

## Violation Risk Factor and Violation Severity Level Justifications

### VAR-002-3 – Generator Operation for Maintaining Network Voltage Schedules

This document provides the Standard Drafting Team's (SDT) justification for assignment of violation risk factors (VRFs) and violation severity levels (VSLs) for each requirement in VAR-002-3 – Generator Operation for Maintaining Network Voltage Schedules. Each requirement is assigned a VRF and a VSL. 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 Electric Reliability Organizations (ERO) Sanction Guidelines. The SDT applied the following NERC criteria and FERC Guidelines when proposing VRFs and VSLs for the requirements under this project. A copy of the standard with the associated VRFs and VSLs is available [here](#).

#### **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.

**FERC Violation Risk Factor Guidelines****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:

- 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.

**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.

**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 NERC’s overarching criteria shown in the table below:

Lower VSL	Moderate VSL	High VSL	Severe VSL
The performance or product measured almost meets the full intent of the requirement.	The performance or product measured meets the majority of the intent of the requirement.	The performance or product measured does not meet the majority of the intent of the requirement, but does meet some of the intent.	The performance or product measured does not substantively meet the intent of the requirement.

**FERC Order of Violation Severity Levels**

FERC’s VSL guidelines are presented below, followed by an analysis of whether the VSLs proposed for each requirement in the standard 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 on a per violation per day basis is the “default” for penalty calculations.

VRF Justification – VAR-002-3 Requirement R1	
Proposed VRF	Medium
NERC VRF Discussion	A VRF of Medium is necessary because this requirement could affect the stability of the BES, but the requirement itself addresses instances where a GOP will not necessarily operate in with the AVR in different control modes or when the TOP will instruct a GOP to operate in other modes.
FERC VRF G1 Discussion	<p>Guideline 1 – Consistency with Blackout Report:</p> <p>Although the Blackout Report list Reactive Power and voltage control are part of the list of critical areas where a violation could severely affect the reliability of the Bulk-Power System, the GOP control modes are not as critical because the TOP is monitoring the system. The companion requirement to VAR-002-3 (in VAR-001-4) are properly designated with a HIGH VRF to ensure voltage schedules are provided as part of the TOPs plan to operate within System Operating Limits and Interconnection Reliability Operating Limits.</p>
FERC VRF G2 Discussion	<p>Guideline 2 – Consistency within a Reliability Standard:</p> <p>The VRF applies to the entire requirement.</p>
FERC VRF G3 Discussion	<p>Guideline 3 – Consistency among Reliability Standards:</p> <p>Because maintaining a voltage schedule is critical to preventing a violation of a System Operating Limit, this VRF was drafted to be the same VRFs for VAR-001-4 Requirement R5. VAR-001-4 Requirement R5 requires the TOP to specify a schedule and notification requirements that the GOP must follow.</p>
FERC VRF G4 Discussion	<p>Guideline 4 – Consistency with NERC Definitions of VRFs:</p> <p>This VRF is consistent with the NERC Definition because a GOP not operating in the proper control mode can affect the BES, but a single violation is unlikely to lead to instability, separation, or cascading failure. This is especially the case since a TOP will also be monitoring for voltage deviations.</p>
FERC VRF G5 Discussion	Guideline 5- Treatment of Requirements that Co-mingle More Than One Obligation:

	This VRF does not co-mingle multiple objectives, nor does it water down the Requirement to reflect a lower risk level.
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VSL Justification – VAR-002-3 Requirement R1	
NERC VSL Guidelines	Consistent with NERC’s VSL Guideline, this VSL acknowledges the criticality of this requirement and whether or not a system voltage schedule was created.
FERC VSL G1: Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance	The current level of compliance is not lowered with the proposed VSL because this requirement only has a “severe” VSL.
FERC VSL G2: Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties  Guideline 2a: The single VSL assignment category for “Binary” Requirements is not consistent  Guideline 2b: VSL Assignments that contain ambiguous language	<p>The proposed VSL is written to ensure uniformity and consistency in the determination of penalties.</p> <p>Guideline 2a: The proposed VSL is binary, and therefore, a single severe VSL is necessary.</p> <p>Guideline 2b: The proposed VSL does not use ambiguous terms, supporting uniformity and consistency in the determination of similar penalties for similar violations.</p>

FERC VSL G3: Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement	The proposed VSL is consistent with the corresponding requirements.
FERC VSL G4: Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The proposed VSL is not based on a cumulative number of violations.

VRF Justification – VAR-002-3 Requirement R2	
Proposed VRF	Medium
NERC VRF Discussion	A VRF of Medium is consistent with the NERC VRF definition. Requirement R2 focuses on GOPs maintaining a schedule, but there could be system events that will pull a GOP out of schedule. Also, late at night and early in the morning, the system may experience instances of low or high voltage. This could impact the BES, but a single instance is unlikely to lead to instability, separation, or cascading failure. The sub-requirements also require the GOP to modify the voltage schedule when directed by the TOP.
FERC VRF G1 Discussion	Guideline 1 – Consistency with Blackout Report:  Although the Blackout Report lists Reactive Power and voltage control as critical areas where a violation could severely affect the reliability of the Bulk-Power System, there are general times when a GOP will be unable to maintain a voltage schedule due to system condition. These instances occur frequently during the early morning and late at night. The companion requirement to VAR-002-3 (in VAR-001-4) are properly designated

	with a HIGH VRF to ensure voltage schedules are provided as part of the TOP’s plan to operate within System Operating Limits and Interconnection Reliability Operating Limits.
FERC VRF G2 Discussion	Guideline 2 – Consistency within a Reliability Standard: The VRF applies to the entire requirement, including all sub-parts.
FERC VRF G3 Discussion	Guideline 3 – Consistency among Reliability Standards: Because maintaining a voltage schedule is critical to preventing a violation of a System Operating Limit, this VRF was drafted to be the same VRFs for VAR-001-4 Requirement R5. VAR-001-4 Requirement R5 requires the TOP to specify a schedule and notification requirements that the GOP must follow.
FERC VRF G4 Discussion	Guideline 4 – Consistency with NERC Definitions of VRFs: This VRF is consistent with the NERC Definition because a GOP not maintaining a schedule can affect the BES, but a single violation is unlikely to lead to instability, separation, or cascading failures. This is especially the case since a TOP will also be monitoring for voltage deviations
FERC VRF G5 Discussion	Guideline 5 - Treatment of Requirements that Co-mingle More Than One Obligation:  This VRF does not co-mingle multiple objectives, nor does it water down the requirement to reflect a lower risk level.

**VSL Justification – VAR-002-3 Requirement R2**

NERC VSL Guidelines	Consistent with NERC’s VSL Guidelines, the VSL describes degrees of noncompliant performance in an incremental manner.
FERC VSL G1: Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering	There is no prior compliance obligation related to the subject of this standard.



<p>the Current Level of Compliance</p>	
<p>FERC VSL G2: Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties</p> <p>Guideline 2a: The single VSL assignment category for “Binary” Requirements is not consistent</p> <p>Guideline 2b: VSL Assignments that contain ambiguous language</p>	<p>The proposed VSL is written to ensure uniformity and consistency in the determination of penalties.</p> <p>Guideline 2a: The proposed VSL is not binary.</p> <p>Guideline 2b: The proposed VSL does not use ambiguous terms, 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 is worded consistently with the corresponding requirement.</p>
<p>FERC VSL G4: Violation Severity Level Assignment Should Be Based on A Single Violation,</p>	<p>The proposed VSL is not based on cumulative number of violations.</p>

Not on A Cumulative Number of Violations	
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VRF Justification – VAR-002-3 Requirement R3	
Proposed VRF	Medium
NERC VRF Discussion	This requirement warrants a Medium VRF and is consistent with the NERC definition because this requirement is whether the GOP made the required notifications to the TOP within the appropriate timeframes.
FERC VRF G1 Discussion	<p>Guideline 1 – Consistency with Blackout Report:</p> <p>Although the Blackout Report list Reactive Power and voltage control are part of the list of critical areas where a violation could severely affect the reliability of the Bulk-Power System, the GOP notifications are unlikely to lead to system instability, separation, or cascading failures. This is particularly the case because the TOP is still operating the system to stay within System Operating Limits and Interconnection Reliability Operating Limits.</p>
FERC VRF G2 Discussion	<p>Guideline 2 – Consistency within a Reliability Standard:</p> <p>There is no sub-part to Requirement 3; therefore, the requirement is consistent.</p>
FERC VRF G3 Discussion	<p>Guideline 3 – Consistency among Reliability Standards:</p> <p>This VRF is drafted to be consistent with other standards (e.g., BAL) that address making appropriate notifications.</p>
FERC VRF G4 Discussion	<p>Guideline 4 – Consistency with NERC Definitions of VRFs:</p> <p>This VRF is consistent with the NERC Definition because not making the appropriate notifications can impact the grid, but the TOPs are still effectively monitoring the system; thus, instability, separation, or cascading failures are unlikely due to a single violation.</p>
FERC VRF G5 Discussion	<p>Guideline 5 - Treatment of Requirements that Co-mingle More Than One Obligation</p> <p>This VRF does not co-mingle multiple objectives, nor does it water down the Requirement to reflect a lower risk level</p>

VSL Justification – VAR-002-3 Requirement R3	
NERC VSL Guidelines	Consistent with NERC’s VSL Guidelines. The VSL describes degrees of noncompliant performance in an incremental manner.
FERC VSL G1: Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance	The current level of compliance is not lowered with the proposed VSL.
FERC VSL G2: Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties  Guideline 2a: The single VSL assignment category for “Binary” Requirements is not consistent Guideline 2b: VSL Assignments that contain ambiguous language	<p>The proposed VSL is written to ensure uniformity and consistency in the determination of penalties.</p> <p>Guideline 2a: The proposed VSL is binary because the standard is violated only when a notification is not made to the TOP; therefore, a severe VSL is warranted.</p> <p>Guideline 2b: The proposed VSL does not use ambiguous terms, supporting uniformity and consistency in the determination of similar penalties for similar violations.</p>
FERC VSL G3: Violation Severity Level Assignment Should Be	The proposed VSL is worded consistently with the corresponding requirement.

Consistent with the Corresponding Requirement	
FERC VSL G4: Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The proposed VSL is not based on cumulative number of violations.

VRF Justification – VAR-002-3 Requirement R4	
Proposed VRF	Medium
NERC VRF Discussion	This requirement warrants a Medium VRF and is consistent with the NERC definition because this requirement is whether the GOP made the required notifications to the TOP within the appropriate timeframes.
FERC VRF G1 Discussion	<p>Guideline 1 – Consistency with Blackout Report:</p> <p>Although the Blackout Report list Reactive Power and voltage control are part of the list of critical areas where a violation could severely affect the reliability of the Bulk-Power System, the GOP notifications are unlikely to lead to system instability, separation, or cascading failures. This is particularly the case because the TOP is still operating the system to stay within System Operating Limits and Interconnection Reliability Operating Limits.</p>
FERC VRF G2 Discussion	<p>Guideline 2 – Consistency within a Reliability Standard:</p> <p>There is no sub-part to Requirement 3; therefore, the requirement is consistent.</p>
FERC VRF G3 Discussion	<p>Guideline 3 – Consistency among Reliability Standards:</p> <p>This VRF is drafted to be consistent with other standards (e.g., BAL) that address making appropriate notifications.</p>

FERC VRF G4 Discussion	<p>Guideline 4 – Consistency with NERC Definitions of VRFs:</p> <p>This VRF is consistent with the NERC Definition because not making the appropriate notifications can impact the grid, but the TOPs are still effectively monitoring the system; thus, instability, separation, or cascading failures are unlikely due to a single violation.</p>
FERC VRF G5 Discussion	<p>Guideline 5 - Treatment of Requirements that Co-mingle More Than One Obligation</p> <p>This VRF does not co-mingle multiple objectives, nor does it water down the Requirement to reflect a lower risk level</p>

VSL Justification – VAR-002-3 Requirement R4	
NERC VSL Guidelines	Consistent with NERC’s VSL Guidelines. The VSL describes degrees of noncompliant performance in an incremental manner.
<p>FERC VSL G1: Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance</p>	The current level of compliance is not lowered with the proposed VSL.
<p>FERC VSL G2: Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties</p> <p>Guideline 2a: The single VSL assignment category for</p>	<p>The proposed VSL is written to ensure uniformity and consistency in the determination of penalties.</p> <p>Guideline 2a: The proposed VSL is binary because the standard is violated only when a notification is not made to the TOP; therefore, a severe VSL is warranted.</p>

<p>“Binary” Requirements is not consistent Guideline 2b: VSL Assignments that contain ambiguous language</p>	<p>Guideline 2b: The proposed VSL does not use ambiguous terms, 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 is worded consistently with the corresponding 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 proposed VSL is not based on cumulative number of violations.</p>

<p>VRF Justification – VAR-002-3 Requirement R5</p>	
<p>Proposed VRF</p>	<p>Lower</p>
<p>NERC VRF Discussion</p>	<p>This requirement is a Lower VRF because the tap setting data does not change frequently, and a violation is not expected adversely affect the BES.</p>
<p>FERC VRF G1 Discussion</p>	<p>Guideline 1 – Consistency with Blackout Report:  Although Reactive Power and voltage control are part of the list of critical areas where a violation could severely affect the reliability of the Bulk-Power System, this requirement would not adversely impact the BES</p>

	if violated. The tap information is provided during interconnection, and it is not expected to change frequently. Therefore, a Lower VRF is warranted.
FERC VRF G2 Discussion	Guideline 2 – Consistency within a Reliability Standard:  The parts within Requirement R5 are consistent with Requirement R5 and is considered a Lower VRF.
FERC VRF G3 Discussion	Guideline 3 – Consistency among Reliability Standards:  There are no other standards that address Tap settings.
FERC VRF G4 Discussion	Guideline 4 – Consistency with NERC Definitions of VRFs:  This VRF is consistent with the NERC Definition because a violation is similar to an administrative violation. Further, since tap settings are infrequently changed, a violation would not adversely impact the BES.
FERC VRF G5 Discussion	Guideline 5 - Treatment of Requirements that Co-mingle More Than One Obligation:  This VRF does not co-mingle multiple objectives, nor does it water down the Requirement to reflect a lower risk level.

VSL Justification – VAR-002-3 Requirement R5	
NERC VSL Guidelines	Consistent with NERC’s VSL Guidelines. The VSL describes degrees of noncompliant performance in an incremental manner.
FERC VSL G1: Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering	There is no prior compliance obligation related to the subject of this standard.

<p>the Current Level of Compliance</p>	
<p>FERC VSL G2: Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties</p> <p>Guideline 2a: The single VSL assignment category for “Binary” Requirements is not consistent</p> <p>Guideline 2b: VSL Assignments that contain ambiguous language</p>	<p>The proposed VSL is written to ensure uniformity and consistency in the determination of penalties.</p> <p>Guideline 2a: The proposed VSL is not binary.</p> <p>Guideline 2b: The proposed VSL does not use ambiguous terms, 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 is worded consistently with the corresponding requirement.</p>
<p>FERC VSL G4: Violation Severity Level Assignment Should Be Based on A Single Violation,</p>	<p>The proposed VSL is not based on cumulative number of violations.</p>



Not on A Cumulative Number of Violations	
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VRF Justification – VAR-002-3 Requirement R6	
Proposed VRF	Lower
NERC VRF Discussion	This requirement is a Lower VRF because the tap setting data does not change frequently, and a violation is not expected adversely affect the BES.
FERC VRF G1 Discussion	<p>Guideline 1 – Consistency with Blackout Report:</p> <p>Although Reactive Power and voltage control are part of the list of critical areas where a violation could severely affect the reliability of the Bulk-Power System, this requirement would not adversely impact the BES if violated. The tap information is provided during interconnection, and it is not expected to change frequently. If a violation were to occur, the system would still operate at the level prior to making any tap setting changes. Therefore, a Lower VRF is warranted.</p>
FERC VRF G2 Discussion	<p>Guideline 2 – Consistency within a Reliability Standard:</p> <p>The part within Requirement R6 is consistent with Requirement R6 and is considered a Lower VRF.</p>
FERC VRF G3 Discussion	<p>Guideline 3 – Consistency among Reliability Standards:</p> <p>There are no other standards that address Tap settings.</p>
FERC VRF G4 Discussion	<p>Guideline 4 – Consistency with NERC Definitions of VRFs:</p> <p>This VRF is consistent with the NERC Definition because a violation is similar to an administrative violation. Further, since tap settings are infrequently changed, a violation would not adversely impact the BES.</p>
FERC VRF G5 Discussion	Guideline 5 - Treatment of Requirements that Co-mingle More Than One Obligation:

	This VRF does not co-mingle multiple objectives, nor does it water down the Requirement to reflect a lower risk level.
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VSL Justification – VAR-002-3 Requirement R6	
NERC VSL Guidelines	Consistent with NERC’s VSL Guidelines. The VSL describes degrees of noncompliant performance in an incremental manner.
FERC VSL G1: Violation Severity Level Assignments Should Not Have the Unintended Consequence of Lowering the Current Level of Compliance	There is no prior compliance obligation related to the subject of this standard.
FERC VSL G2: Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties  Guideline 2a: The single VSL assignment category for “Binary” Requirements is not consistent Guideline 2b: VSL Assignments that contain ambiguous language	<p>The proposed VSL is written to ensure uniformity and consistency in the determination of penalties.</p> <p>Guideline 2a: The proposed VSL is binary because the requirement focuses on whether tap changes were made.</p> <p>Guideline 2b: The proposed VSL does not use ambiguous terms, supporting uniformity and consistency in the determination of similar penalties for similar violations.</p>

FERC VSL G3: Violation Severity Level Assignment Should Be Consistent with the Corresponding Requirement	The proposed VSL is worded consistently with the corresponding requirement.
FERC VSL G4: Violation Severity Level Assignment Should Be Based on A Single Violation, Not on A Cumulative Number of Violations	The proposed VSL is not based on cumulative number of violations.