NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Violation Risk Factor and Violation Severity Level Justifications

TPL-007-1 – Transmission System Planned Performance for Geomagnetic Disturbance Events

This document provides the Standard Drafting Team's (SDT) justification for assignment of ~~v~~Violation ~~r~~Risk ~~f~~Factors (VRFs) and ~~v~~Violation ~~s~~Severity ~~l~~Levels (VSLs) for each requirement in TPL-007-1 – Transmission System Planned Performance for Geomagnetic Disturbance Events.

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 ERO Sanction Guidelines.

The ~~Standard Drafting Team~~SDT 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.

FERC Violation Risk Factor Guidelines

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

The Commission seeks to ensure that ~~Violation Risk Factor~~VRFs 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~~VRF assignments and the main Requirement ~~Violation Risk Factor~~VRF assignment.

Guideline (3) – Consistency among Reliability Standards

The Commission expects the assignment of ~~Violation Risk Factor~~VRFs corresponding to ~~R~~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~~VRF 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 ~~R~~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 Level~~VSLs ~~(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 level~~VSLs 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

~~. . . u~~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 Justifications – TPL-007-1, R1	
Proposed VRF	**Low**
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 sub-requirements so a single VRF was assigned.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards. A ~~Violation Risk Factor~~VRF of Lower is consistent with approved TPL-001-4 Requirement R7, which requires the Planning Coordinator, in conjunction with each of its Transmission Planners, to identify each entity's individual and joint responsibilities for performing required studies for the Planning Assessment. Proposed TPL-007-1 Requirement R1 requires Planning Coordinators, in conjunction with Transmission Planners, to identify individual and joint responsibilities for maintaining models and performing studies needed to complete the GMD Vulnerability Assessment.
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs. A ~~Violation Risk Factor~~VRF of Lower is consistent with the NERC VRF definition. The requirement for identifying individual and joint responsibilities of the Planning Coordinator and each of the Transmission Planners in the Planning Coordinator's planning area for maintaining models and performing GMD studies, 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, control, or restore the Bulk Electric System under conditions of a GMD event.
FERC VRF G5 Discussion	Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation. The requirement contains one objective, therefore a single VRF is assigned.

Proposed VSLs – TPL-007-1, R1			
Lower	**Moderate**	**High**	**Severe**

N/A	N/A	N/A	The Planning Coordinator, in conjunction with its Transmission Planner(s), failed to determine and identify individual or joint responsibilities of the Planning Coordinator and Transmission Planner(s) in the Planning Coordinator's planning area for maintaining models and performing the study or studies or studies needed to complete GMD Vulnerability Assessment(s).

VSL Justifications – TPL-007-1, R1	
NERC VSL Guidelines	Consistent with NERC's VSL Guidelines. The requirement does not have elements or quantities to evaluate degrees of compliance. A VSL of Severe is assigned for non-compliance.
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. However, the requirement is similar to approved TPL-001-4, Requirement R7. That requirement also has a binary, Severe VSL.
FERC VSL G2	The proposed VSL is written to ensure uniformity and consistency in the determination of penalties.

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: The proposed VSL is binary and assigned a Severe VSL. Guideline 2b: The proposed VSL does not use ambiguous terms, supporting uniformity and consistency in the determination of similar penalties for similar violations.
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 a cumulative number of violations.

VRF Justifications – TPL-007-1, R2	
Proposed VRF	**High**
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 sub-requirements so a single VRF was assigned.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards. A ~~Violation Risk Factor~~VRF of High is consistent with the VRF for approved TPL-001-4 Requirement R1 as amended in NERC's filing dated August 29, 2014, which requires Transmission Planners and Planning Coordinators to maintain models within its respective planning area for performing studies needed to complete its Planning Assessment. Proposed TPL-007-1, Requirement R2 requires responsible entities to maintain System models and GIC System models of the responsible entity's planning area for performing the studies needed to complete GMD Vulnerability Assessment(s).
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs. The VRF of High is consistent with the NERC VRF Definition. The System Models and GIC System Models serve as the foundation for all conditions and events that are required to be studied and evaluated in the GMD Vulnerability Assessment. For this reason, failure to maintain models of the responsible entity's planning area for performing GMD studies could, under GMD conditions that are as severe as the benchmark GMD event, place the Bulk Electric System at an unacceptable risk of instability, separation, or cascading failures.
FERC VRF G5 Discussion	Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation. This requirement does not co-mingle a higher-risk reliability objective with a lesser- risk reliability objective.

Proposed VSLs – TPL-007-1, R2			
Lower	**Moderate**	**High**	**Severe**

Proposed VSLs – TPL-007-1, R2			
N/A	N/A	The responsible entity did not maintain either System models or GIC System models of the responsible entity's planning area for performing the study or studies or studies needed to complete GMD Vulnerability Assessment(s).	The responsible entity did not maintain both System models and GIC System models of the responsible entity's planning area for performing the study or studies or studies needed to complete GMD Vulnerability Assessment(s).

VSL Justifications – TPL-007-1, R2	
NERC VSL Guidelines	Consistent with NERC's VSL Guidelines. The requirement may be described by elements or quantities to evaluate degrees of compliance. Two VSLs are specified for a graduated scale.
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 models for GMD Vulnerability Assessments. Approved TPL-001-4 Requirement R1 requires entities to maintain System models for Planning Assessments and has multiple subparts to form the basis for a graduated VRF. However, the System model for GMD Vulnerability Assessment will have most elements in common with the System model used for Planning Assessments in TPL-001-4. System models for GMD Vulnerability Assessment are distinguished primarily in that they account for reactive power losses due to GIC. Therefore, the subparts from approved TPL-001-4 Requirement R1 were not duplicated in proposed TPL-007-1 Requirement R2 and the VSL was not separated into further degrees of compliance.
FERC VSL G2 Violation Severity Level Assignments Should Ensure	The proposed VSL is written to ensure uniformity and consistency in the determination of penalties.

VSL Justifications – TPL-007-1, R2	
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: The proposed VSL is not binary. Guideline 2b: The proposed VSL does not use ambiguous terms, supporting uniformity and consistency in the determination of similar penalties for similar violations.
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 a cumulative number of violations.

VRF Justifications – TPL-007-1, R3	
Proposed VRF	**Medium**
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 sub-requirements so a single VRF was assigned.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards. A ~~Violation Risk Factor~~VRF of Medium is consistent with approved TPL-001-4 Requirement R5 which requires Transmission Planners and Planning Coordinators to have criteria for acceptable System steady state voltage limits. Proposed TPL-007-1 Requirement R4 requires responsible entities to have criteria for acceptable System steady state voltage performance for its System during a benchmark GMD event; these criteria may be different from the voltage limits determined in approved TPL-001-4 Requirement R5.
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs. The VRF of Medium is consistent with the NERC VRF Definition. Failure to have criteria for acceptable System steady state voltage limits for its System during a benchmark GMD event could 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 during a GMD event. However, it is unlikely that such a failure by itself would lead to Bulk Electric System instability, separation, or cascading.
FERC VRF G5 Discussion	Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation. This requirement does not co-mingle a higher-risk reliability objective with a lesser- risk reliability objective.

Proposed VSLs – TPL-007-1, R3			
Lower	**Moderate**	**High**	**Severe**
N/A	N/A	N/A	The responsible entity did not have criteria for acceptable

Proposed VSLs – TPL-007-1, R3			
			System steady state voltage performance for its System during the benchmark GMD event described in Attachment 1 as required.

VSL Justifications – TPL-007-1, R3	
NERC VSL Guidelines	Consistent with NERC's VSL Guidelines. The requirement does not have elements or quantities to evaluate degrees of compliance. A VSL of Severe is assigned for non-compliance.
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. However, the requirement is similar to approved TPL-001-4, Requirement R5. That requirement also has a binary, Severe VSL.
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	The proposed VSL is written to ensure uniformity and consistency in the determination of penalties. Guideline 2a: The proposed VSL is binary and assigned a Severe VSL.

VSL Justifications – TPL-007-1, R3	
"Binary" Requirements Is Not Consistent Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language	Guideline 2b: The proposed VSL does not use ambiguous terms, supporting uniformity and consistency in the determination of similar penalties for similar violations.
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 a cumulative number of violations.

VRF Justifications – TPL-007-1, R4	
Proposed VRF	**High**
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 sub-requirements so a single VRF was assigned.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards. A ~~Violation Risk Factor~~VRF of High is consistent with approved TPL-001-4 Requirement R2 which requires Transmission Planners and Planning Coordinators to prepare an annual Planning Assessment to ensure its portion of the BES meets performance criteria. Proposed TPL-007-1 Requirement R3 requires responsible entities to complete a GMD Vulnerability Assessment to ensure the system meets performance criteria during a benchmark GMD event.
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs. The VRF of High is consistent with the NERC VRF Definition. Failure to complete a GMD Vulnerability Assessment could, under GMD conditions that are as severe as the benchmark GMD event, place the Bulk Electric System at an unacceptable risk of instability, separation, or cascading failures.
FERC VRF G5 Discussion	Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation. This requirement does not co-mingle a higher-risk reliability objective with a lesser- risk reliability objective.

Proposed VSLs – TPL-007-1, R4			
Lower	**Moderate**	**High**	**Severe**
The responsible entity completed a GMD Vulnerability Assessment, but it was more than 60 calendar months and	The responsible entity's completed GMD Vulnerability Assessment failed to satisfy one of elements listed in	The responsible entity's completed GMD Vulnerability Assessment failed to satisfy two of the elements listed in	The responsible entity's completed GMD Vulnerability Assessment failed to satisfy three of the elements listed in

Proposed VSLs – TPL-007-1, R4			
less than or equal to 64 calendar months since the last GMD Vulnerability Assessment.	Requirement R4, Parts 4.1 through 4.3; OR The responsible entity completed a GMD Vulnerability Assessment, but it was more than 64 calendar months and less than or equal to 68 calendar months since the last GMD Vulnerability Assessment.	Requirement R4, Parts 4.1 through 4.3; OR The responsible entity completed a GMD Vulnerability Assessment, but it was more than 68 calendar months and less than or equal to 72 calendar months since the last GMD Vulnerability Assessment.	Requirement R4, Parts 4.1 through 4.3; OR The responsible entity completed a GMD Vulnerability Assessment, but it was more than 72 calendar months since the last GMD Vulnerability Assessment; OR The responsible entity does not have a completed GMD Vulnerability Assessment.

VSL Justifications – TPL-007-1, R4	
NERC VSL Guidelines	Consistent with NERC's VSL Guidelines. The requirement may be described by elements or quantities to evaluate degrees of compliance. Four VSLs are specified for a graduated scale.
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. However, the requirement is similar to approved TPL-001-4, Requirement R2. That requirement also has a graduated scale for VSLs.

VSL Justifications – TPL-007-1, R4	
FERC VSL G2 Violation Severity Level Assignments Should Ensure Uniformity and Consistency in the Determination of Penalties	The proposed VSL is written to 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 2a: The proposed VSL is not binary.
Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language	Guideline 2b: The proposed VSL does not use ambiguous terms, supporting uniformity and consistency in the determination of similar penalties for similar violations.
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 a cumulative number of violations.

VRF Justifications – TPL-007-1, R5	
Proposed VRF	**Medium**
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 sub-requirements so a single VRF was assigned.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards. A ~~Violation Risk Factor~~VRF of Medium is consistent with approved MOD-032-1 Requirement R2 which requires applicable entities to provide modeling data to Transmission Planners and Planning Coordinators. A ~~Violation Risk Factor~~VRF of Medium is also consistent with approved IRO-010-1a Requirement R3 which requires entities to provide data necessary for the Reliability Coordinator to perform its Operational Planning Analysis and Real-time Assessments. Proposed TPL-007-1 Requirement R5 requires responsible entities to provide specific geomagnetically-induced currents (GIC) flow information to Transmission Owners and Generator Owners for performing transformer thermal impact assessments.
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs. The VRF of Medium is consistent with the NERC VRF Definition. Failure to provide GIC flow information for the benchmark GMD event could 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 during a GMD event. However, it is unlikely that such a failure by itself would lead to Bulk Electric System instability, separation, or cascading.
FERC VRF G5 Discussion	Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation. This requirement does not co-mingle a higher-risk reliability objective with a lesser- risk reliability objective.

Proposed VSLs – TPL-007-1, R5			
Lower	**Moderate**	**High**	**Severe**

Proposed VSLs – TPL-007-1, R5			
The responsible entity provided the effective GIC time series, GIC(t), in response to written request, but did so more than 90 calendar days and less than or equal to 100 calendar days after receipt of a written request.	The responsible entity provided the effective GIC time series, GIC(t), in response to written request, but did so more than 100 calendar days and less than or equal to 110 calendar days after receipt of a written request.	The responsible entity provided the effective GIC time series, GIC(t), in response to written request, but did so more than 110 calendar days after receipt of a written request.	The responsible entity did not provide the maximum effective GIC value to the Transmission Owner and Generator Owner that owns each applicable BES power transformer in the planning area; OR The responsible entity did not provide the effective GIC time series, GIC(t), upon written request.

VSL Justifications – TPL-007-1, R5	
NERC VSL Guidelines	Consistent with NERC's VSL Guidelines. The requirement may be described by elements or quantities to evaluate degrees of compliance. Four VSLs are specified for a graduated scale.
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. However, the requirement is similar to approved MOD-032-1, Requirement R2 and IRO-010-1a, Requirement R3, which also have a graduated scale for VSLs.
FERC VSL G2	The proposed VSL is written to ensure uniformity and consistency in the determination of penalties.

VSL Justifications – TPL-007-1, R5	
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: The proposed VSL is not binary. Guideline 2b: The proposed VSL does not use ambiguous terms, supporting uniformity and consistency in the determination of similar penalties for similar violations.
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 a cumulative number of violations.

VRF Justifications – TPL-007-1, R6	
Proposed VRF	**Medium**
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 sub-requirements so a single VRF was assigned.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards. A ~~Violation Risk Factor~~VRF of Medium is consistent with approved FAC-008-3 Requirement R6 which requires Transmission Owners and Generator Owners to have Facility Ratings for all solely and jointly owned Facilities that are consistent with the associated Facility Ratings methodology or documentation. Proposed TPL-007-1 Requirement R6 requires responsible entities to conduct a thermal impact assessment for solely and jointly owned applicable transformers and provide results including suggested actions to mitigate identified impacts to planning entities.
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs. The VRF of Medium is consistent with the NERC VRF Definition. Failure to conduct a transformer thermal impact assessment could 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 during a GMD event. However, it is unlikely that such a failure by itself would lead to Bulk Electric System instability, separation, or cascading.
FERC VRF G5 Discussion	Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation. This requirement does not co-mingle a higher-risk reliability objective with a lesser- risk reliability objective.

Proposed VSLs – TPL-007-1, R6			
Lower	**Moderate**	**High**	**Severe**
The responsible entity failed to conduct a thermal impact assessment for 5% or less or one	The responsible entity failed to conduct a thermal impact assessment for more than 5% up	The responsible entity failed to conduct a thermal impact assessment for more than 10%	The responsible entity failed to conduct a thermal impact assessment for more than 15%

Proposed VSLs – TPL-007-1, R6			
of its solely owned and jointly owned applicable BES power transformers (whichever is greater) where the maximum effective GIC value provided in Requirement R5, Part 5.1, is 75 A or greater per phase; OR The responsible entity conducted a thermal impact assessment for its solely owned and jointly owned applicable BES power transformers where the maximum effective GIC value provided in Requirement R5, Part 5.1, is 75 A or greater per phase but did so more than 24 calendar months and less than or equal to 26 calendar months of receiving GIC flow information specified in Requirement R5, Part 5.1.	to (and including) 10% or two of its solely owned and jointly owned applicable BES power transformers (whichever is greater) where the maximum effective GIC value provided in Requirement R5, Part 5.1, is 75 A or greater per phase; OR The responsible entity conducted a thermal impact assessment for its solely owned and jointly owned applicable BES power transformers where the maximum effective GIC value provided in Requirement R5, Part 5.1, is 75 A or greater per phase but did so more than 26 calendar months and less than or equal to 28 calendar months of receiving GIC flow information specified in Requirement R5, Part 5.1; OR The responsible entity failed to include one of the required	up to (and including) 15% or three of its solely owned and jointly owned applicable BES power transformers (whichever is greater) where the maximum effective GIC value provided in Requirement R5, Part 5.1, is 75 A or greater per phase; OR The responsible entity conducted a thermal impact assessment for its solely owned and jointly owned applicable BES power transformers where the maximum effective GIC value provided in Requirement R5, Part 5.1, is 75 A or greater per phase but did so more than 28 calendar months and less than or equal to 30 calendar months of receiving GIC flow information specified in Requirement R5, Part 5.1; OR The responsible entity failed to include two of the required	or more than three of its solely owned and jointly owned applicable BES power transformers (whichever is greater) where the maximum effective GIC value provided in Requirement R5, Part 5.1, is 75 A or greater per phase; OR The responsible entity conducted a thermal impact assessment for its solely owned and jointly owned applicable BES power transformers where the maximum effective GIC value provided in Requirement R5, Part 5.1, is 75 A or greater per phase but did so more than 30 calendar months of receiving GIC flow information specified in Requirement R5, Part 5.1; OR The responsible entity failed to include three of the required elements as listed in

Proposed VSLs – TPL-007-1, R6			
	elements as listed in Requirement R6, Parts 6.1 through 6.3.	elements as listed in Requirement R6, Parts 6.1 through 6.3.	Requirement R6, Parts 6.1 through 6.3.

VSL Justifications – TPL-007-1, R6	
NERC VSL Guidelines	Consistent with NERC's VSL Guidelines. The requirement may be described by elements or quantities to evaluate degrees of compliance. Four VSLs are specified for a graduated scale.
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. However, the requirement is similar to approved FAC-008-3, Requirement R6. That requirement also has a graduated scale for VSLs.
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	The proposed VSL is written to ensure uniformity and consistency in the determination of penalties. Guideline 2a: The proposed VSL is not binary.

VSL Justifications – TPL-007-1, R6	
Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language	Guideline 2b: The proposed VSL does not use ambiguous terms, supporting uniformity and consistency in the determination of similar penalties for similar violations.
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 a cumulative number of violations.

VRF Justifications – TPL-007-1, R7	
Proposed VRF	**High**
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 sub-requirements so a single VRF was assigned.
FERC VRF G3 Discussion	Guideline 3- Consistency among Reliability Standards. A ~~Violation Risk Factor~~VRF of High is consistent with approved TPL-001-4 Requirement R2 which requires Transmission Planners and Planning Coordinators to include a Corrective Action Plan that addresses identified performance issues in the annual Planning Assessment. Proposed TPL-007-1 Requirement R7 requires responsible entities to develop a Corrective Action Plan when results of the GMD Vulnerability Assessment indicate that the System does not meet performance requirements. While approved TPL-001-4 has a single requirement for performing the Planning Assessment and developing the Corrective Action Plan, proposed TPL-007-1 has split the requirements for performing a GMD Vulnerability Assessment and development of the Corrective Action Plan into two separate requirements because the transformer thermal impact assessments performed by Transmission Owners and Generator Owners must be considered. The sequencing with separate requirements follows a logical flow of the GMD Vulnerability Assessment process.
FERC VRF G4 Discussion	Guideline 4- Consistency with NERC Definitions of VRFs. The VRF of High is consistent with the NERC VRF Definition. Failure to develop a Corrective Action Plan that addresses issues identified in a GMD Vulnerability Assessment could, under GMD conditions that are as severe as the benchmark GMD event, place the Bulk Electric System at an unacceptable risk of instability, separation, or cascading failures.
FERC VRF G5 Discussion	Guideline 5- Treatment of Requirements that Co-mingle More than One Obligation. This requirement does not co-mingle a higher-risk reliability objective with a lesser- risk reliability objective.

Proposed VSLs – TPL-007-1, R7			
Lower	**Moderate**	**High**	**Severe**
N/A	The responsible entity's Corrective Action Plan failed to comply with one of the elements in Requirement R7, ~~parts~~ Parts 7.1 through 7.3.	The responsible entity's Corrective Action Plan failed to comply with two of the elements in Requirement R7, ~~parts~~ Parts 7.1 through 7.3.	The responsible entity's Corrective Action Plan failed to comply with all three of the elements in Requirement R7, ~~parts~~ Parts 7.1 through 7.3; OR The responsible entity did not have a Corrective Action Plan as required by Requirement R7.

VSL Justifications – TPL-007-1, R7	
NERC VSL Guidelines	Consistent with NERC's VSL Guidelines. The requirement may be described by elements or quantities to evaluate degrees of compliance. Three VSLs are specified for a graduated scale.
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. However, the requirement is similar to approved TPL-001-4, Requirement R2. That requirement also has a graduated scale for VSLs.
FERC VSL G2 Violation Severity Level Assignments Should Ensure	The proposed VSL is written to ensure uniformity and consistency in the determination of penalties.

VSL Justifications – TPL-007-1, R7	
Uniformity and Consistency in the Determination of Penalties Guideline 2a: The Single Violation Severity Level Assignment Category for "Binary" Requirements Is Not Consistent	Guideline 2a: The proposed VSL is not binary.
Guideline 2b: Violation Severity Level Assignments that Contain Ambiguous Language	Guideline 2b: The proposed VSL does not use ambiguous terms, supporting uniformity and consistency in the determination of similar penalties for similar violations.
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 a cumulative number of violations.