 160165 calendar days of the operation’s occurrence <u>BES interrupting device operation.</u></p>	<p>The responsible entity performed the actions identified whether or not its Protection System component(s) caused a Misoperation in accordance with Requirement R1, Parts 1.1 and 1.2 but in more than 160165 calendar days but and less than or equal to 170180 calendar days of the operation’s occurrence <u>BES interrupting device operation.</u></p>	<p>The responsible entity performed the actions identified whether or not its Protection System component(s) caused a Misoperation in accordance with Requirement R1, Parts 1.1 and 1.2 but in more than 170180 calendar days of the operation’s occurrence <u>BES interrupting device operation.</u></p> <p style="text-align: center;">OR</p> <p>The responsible entity failed to identify and review a Protection System operation that operated one of whether or not its BES interrupting devices Protection</p>

VRF and VSL Justifications – PRC-004-3, R1

<p>accordance with Requirement R1, Part 1.1 device operation.</p> <p style="text-align: center;">OR</p> <p>The responsible entity completed its review of a Protection System operation that operated one of its BES interrupting devices in 120 calendar days and determined the operation was a Misoperation and failed to document the findings in accordance with Requirement R1, Part 1.2.</p>			<p>System component(s) caused a Misoperation in accordance with Requirement R1, Part 1.1.</p> <p style="text-align: center;">OR</p> <p>The responsible entity failed to investigate a Misoperation and document the findings in accordance with Requirement R1, Part 1.2.</p> <p style="text-align: center;">OR</p> <p>The entity that owns the BES interrupting device but does not own the entire Protection System could not determine if the operation was correct and failed to notify the other owner(s) of the Protection System component(s) and provide any requested investigative information in accordance with Requirement R1, Part 1.1.</p>
<p>NERC VSL Guidelines</p>	<p>Meets NERC’s VSL Guidelines—There is an incremental aspect to the VSL for tardiness and a binary aspect for failure. <u>The VSL is entity size-neutral because performance is event-driven and not by individual assets.</u></p>		

VRF and VSL Justifications – PRC-004-3, R1

<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>This VSL is consistent with the current VSL associated with the existing requirement <u>replaces one</u> of the <u>three performance components of PRC-004-2a, R1 (TO & DP) and R2 (GO). The three performance components (paraphrased) are “analyze Protection System Misoperations,” “develop a Correction Action Plan,” and “implement a Corrective Action Plan.” The VSLs are based on the three components and not individually as presented in the proposed PRC-004-3 standard being replaced.</u></p> <p>The proposed VSL does not lower the current level of compliance <u>because the former VSL was comingled with the other activities. The proposed VSLs appropriately assess the severity of the violation with the failure to perform a review for Misoperation as Severe.</u></p>
<p>FERC VSL G2 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</p>	<p>Guideline 2a: N/A</p> <p><u>This requirement is not binary; therefore, this criterion does not apply.</u></p> <p>Guideline 2b: The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.</p>
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.</p>

VRF and VSL Justifications – PRC-004-3, R1

FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The VSL is based on a single violation and not cumulative violations.
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VRF and VSL Justifications – PRC-004-3, R2

Proposed VRF	Medium
NERC VRF Discussion	Failure to develop a CAP for a Misoperation with an identified cause 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. Unresolved Misoperations could contribute to more severe future disturbances affecting a wider area, or result in equipment damage. However, violation of this requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures. The applicable entities are always responsible for maintaining the reliability of the bulk electric system regardless of the situation. This requirement meets NERC's criterion for a Medium VRF.
FERC VRF G1 Discussion	Guideline 1 – Consistency w/ Blackout Report: N/A
FERC VRF G2 Discussion	Guideline 2 – Consistency within a Reliability Standard: The requirement has no Parts so only one VRF was assigned.
FERC VRF G3 Discussion	Guideline 3 – Consistency among Reliability Standards: The requirement is similar to EOP-008-1 Requirement R8 which has an approved VRF of Medium.
FERC VRF G4 Discussion	Guideline 4 – Consistency with NERC Definitions of VRFs: Failure to develop a CAP for a Misoperation with an identified cause 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. Unresolved Misoperations could contribute to more severe future disturbances affecting a wider area, or result in equipment damage. However, violation of this requirement is unlikely to lead to

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	bulk electric system instability, separation, or cascading failures. The applicable entities are always responsible for maintaining the reliability of the bulk electric system regardless of the situation. This requirement meets NERC's criterion for a Medium VRF.
FERC VRF G5 Discussion	Guideline 5—Treatment of Requirements that Co-mingle More than One Obligation: This requirement does not co-mingle reliability objectives of differing risk; the assigned VRF of Medium is consistent throughout the requirement.

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~~Proposed VSL~~

Lower	Moderate	High	Severe
The responsible entity developed a CAP, or a declaration in accordance with Requirement R2, in more than 60 calendar days but less than or equal to 70 calendar days following the identification of the cause of the Misoperation.	The responsible entity developed a CAP, or a declaration in accordance with Requirement R2, in more than 70 calendar days but less than or equal to 80 calendar days following the identification of the cause of the Misoperation.	The responsible entity developed a CAP, or a declaration in accordance with Requirement R2, in more than 80 calendar days but less than or equal to 90 calendar days following the identification of the cause of the Misoperation.	The responsible entity developed a CAP, or a declaration in accordance with Requirement R2, more than 90 calendar days following the identification of the cause of the Misoperation. OR The responsible entity failed to develop a CAP or make a declaration in accordance with Requirement R2.

~~VRF and VSL Justifications—PRC-004-3, R2~~

<p>NERC VSL Guidelines</p>	<p>Meets NERC's VSL Guidelines—There is an incremental aspect to the VSL for tardiness and a binary aspect for failure.</p>
<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>This VSL is consistent with the current VSL associated with the existing requirement of the standard being replaced. The proposed VSL does not lower the current level of compliance.</p>
<p>FERC VSL G2 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</p>	<p>Guideline 2a: N/A Guideline 2b: The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.</p>
<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the</p>	<p>The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.</p>

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Corresponding Requirement	
FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The VSL is based on a single violation and not cumulative violations.

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<u>Proposed VRF</u>	<u>Medium</u>
<u>NERC VRF Discussion</u>	<p><u>A Violation Risk Factor of Medium is consistent with the NERC VRF Guidelines. Failure to notify a joint owner of a Protection System when the initiating owner determined its components did not cause a Misoperation or it did not rule out a Misoperation, could in the planning time frame, 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.</u></p> <p><u>Unresolved Misoperations of jointly owned equipment or operations that are not ruled out as a Misoperation could contribute to the severity of future disturbances affecting a wider area, or potential equipment damage. However, violation of this requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures.</u></p>

VRF and VSL Justifications – PRC-004-3, R2

<p><u>FERC VRF G1 Discussion</u></p>	<p><u>Guideline 1- Consistency w/ Blackout Report:</u> <u>This is consistent with Recommendation 8: Improve System Protection to Slow or Limit the Spread of Future Cascading Outages. A lack of coordination on system protection was one of eight factors common to substantive outages prior to and including the August 14, 2003 Blackout. The initiating entity in the planning time frame is required to notify the other owner(s) of Protection System components when it determines that (or is unsure whether)its components did not cause a Misoperation or when it is unable to rule out a Misoperation of the jointly owned Protection System. This ensures that all parties review their equipment for proper operation which may include checking for proper coordination depending on the circumstances.</u></p>
<p><u>FERC VRF G2 Discussion</u></p>	<p><u>Guideline 2- Consistency within a Reliability Standard:</u> <u>The requirement single reliability activity associated with the reliability objective and no sub-Requirement(s) which allows a single VRF to be assigned; therefore no conflict(s) exist.</u></p>
<p><u>FERC VRF G3 Discussion</u></p>	<p><u>Guideline 3- Consistency among Reliability Standards:</u> <u>This requirement replaces one of the three performance components of PRC-004-2a, R1 (TO & DP) and R2 (GO). The three performance components (paraphrased) are “analyze Protection System Misoperations,” “develop a Correction Action Plan,” and “implement a Corrective Action Plan” which as a VRF of High. The requirement and VRF of Medium is consistent with Reliability Standards FAC-008-3 – Facility Ratings, R7 (“...shall provide Facility Ratings (for its solely and jointly owned Facilities...)” and MOD-012-0 – Dynamics Data for Modeling and Simulation of the Interconnected Transmission System, R2 (“...shall provide appropriate equipment characteristics and system data...”) which both have a VRF of Medium.</u></p> <p><u>Other protection systems based Reliability Standards such as PRC-005-1b – Transmission and Generation Protection System Maintenance and Testing, R2 (“...shall provide documentation...”), PRC-016-0.1 – Special Protection System Misoperations, R3 (“...that owns an SPS shall provide documentation of the misoperation analyses...”), and PRC-017-0 – Special Protection System Maintenance and Testing, R2 (“...SPS shall provide documentation of the program...”) all have a VRF of Lower; however, these requirements involve the administrative reporting to either the Regional Reliability Organization (now</u></p>

VRF and VSL Justifications – PRC-004-3_R2

	<u>Regional Entity) or NERC and not a reliability function like the previously mentioned FAC-008-3 and MOD-012-0 Reliability Standards.</u>
<u>FERC VRF G4 Discussion</u>	<u>Guideline 4- Consistency with NERC Definitions of VRFs: Failure to notify other entities to review each Protection System operation, identify Misoperations, and determine the cause could in the planning time frame, 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. Unresolved Misoperations of jointly owned equipment or operations that are not ruled out as a Misoperation could contribute to the severity of future disturbances affecting a wider area, or potential equipment damage. However, violation of this requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures.</u>
<u>FERC VRF G5 Discussion</u>	<u>Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation: This requirement does not co-mingle reliability objectives of differing risk; therefore, the assigned VRF of Medium is consistent.</u>

Proposed VSL

<u>Lower</u>	<u>Moderate</u>	<u>High</u>	<u>Severe</u>
<u>The responsible entity notified the other owner(s) of the Protection System component(s) in accordance with Requirement R2, but in more than 120 calendar days</u>	<u>The responsible entity notified the other owner(s) of the Protection System component(s) in accordance with Requirement R2, but in more than 150 calendar days</u>	<u>The responsible entity notified the other owner(s) of the Protection System component(s) in accordance with Requirement R2, but in more than 165 calendar days and less than or equal to 180</u>	<u>The responsible entity notified the other owner(s) of the Protection System component(s) in accordance with Requirement R2, but in more than 180 calendar days of the BES interrupting device</u>

VRF and VSL Justifications – PRC-004-3_R2

<u>and less than or equal to 150 calendar days of the BES interrupting device operation.</u>	<u>and less than or equal to 165 calendar days of the BES interrupting device operation.</u>	<u>calendar days of the BES interrupting device operation.</u>	<u>operation.</u> <u>OR</u> <u>The responsible entity failed to notify one or more of the other owner(s) of the Protection System component(s) in accordance with Requirement R2.</u>
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<u>NERC VSL Guidelines</u>	<u>Meets NERC’s VSL Guidelines—There is an incremental aspect to the VSL for tardiness and a binary aspect for failure. The VSL is entity size-neutral because performance is event-driven and not by individual assets.</u>
<u>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</u>	<u>This requirement is new to the standard and had no previous level of compliance. Other Reliability Standards use a variety of VSLs ranging from a single severe level (i.e., binary), two levels, to four VSL levels. Some use a percentage as the failure of the number entities not notified; however, this would not be practical for this requirement as joint ownership is generally limited to one or two owners. The incremental increase in violation is consistent with the NERC Guidelines and is reasonable in consideration of the time periods provided by the Requirement.</u>
<u>FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties</u> <u>Guideline 2a: The Single Violation Severity Level Assignment Category for</u>	<u>Guideline 2a:</u> <u>This requirement is not binary; therefore, this criterion does not apply.</u> <u>Guideline 2b:</u> <u>The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.</u>

VRF and VSL Justifications – PRC-004-3, R2

<p><u>"Binary" Requirements Is Not Consistent</u> <u>Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</u></p>	
<p><u>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</u></p>	<p><u>The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.</u></p>
<p><u>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</u></p>	<p><u>The VSL is based on a single violation and not cumulative violations.</u></p>

VRF and VSL Justifications – PRC-004-3, R3

<p>Proposed VRF</p>	<p>Medium</p>
<p>NERC VRF Discussion</p>	<p><u>A Violation Risk Factor of Medium is consistent with the NERC VRF Guidelines. Failure of a joint Protection System owner to develop an action plan, review its components for a each BES interrupting device operation caused by a Protection System operation or by manual intervention in response to a Protection System failure to operate for Misoperation without an identified cause upon notification could in the</u></p>

VRF and VSL Justifications – PRC-004-3, R3

	<p><u>planning time frame, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and control, or restore the bulk electric system. Unresolved Misoperations could contribute to more severe</u> However, violation of a medium risk requirement is <u>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.</u></p> <p><u>Protection System operations reviewed for proper operation by other owner(s) is an important step in preventing the future severity of disturbances affecting a wider area, or result in potential equipment damage. However, violation of this requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures. The applicable entities are always responsible for maintaining the reliability of the bulk electric system regardless of the situation. This requirement meets NERC's criterion for a Medium VRF.</u></p>
FERC VRF G1 Discussion	<p>Guideline 1- Consistency w/ Blackout Report: N/A</p> <p><u>The blackout report and subsequent technical analysis noted that zone 3 relays increased the severity of the blackout. Reviewing Protection System for Misoperation, identifying an unnecessary operation and taking corrective actions would reduce the likelihood of reoccurrence. This requirement is consistent with Recommendation 8: Improve System Protection to Slow or Limit the Spread of Future Cascading Outages.</u></p>
FERC VRF G2 Discussion	<p>Guideline 2- Consistency within a Reliability Standard:</p> <p>The requirement has <u>single reliability activity associated with the reliability objective and no Parts so only onesub-Requirement(s) which allows a single VRF was to be assigned; therefore no conflict(s) exist.</u></p>
FERC VRF G3 Discussion	<p>Guideline 3- Consistency among Reliability Standards:</p> <p>The requirement is similar to EOP-008-1 Requirement R8 which has an approved VRF of Medium. This requirement replaces one of the three performance components of PRC-004-2a, R1 (TO & DP) and R2 (GO). The three performance components (paraphrased) are “analyze Protection System Misoperations,”</p>

VRF and VSL Justifications – PRC-004-3, R3

	<p><u>“develop a Correction Action Plan,” and “implement a Corrective Action Plan” which as a VRF of High. This proposed Requirement R1, to “review” (similar to “analyze”), comports with Reliability Standards PRC-016-0.1 – Special Protection System Misoperations, R1 (“...shall analyze its SPS operations and maintain a record of all misoperations...”) and PRC-022-1 – Under-Voltage Load Shedding Program Performance, R1 (“...shall analyze and document all UVLS operations and Misoperations.”) which both have a VRF of Medium.</u></p> <p><u>The proposed VRF of Medium is not inadvertently lowering the identified VRF of High in the former Requirements R1 and R2 because the proposed Requirement now provides a clear and concise single reliability activity whereas the former Requirement contained multiple activities and is ambiguous.</u></p>
<p>FERC VRF G4 Discussion</p>	<p>Guideline 4- Consistency with NERC Definitions of VRFs: Failure of a joint Protection System owner to develop an action plan<u>review its components for a each BES interrupting device operation caused by a Protection System operation or by manual intervention in response to a Protection System failure to operate for Misoperation without an identified cause upon notification could in the planning time frame, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly and adversely affect the electrical state or the capability of the bulk electric system, or the ability to effectively monitor and, control, or restore the bulk electric system. Unresolved Misoperations could contribute to more severe</u>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.</p> <p><u>Protection System operations reviewed for proper operation by other owner(s) is an important step in preventing the future severity of disturbances affecting a wider area, or result in potential equipment damage. However, violation of this requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures. The applicable entities are always responsible for maintaining the reliability of the bulk electric system regardless of the situation. This requirement meets NERC’s criterion</u></p>

VRF and VSL Justifications – PRC-004-3, R3

	for a Medium VRF.		
FERC VRF G5 Discussion	Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation: This requirement does not co-mingle reliability objectives of differing risk; <u>therefore</u> , the assigned VRF of Medium is consistent throughout the requirement.		
Proposed VSL			
Lower	Moderate	High	Severe
The responsible entity developed an action plan, identified whether or made not its Protection System component(s) caused a Misoperation in accordance with Requirement R3, in more than 180 calendar days but was less than or equal to 21030 calendar days following the associated BES interrupting device operation late.	The responsible entity developed an action plan, identified whether or made not its Protection System component(s) caused a Misoperation in accordance with Requirement R3, in more but was greater than 21030 calendar days but and less than or equal to 22045 calendar days following the associated BES interrupting device operation late.	The responsible entity developed an action plan, identified whether or made not its Protection System component(s) caused a Misoperation in accordance with Requirement R3, in more but was greater than 22045 calendar days but and less than or equal to 23060 calendar days following the associated BES interrupting device operation late.	The responsible entity developed an action plan, identified whether or made not its Protection System component(s) caused a Misoperation in accordance with Requirement R3, more but was greater than 23060 calendar days following the associated BES interrupting device operation late. OR The responsible entity failed to develop an action plan identify whether or not a declaration Misoperation its Protection System component(s) occurred in accordance with Requirement R3.

VRF and VSL Justifications – PRC-004-3, R3

<p>NERC VSL Guidelines</p>	<p>Meets NERC’s VSL Guidelines—There is an incremental aspect to the VSL for tardiness and a binary aspect for failure. <u>The VSL is entity size-neutral because performance is event-driven and not by individual assets.</u></p>
<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>This VSL is consistent with the current VSL associated with the existing requirement <u>replaces one</u> of the <u>three performance components of PRC-004-2a, R1 (DP) and R2 (GO & TO) for the notified Protection System owner. The three performance components (paraphrased) are “analyze Protection System Misoperations,” “develop a Correction Action Plan,” and “implement a Corrective Action Plan.” The VSLs are based on the three components and not individually as presented in the proposed PRC-004-3 standard being replaced.</u></p> <p>The proposed VSL does not lower the current level of compliance <u>because the former VSL was comingled with the other activities. The proposed VSLs appropriately assess the severity of the violation with the failure to perform investigative actions as Severe.</u></p>
<p>FERC VSL G2 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</p>	<p>Guideline 2a: N/A</p> <p><u>This requirement is not binary; therefore, this criterion does not apply.</u></p> <p>Guideline 2b: The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.</p>

VRF and VSL Justifications – PRC-004-3, R3

<p>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</p>	<p>The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.</p>
<p>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</p>	<p>The VSL is based on a single violation and not cumulative violations.</p>

VRF and VSL Justifications – PRC-004-3, R4

<p>Proposed VRF</p>	<p>High <u>Medium</u></p>
<p>NERC VRF Discussion</p>	<p><u>A Violation Risk Factor of Medium is consistent with the NERC VRF Guidelines.</u> Failure to implement <u>identify the cause(s) of a CAP or action plan to address an identified</u> Misoperation could <u>in the planning time frame, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause and adversely affect the electrical state or contribute</u> 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 a cascading sequence of failures. Unresolved Misoperations, nor to hinder restoration to a normal condition.</p> <p><u>Unidentified causes of a Misoperation</u> could contribute to more severe <u>the severity of</u> future disturbances</p>

VRF and VSL Justifications – PRC-004-3, R4

	<p>affecting a wider area, or <u>result in potential</u> equipment damage. This is a planning requirement that meets the NERC criterion for a High VRF However, violation of this requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures.</p>
<p>FERC VRF G1 Discussion</p>	<p>Guideline 1- Consistency w/ Blackout Report: N/A <u>This requirement is consistent with Recommendation 8: Improve System Protection to Slow or Limit the Spread of Future Cascading Outages. The applicable entity must conduct investigative action(s) to determine the cause(s) of a Misoperation, if not determined during the course of a review as proposed in Requirements R1 and R3.</u></p>
<p>FERC VRF G2 Discussion</p>	<p>Guideline 2- Consistency within a Reliability Standard: The requirement has single reliability activity associated with the reliability objective and no Parts so only one sub-Requirement(s) which allows a single VRF was to be assigned; therefore no conflict(s) exist.</p>
<p>FERC VRF G3 Discussion</p>	<p>Guideline 3- Consistency among Reliability Standards: The requirement is consistent with PRC-004-2a, Requirements R1 and R2, PRC-004-WECC 1 Requirement R2.1, and TPL-001-2 Requirement R2-Part 2.7 which have approved VRFs of High. This requirement replaces one of the three performance components of PRC-004-2a, R1 (TO & DP) and R2 (GO). The three performance components (paraphrased) are “analyze Protection System Misoperations,” “develop a Correction Action Plan,” and “implement a Corrective Action Plan” which as a VRF of High. This proposed Requirement R4, to perform at least one “investigative action” (similar to “analyze”), comports with Reliability Standards PRC-016-0.1 – Special Protection System Misoperations, R1 (“...shall analyze its SPS operations and maintain a record of all misoperations...”) and PRC-022-1 – Under-Voltage Load Shedding Program Performance, R1 (“...shall analyze and document all UVLS operations and Misoperations.”) which both have a VRF of Medium.</p> <p><u>The proposed VRF of Medium is not inadvertently lowering the identified VRF of High in the former Requirement because the proposed Requirement now provides a clear and concise single reliability activity whereas the former Requirement contained multiple activities and is ambiguous.</u></p>

VRF and VSL Justifications – PRC-004-3, R4

<p>FERC VRF G4 Discussion</p>	<p>Guideline 4- Consistency with NERC Definitions of VRFs: Failure to implement <u>identify the cause(s) of a CAP or action plan to address an identified</u> Misoperation could <u>in the planning time frame, under emergency, abnormal, or restorative conditions anticipated by the preparations, directly cause and adversely affect the electrical state or contribute</u> capability of the bulk electric system, or the ability to effectively monitor, control, or restore the bulk electric system. However, <u>violation of a medium risk requirement is unlikely, under emergency, abnormal, or restoration conditions anticipated by the preparations, to lead</u> to bulk electric system instability, separation, or a <u>cascading sequence of failures. Unresolved Misoperations, nor to hinder restoration to a normal condition.</u></p> <p><u>Unidentified causes of a Misoperation</u> could contribute to more severe <u>the severity of</u> future disturbances affecting a wider area, or <u>result in potential</u> equipment damage. This is a planning requirement that meets the NERC criterion for a High VRF <u>However, violation of this requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures.</u></p>
<p>FERC VRF G5 Discussion</p>	<p>Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation: This requirement does contain obligations that are administrative in nature but they support the high risk <u>not co-mingle</u> reliability objective; objectives of differing risk; therefore, the assigned VRF of High <u>Medium</u> is appropriate for the requirement <u>consistent</u>.</p>

Proposed VSL

Lower	Moderate	High	Severe
<p>The responsible entity failed to revise a CAP or performed at least one investigative action plan as needed in accordance with Requirement R4, <u>but was less than or equal to one</u></p>	<p>N/A <u>The responsible entity performed at least one investigative action in accordance with Requirement R4, but was greater than one calendar quarter and less than</u></p>	<p>N/A <u>The responsible entity performed at least one investigative action in accordance with Requirement R4, but was greater than two calendar quarters and less than or equal to</u></p>	<p><u>The responsible entity performed at least one investigative action in accordance with Requirement R4, but was more than three calendar quarters late.</u></p>

VRF and VSL Justifications – PRC-004-3, R4

<p><u>calendar quarter late.</u></p>	<p><u>or equal to two calendar quarters late.</u></p>	<p><u>three calendar quarters late.</u></p>	<p><u>OR</u> The responsible entity failed to implement a CAP or perform <u>investigative action plan(s)</u> in accordance with Requirement R4.</p>
<p>NERC VSL Guidelines</p>	<p>Meets NERC’s VSL Guidelines—The VSLs cover aspects of <u>There is an incremental aspect to the requirement that are</u> <u>VSL for tardiness and a binary aspect for failure. The VSL is entity size-neutral because performance is event-driven and not equal in importance by individual assets.</u></p>		
<p>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	<p>This VSL is consistent with the previous severity level <u>requirement replaces one of the three performance components of PRC-004-2a, R1 (TO & DP) and R2 (GO). The three performance components (paraphrased) are “analyze Protection System Misoperations,” “develop a Correction Action Plan,” and “implement a Corrective Action Plan.” The VSLs are based on the three components and not individually as presented in the proposed PRC-004-3 standard.</u></p> <p><u>The proposed VSL does not lower the current level of compliance for the similar Requirement because the former VSL was comingled with the other activities. The proposed VSLs appropriately assess the severity of the violation with the failure to perform investigative actions as Severe.</u></p>		
<p>FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single</p>	<p>Guideline 2a: <u>N/A</u></p> <p><u>This requirement is not binary; therefore, this criterion does not apply.</u></p> <p>Guideline 2b:</p>		

VRF and VSL Justifications – PRC-004-3, R4

<p>Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language</p>	<p>The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.</p>
<p><u>FERC VSL G3 Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement</u></p>	<p><u>The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.</u></p>
<p><u>FERC VSL G4 Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations</u></p>	<p><u>The VSL is based on a single violation and not cumulative violations.</u></p>

VRF and VSL Justifications – PRC-004-3_R5

<u>Proposed VRF</u>	<u>Medium</u>
<u>NERC VRF Discussion</u>	<p><u>A Violation Risk Factor of Medium is consistent with the NERC VRF Guidelines. Failure to develop a CAP for a Misoperation with an identified cause could in the planning time frame, 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.</u></p> <p><u>An unresolved cause of a Misoperation or failing to consider other locations with similar Protection System components could contribute the severity of future disturbances affecting a wider area, or potential equipment damage. However, violation of this requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures.</u></p>
<u>FERC VRF G1 Discussion</u>	<p><u>Guideline 1- Consistency w/ Blackout Report:</u> <u>The blackout report and subsequent technical analysis resulted in entities performing corrective actions; however, there were no negative reliability outcomes concerning the development of a Corrective Action Plan (CAP) associated with Protection Systems.</u></p>
<u>FERC VRF G2 Discussion</u>	<p><u>Guideline 2- Consistency within a Reliability Standard:</u> <u>The requirement single reliability activity associated with the reliability objective and no sub-Requirement(s) which allows a single VRF to be assigned; therefore no conflict(s) exist.</u></p>

VRF and VSL Justifications – PRC-004-3_R5

<u>FERC VRF G3 Discussion</u>	<p><u>Guideline 3- Consistency among Reliability Standards:</u> This requirement replaces one of the three performance components of PRC-004-2a, R1 (TO & DP) and R2 (GO). The three performance components (paraphrased) are “analyze Protection System Misoperations,” “develop a Correction Action Plan,” and “implement a Corrective Action Plan” which have varying VSLs.</p> <p>The proposed VSL does not lower the current level of compliance because the former VSL was comingled with the other activities. The former Requirement for the CAP was limited to a High VSL; however, the proposed Requirement R5 is now expanded to the Severe VSL. The lesser VSLs are based on tardiness and are practical and reasonable for the amount of time allotted for completion.</p>
<u>FERC VRF G4 Discussion</u>	<p><u>Guideline 4- Consistency with NERC Definitions of VRFs:</u> Failure to develop a CAP for a Misoperation with an identified cause or failing to consider other locations with similar components could in the planning time frame, 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. An unresolved cause of a Misoperation could contribute the severity of future disturbances affecting a wider area, or potential equipment damage. However, violation of this requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures.</p>
<u>FERC VRF G5 Discussion</u>	<p><u>Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation:</u> This requirement does not co-mingle reliability objectives of differing risk; therefore, the assigned VRF of Medium is consistent.</p>

VRF and VSL Justifications – PRC-004-3_R5

Proposed VSL

<u>Lower</u>	<u>Moderate</u>	<u>High</u>	<u>Severe</u>
<p><u>The responsible entity developed a CAP, or explained in a declaration in accordance with Requirement R5, but in more than 60 calendar days and less than or equal to 70 calendar days of first identifying a cause of the Misoperation.</u></p> <p><u>OR</u></p> <p><u>The responsible entity developed an evaluation in accordance with Requirement R5, but in more than 60 calendar days and less than or equal to 70 calendar days of first identifying a cause of the Misoperation.</u></p>	<p><u>The responsible entity developed a CAP, or explained in a declaration in accordance with Requirement R5, but in more than 70 calendar days and less than or equal to 80 calendar days first identifying a cause of the Misoperation.</u></p> <p><u>OR</u></p> <p><u>The responsible entity developed an evaluation in accordance with Requirement R5, but in more than 70 calendar days and less than or equal to 80 calendar days first identifying a cause of the Misoperation.</u></p>	<p><u>The responsible entity developed a CAP, or explained in a declaration in accordance with Requirement R5, but in more than 80 calendar days and less than or equal to 90 calendar days of first identifying a cause of the Misoperation.</u></p> <p><u>OR</u></p> <p><u>The responsible entity developed an evaluation in accordance with Requirement R5, but in more than 80 calendar days and less than or equal to 90 calendar days of first identifying a cause of the Misoperation.</u></p>	<p><u>The responsible entity developed a CAP, or explained in a declaration in accordance with Requirement R5, but in more than 90 calendar days of first identifying a cause of the Misoperation.</u></p> <p><u>OR</u></p> <p><u>The responsible entity failed to develop a CAP or explain in a declaration in accordance with Requirement R5.</u></p> <p><u>OR</u></p> <p><u>The responsible entity developed an evaluation in accordance with Requirement R5, but in more than 90 calendar days of first identifying a cause of the Misoperation.</u></p> <p><u>OR</u></p> <p><u>The responsible entity failed to develop an evaluation in accordance with Requirement R5.</u></p>

VRF and VSL Justifications – PRC-004-3_R5

<p><u>NERC VSL Guidelines</u></p>	<p><u>Meets NERC’s VSL Guidelines—There is an incremental aspect to the VSL for tardiness and a binary aspect for failure. Varying VSLs are provided for the omission of the evaluation when developing the Corrective Action Plan and for failure to develop the evaluation.</u></p>
<p><u>FERC VSL G1 Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</u></p>	<p><u>This requirement replaces one of the three performance components of PRC-004-2a, R1 (TO & DP) and R2 (GO). The three performance components (paraphrased) are “analyze Protection System Misoperations,” “develop a Correction Action Plan,” and “implement a Corrective Action Plan” which have varying VSLs.</u></p> <p><u>The proposed VSL does not lower the current level of compliance because the former VSL was comingled with the other activities. The proposed Requirement is a Severe VSL for failure to develop the CAP with the Lower VSL being based on tardiness of the development.</u></p>
<p><u>FERC VSL G2 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</u></p>	<p><u>Guideline 2a: This requirement is not binary; therefore, this criterion does not apply.</u></p> <p><u>Guideline 2b: The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.</u></p>

VRF and VSL Justifications – PRC-004-3_R5

FERC VSL G3
Violation Severity Level
Assignment Should Be
Consistent with the
Corresponding Requirement

The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.

FERC VSL G4
Violation Severity Level
Assignment Should Be Based on
A Single Violation, Not on A
Cumulative Number of
Violations

The VSL is based on a single violation and not cumulative violations.

VRF and VSL Justification – PRC-004-3, R6

<u>Proposed VRF</u>	<u>Medium</u>
<u>NERC VRF Discussion</u>	<p><u>A Violation Risk Factor of Medium is consistent with the NERC VRF Guidelines. Failure to implement a CAP for a Misoperation with an identified cause could in the planning time frame, 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.</u></p> <p><u>An uncorrected cause of a Misoperation, through not implementing a Corrective Action Plan, could contribute to the severity of future disturbances affecting a wider area, or potential equipment damage. However, violation of this requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures.</u></p>
<u>FERC VRF G1 Discussion</u>	<p><u>Guideline 1- Consistency w/ Blackout Report:</u> <u>The blackout report and subsequent technical analysis resulted in entities performing corrective actions; however, there were no negative reliability outcomes concerning the implementation of a Corrective Action Plan (CAP) associated with Protection Systems.</u></p>
<u>FERC VRF G2 Discussion</u>	<p><u>Guideline 2- Consistency within a Reliability Standard:</u> <u>The requirement single reliability activity associated with the reliability objective and no sub-Requirement(s) which allows a single VRF to be assigned; therefore no conflict(s) exist.</u></p>

VRF and VSL Justification – PRC-004-3, R6

<p><u>FERC VRF G3 Discussion</u></p>	<p><u>Guideline 3- Consistency among Reliability Standards:</u> <u>This requirement replaces one of the three performance components of PRC-004-2a, R1 (TO & DP) and R2 (GO). The three performance components (paraphrased) are “analyze Protection System Misoperations,” “develop a Correction Action Plan,” and “implement a Corrective Action Plan” which as a VRF of High. The requirement is consistent with Reliability Standards PRC-016-0.1, R2 (“...shall take corrective actions to avoid future misoperations.”) and PRC-022-1, R1.5 (“For any Misoperation, a Corrective Action Plan...”)</u> <u>which both have a VRF of Medium.</u></p> <p><u>The proposed VRF of Medium is not inadvertently lowering the identified VRF of High in the former Requirement because the proposed Requirement now provides a clear and concise single reliability activity whereas the former Requirement contained multiple activities and is ambiguous.</u></p>
<p><u>FERC VRF G4 Discussion</u></p>	<p><u>Guideline 4- Consistency with NERC Definitions of VRFs:</u> <u>Failure to implement a Corrective Action Plan for a Misoperation with an identified cause could in the planning time frame, 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. An uncorrected cause of a Misoperation could contribute to the severity of future disturbances affecting a wider area, or potential equipment damage. However, violation of this requirement is unlikely to lead to bulk electric system instability, separation, or cascading failures.</u></p>
<p><u>FERC VRF G5 Discussion</u></p>	<p><u>Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation:</u> <u>This requirement does not co-mingle reliability objectives of differing risk; therefore, the assigned VRF of Medium is consistent.</u></p>

<u>VRF and VSL Justification – PRC-004-3, R6</u>			
<u>Proposed VSL</u>			
<u>Lower</u>	<u>Moderate</u>	<u>High</u>	<u>Severe</u>
<u>The responsible entity implemented, but failed to update a CAP, when actions or timetables changed, in accordance with Requirement R6.</u>	<u>N/A</u>	<u>N/A</u>	<u>The responsible entity failed to implement a CAP in accordance with Requirement R6.</u>
<u>NERC VSL Guidelines</u>			
<u>NERC VSL Guidelines</u>	<u>Meets NERC’s VSL Guidelines—The VSLs cover aspects of the requirement that are not equal in importance and performance.</u>		

VRF and VSL Justification – PRC-004-3, R6

FERC VSL G1

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

Guideline 3- Consistency among Reliability Standards:

This requirement replaces one of the three performance components of PRC-004-2a, R1 (TO & DP) and R2 (GO). The three performance components (paraphrased) are “analyze Protection System Misoperations,” “develop a Correction Action Plan,” and “implement a Corrective Action Plan.” The VSLs are based on the three components and not individually as presented in the proposed PRC-004-3 standard.

The proposed VSL does not lower the current level of compliance because the former VSL was comingled with the other activities. The proposed Requirement is a Severe VSL for failure to implement the CAP with the Lower VSL being based the failure of updating the CAP when actions or timetables change which is administrative in nature.

FERC VSL G2

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 2a:

This requirement is not binary; therefore, this criterion does not apply.

Guideline 2b:

The proposed VSL does not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations.

VRF and VSL Justification – PRC-004-3, R6

FERC VSL G3
Violation Severity Level
Assignment Should Be
Consistent with the
Corresponding Requirement

The proposed VSL uses similar terminology to that used in the associated requirement, and is therefore consistent with the requirement.

FERC VSL G4
Violation Severity Level
Assignment Should Be Based on
A Single Violation, Not on A
Cumulative Number of
Violations

The VSL is based on a single violation and not cumulative violations.