

Version 0 Risk Factors — Transmission Planning

Summary Consideration:

Several entities suggested that there were too many requirements with a 'HIGH' rating. There are 110 requirements in this sequence of standards — of the 110 requirements, only 2 were assigned a 'HIGH' rating. While several commenters made suggestions to change one or more of the ratings, there was no consensus to change any one of the ratings, therefore, no changes were made to the violation risk factors for this set of requirements. Several commenters suggested that none of the planning standards should have requirements that are assigned a 'HIGH' violation risk factor. The definitions for HIGH, MEDIUM, and LOWER cannot be changed by the drafting team — and these definitions do allow planning requirements to be assigned a HIGH risk factor as follows:

HIGH Risk Factor — 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.

Company	Segment	Balloter	Comments
ALCOA Yadkin/Tapoco Divisions	1	Marion Lucas	TPL-001-0 R1 and TPL-003-0 R3 Should be medium risk. It is a planning horizon function.
Response: The industry determined the VRFs for the Standards/requirements by majority vote. There are not enough comments on the standards/requirements you reference to override the industry's VRF values. Note that the definitions for HIGH risk factors do allow selection of a high risk factor for planning requirements.			
Ameren Services Company AMSE	1	Peggy L Ladd	TPL-001-0: System Performance Under Normal Conditions TPL-002-0: System Performance Following Loss of a Single BES Element TPL-003-0: System Performance Following Loss of Two or More BES Elements Requirement R1 for these three reliability standards is essentially the same, yet the Violation Risk Factor for this requirement in TPL-002-0 is rated 'medium', while this requirement is rated 'high' in TPL-001-0 and TPL-003-0. It does not appear consistent to apply a 'high' Violation Risk Factor to the requirement in TPL-001-0 and TPL-003-0, while only 'medium' in TPL-002. For consistency, this requirement should be rated 'medium' in Reliability Standards TPL-001-0 and TPL-003-0. In particular, a violation of this requirement in TPL-001-0 would not result in cascading of the Bulk Electric System. Contingency performance would be covered in TPL-002-0 and TPL-003-0, rather than TPL-001-0. TPL-001-0: System Performance Under Normal Conditions TPL-002-0: System Performance Following Loss of a Single BES Element TPL-003-0: System

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			Performance Following Loss of Two or More BES Elements Requirement R2.2 for each of these reliability standards states: 'Review, in subsequent annual assessments, the continuing need for identified system facilities.' However, the Violation Risk Factor for this requirement in TPL-001-0 and TPL-003-0 is 'low', while it is rated 'medium' in TPL-002-0. For consistency, the Violation Risk Factor for Reliability Standard TPL-002-0, Requirement R2.2 should be 'low'.
Response: The industry determined the VRFs for the Standards/requirements by majority vote. There are not enough comments on the standards/requirements you reference to override the industry's VRF values.			
APPA	1	E. Nick Henery	Requesting the SDT to reduce the VRF to the lowest amounts on all requirements in standards that have not been approved as mandatory and enforceable in the NOPR without requiring modification. If these standards are not sufficient to be made mandatory and enforceable without requiring the standard to be submitted to the industry for modification, exposure to anything but the minimum penalty will result in excessive appeals and that will hurt the compliance program for those standards that are mandatory and enforceable without need for modification.
Response: The industry determined the VRFs for the Standards/requirements by majority vote. Changes to Standards will be addressed by the NERC Reliability Standards Development Plan: 2007-2009 which will review and revise as necessary all reliability standards. Please refer to the posted work plan for details. Note that violation risk factors will only be applicable to standards that receive applicable regulatory approvals.			
Dominion Virginia Power VAP	1	William Thompson	Assigned risk factors are not logical. Not planning for normal ops is high, loss of one BES element is med., loss of 2 BES elements is high, and extreme event is med.
Response: The industry determined the VRFs for the Standards/requirements by majority vote. There are not enough comments on the standards/requirements you reference to override the industry's VRF values. Changes to Standards will be addressed by the NERC Reliability Standards Development Plan: 2007-2009 which will review and revise as necessary all reliability standards. Please refer to the posted work plan for details.			
JDRJC Associates	1	Jim Cyrulewski	Many of the standards will likely be revised because of the FERC NOPR. Thus voting on only risk factors is premature.
Response: NERC expects that most of the standards will be approved by FERC and other regulatory authorities. Note that violation risk factors will only be applicable to standards that receive applicable regulatory approvals.			
Manitoba Hydro	1	Robert George Coish	NERC needs to provide a consistent scale for assessing risk factors across the time frame from operation to planning. A violation in the operational time frame can create a risk to reliability that merits a high risk factor. Planning Standards

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			identify the need for appropriate long-range studies. The lack of an adequate planning assessment, in itself, is not a serious reliability risk as the system operates to SOLs and IROLs. Therefore, violation of the long term assessment and all the other TPL requirements should have a lower VRF. The strict definitions of VRFs do not support assigning high risk factors to planning functions. The definition of a High risk factor is flawed because it excludes some important items that don't necessarily lead to an outage.
<p>Response: The industry determined the VRFs for the Standards/requirements by majority vote. There are not enough comments on the standards/requirements you reference to override the industry's VRF values. The drafting team cannot make changes to the definitions of the risk factors. Changes to Standards will be addressed by the NERC Reliability Standards Development Plan: 2007-2009 which will review and revise as necessary all reliability standards. Please refer to the posted work plan for details.</p>			
Pacific Gas & Electric PG&E	1	Chifong Thomas	PG&E understands that the VRF Drafting Team assigned the Violation Risk Factors (VRF) based on the VRF definitions filed by NERC. However, PG&E continues to believe that inconsistency exists in the assignments of the VRFs -- High, Medium or Lower -- amongst similar Standards. That is, while the VRF assigned to each requirement may appear reasonable individually, they are not always consistent when compared to other similar requirements in similar standards. Therefore, PG&E's affirmative vote is made with the expectation that the VRFs will be further reviewed and refined during the three-year review of the entire set of standards planned to be accomplished by NERC's Reliability Standards Development Plan: 2007-2009. PG&E also urges that field tests be conducted to refine the VRFs and to ensure smooth implementation.
<p>Response: Changes to Standards will be addressed by the NERC Reliability Standards Development Plan: 2007-2009 which will review and revise as necessary all reliability standards. Please refer to the posted work plan for details.</p>			
Westar Energy WR	1	Allen Klassen	Does not consistently apply the three levels of risk as defined in Appendix 4 of the ERO Sanction Guidelines document.
<p>Response: The industry determined the VRFs for the standards/requirements by majority vote.</p>			
Xcel Energy	1	Gregory Pieper	Requirements are rated high based on importance rather than their risk.
<p>Response: The industry determined the VRFs for the standards/requirements by majority vote - the definitions for 'High, Medium, and Lower' risk factors were provided for reference when determining an appropriate risk factor.</p>			
ISO New England Inc ISNE	2	Kathleen Goodman	Although ISO New England is voting for the adoption of the

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			Violation Risk Factors as drafted for adoption in these Standards, we believe that there is more work to be done in this area. We support adoption of these Risk Factors for the purpose of moving forward with enforceable Reliability Standards but request that, as these Standards are reviewed and revised to enhance and improve them, these facets, along with the Requirements and other aspects of the Standards be revisited to achieve the ultimate goal of having specific, clear and unambiguous Reliability Standards as envisioned by the industry.
Response: Changes to Standards will be addressed by the NERC Reliability Standards Development Plan: 2007-2009 which will review and revise as necessary all reliability standards. Please refer to the posted work plan for details.			
Midwest Independent Transmission System Operator, Inc.	2	Terry Bilke	See comments for Modeling ballot.
Response: See Modeling Response.			
Ontario - Independent Electricity Market Operator IMO	2	Don Tench	In addition TPL-002 R1 is ranked MEDIUM, while the companion requirements in TPL-001 and 003 are ranked HIGH. The IESO believes this may be in error and recommends TPL-002 R1 be ranked HIGH for consistency, or alternatively TPL-001 and 003 R1 ranked MEDIUM, consistent with each sub-requirements.
Response: The industry determined the VRFs for the Standards/requirements by majority vote. There are not enough comments on the standards/requirements you reference to override the industry's VRF values. Changes to Standards will be addressed by the NERC Reliability Standards Development Plan: 2007-2009 which will review and revise as necessary all reliability standards. Please refer to the posted work plan for details.			
Lincoln Electric System LES	3	Bruce E Merrill	To many Requirements are rated as HIGH based on their importance rather than their risk.
Response: There are 110 requirements in the MOD sequence of standards, and only 2 of the requirements have a HIGH rating – all others are rated either MEDIUM or LOWER.			
Manitoba Hydro MHEB	3	Ronald Dacombe	NERC needs to provide a consistent scale for assessing risk factors across the time frame from operation to planning.' A violation in the operational time frame' can create a risk to reliability that merits a high risk factor.' Planning Standards identify the need for appropriate long-range studies. The lack of an adequate planning assessment, in itself, is not a serious reliability risk as the system' operates to' SOLs and IROLs.' Therefore, violation of the long term assessment and all the other TPL requirements should have a lower VRF. The strict definitions of VRFs do not support assigning high risk

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			factors to planning functions. The definition of a High risk factor is flawed because it excludes some important items that don't necessarily lead to an outage.
Response: The industry determined the VRFs for the standards/requirements by majority vote. There are not enough comments on the standards/requirements you reference to override the industry's VRF values. Changes to Standards will be addressed by the NERC Reliability Standards Development Plan: 2007-2009 which will review and revise as necessary all reliability standards. Please refer to the posted work plan for details.			
Municipal Electric Authority of Georgia MPWR	3	Steven Jackson	There is still too much uncertainty and ambiguity with the final language and actual method of compliance with these standards to accept these risk factors.
Response: NERC expects that most of the standards will be approved by FERC and other regulatory authorities. Note that violation risk factors will only be applicable to standards that receive applicable regulatory approvals.			
Pacific Gas & Electric Company PGEU	3	Kevin Dasso	We believe a trial period should be included
Response: Based on the preliminary comments from FERC, we do not anticipate approval of a comprehensive trial period.			
Wisconsin Public Service Corporation WPS	3	James Maenner	Too many requirements within the Transmission Planning Standards, which are important components of the standard and for compliance, are rated too high relative to reliability risk impact.
Response: There are 110 requirements in the MOD sequence of standards, and only 2 of the requirements have a HIGH rating – all others are rated either MEDIUM or LOWER. The industry determined the VRFs for the Standards/requirements by majority vote.			
American Public Power Association	4	Allen Mosher	It is not clear why TPL-001 R1 is ranked as high since compliance is determined by the 13 discrete subrequirements under it e.g. R1.1 Other standards have the same drafting problem although in other cases e.g., TPL-002 R1 and R2 the lower level requirements generally have the same risk factor. APPA support for these risk factors is predicated on their application only to TPs with a material impact on interconnected system operations of the BES as now defined.
Response: The industry determined the VRFs for the Standards/requirements by majority vote. There are not enough comments on the standards/requirements you reference to override the industry's VRF values. Changes to Standards will be addressed by the NERC Reliability Standards Development Plan: 2007-2009 which will review and revise as necessary all reliability standards. Please refer to the posted work plan for details.			
Grant County PUD No.2 GCPD	4	Kevin John Conway	Grant County Supports the development of these factors, but recommends that the violation penalties always be assessed at the lowest monetary levels.
Response: The NERC and Regional Compliance Entities will determine penalties in accordance with the Sanctions Guidelines in the ERO Rules of Procedure.			
Seminole Electric Cooperative SEC	4	Steven Wallace	The factors are weighted far too high for the planning

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			standards relative to the rest of the standards.
<p>Response: There are 110 requirements in the MOD sequence of standards, and only 2 of the requirements have a HIGH rating – all others are rated either MEDIUM or LOWER. The industry determined the VRFs for the Standards/requirements by majority vote.</p>			
Snohomish County PUD SNPD	4	John Martinsen	<p>It is difficult to assess violation levels of standards when the applicability of the standards is still unclear and has not been addressed. For example standards which apply to Transmission Operators or Transmission Planners should have a much different risk factor whether we are describing a 69 kV networked transmission line serving a local load area of 80 MW versus a 500 kV transmission line that is transferring firm power between large regions, and multiple balancing authorities. The functional model defines Transmission Operator, Transmission Planner, and so on, but does not define transmission, local networks, distribution, and so on. Using the definitions from the NERC reliability standards, “Bulk Electric System” or “Transmission Line” provides no distinction of scale of the system or whether they would have a material impact on reliability of the electric system beyond a local area. Transmission Line: A system of structures, wires, insulators and associated hardware that carry electric energy from one point to another in an electric power system. Lines are operated at relatively high voltages varying from 69 kV up to 765 kV, and are capable of transmitting large quantities of electricity over long distances Bulk Electric System: As defined by the Regional Reliability Organization, the electrical generation resources, transmission lines, interconnections with neighboring systems, and associated equipment, generally operated at voltages of 100 kV or higher. Radial transmission facilities serving only load with one transmission source are generally not included in this definition. Without clear definition of the applicability of the NERC reliability standards I cannot assess the reliability risk associated with violating a particular NERC reliability standard.</p>
<p>Response: The NERC Compliance Organizational Registration process will determine the entities that need to register with the Regional Entities for compliance with the Reliability Standards. The sanctions guidelines provide some latitude in assigning penalties. NERC recognizes the need to refine the applicability section of standards to add more specificity to the description of the entities and facilities addressed by each standard and included the upgrade of the applicability section of standards as one of the focus areas in the NERC Reliability Standards Development Plan: 2007-2009 which will review and revise as necessary all reliability standards. Please refer to the posted work plan for</p>			

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details.			
APGI – Yadkin division	5	Alan Jones	Planning horizon functions should all be low risk.
Response: Note that the definitions for HIGH risk factors do allow selection of a high risk factor for planning requirements. The industry determined the VRFs for the Standards/requirements by majority vote.			
Dairyland Power Cooperative DPC	5	Warren Schaefer	Risk factors too heavily weighted to HIGH rating
Response: There are 110 requirements in the MOD sequence of standards, and only 2 of the requirements have a HIGH rating – all others are rated either MEDIUM or LOWER. The industry determined the VRFs for the Standards/requirements by majority vote.			
Detroit Edison	5	Ronald Bauer	Similar concerns as MISO.
Response: See MISO Response			
Manitoba Hydro Power Supply	5	Mark Aikens	NERC needs to provide a consistent scale for assessing risk factors across the time frame from operation to planning. A violation in the operational time frame can create a risk to reliability that merits a high risk factor. Planning Standards identify the need for appropriate long-range studies. The lack of an adequate planning assessment, in itself, is not a serious reliability risk as the system operates to SOLs and IROLs. Therefore, violation of the long term assessment and all the other TPL requirements should have a lower VRF. The strict definitions of VRFs do not support assigning high risk factors to planning functions. The definition of a High risk factor is flawed because it excludes some important items that don't necessarily lead to an outage.
Response: Note that the definitions for HIGH risk factors do allow selection of a high risk factor for planning requirements.			
Michigan Public Power Agency MPPA	5	James Nickel	MPPA's support for these Risk Factors is predicated on the understanding that they will be applied only to those entities which actually have a significant impact on the Bulk Electric System as now defined. Application of medium or high VRFs to violations by entities that have little or no potential to have a material impact on interconnected system operations of the BES is inappropriate.
Response: The NERC Compliance Organizational Registration process will determine the entities that need to register with the Regional Entities for compliance with the Reliability Standards. The sanctions guidelines provide some latitude in assigning penalties. NERC recognizes the need to refine the applicability section of standards to add more specificity to the description of the entities and facilities addressed by each standard and included the upgrade of the applicability section of standards as one of the focus areas in the NERC Reliability Standards Development Plan: 2007-2009 which will review and revise as necessary all reliability standards. Please refer to the posted work plan for details.			
Municipal Electric Authority of Georgia MEAG	5	Roger Brand	There is still too much uncertainty with the final language of these standards to accept these risk factors.
Response: NERC expects that most of the standards will be approved by FERC and other regulatory authorities. Note that violation risk factors will only be applicable to standards that receive applicable regulatory approvals. Changes to Standards will be addressed by the NERC			

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<p>Reliability Standards Development Plan: 2007-2009 which will review and revise as necessary all reliability standards. Please refer to the posted work plan for details.</p>			
Pacific Gas & Electric Company PGEU	5	Richard Padilla	<p>"PG&E understands that the VRF Drafting Team assigned the Violation Risk Factors (VRF) based on the VRF definitions filed by NERC. However, PG&E continues to believe that inconsistency exists in the assignments of the VRFs -- High, Medium or Lower -- amongst similar Standards. That is, while the VRF assigned to each requirement may appear reasonable individually, they are not always consistent when compared to other similar requirements in similar standards. Therefore, PG&E's affirmative vote is made with the expectation that the VRFs will be further reviewed and refined during the three-year review of the entire set of standards planned to be accomplished by NERC's Reliability Standards Development Plan: 2007-2009. PG&E also urges that field tests be conducted to refine the VRFs and to ensure smooth implementation."</p>
<p>Response: The industry determined the VRFs for the Standards/requirements by majority vote – they were not determined by the drafting team. Changes to Standards will be addressed by the NERC Reliability Standards Development Plan: 2007-2009 which will review and revise as necessary all reliability standards. Please refer to the posted work plan for details.</p>			
PPL Generation	5	Mark Heimbach	<p>1) There are too many HIGH risks in almost all of the areas. The only HIGH ones should be related to "situational awareness" and "vegetation management." 2) There are several inconsistencies. A couple of examples: TOP-006-0 R3. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall provide appropriate technical information concerning protective relays to their operating personnel. LOWER PRC-001-0 R1. Each Transmission Operator, Balancing Authority, and Generator Operator shall be familiar with the purpose and limitations of protection system schemes applied in its area. MEDIUM It is MEDIUM risk if a TOP doesn't know the protective schemes but it is LOWER risk if you are not provided with the information. VAR-001-0 R4. The Transmission Operator shall know the status of all transmission reactive power resources, including the status of voltage regulators and power system stabilizers. MEDIUM TOP-002-0 R14. Generator Operators shall, without any intentional time delay, notify their Balancing Authority and</p>

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			<p>Transmission Operator of changes in capabilities and characteristics including but not limited to: MEDIUM TOP-002-0 R14.1. Changes in real and reactive output capabilities. HIGH TOP-002-0 R14.2. Automatic Voltage Regulator status and mode setting. LOWER Is voltage regulator status and generator reactive capability, which is affected by the VR status during a disturbance, HIGH, MEDIUM, or LOW? IRO-002-0 R6. Each Reliability Coordinator shall monitor Bulk Electric System elements (generators, transmission lines, buses, transformers, breakers, etc.) that could result in SOL or IROL violations within its Reliability Coordinator Area. Each Reliability Coordinator shall monitor both real and reactive power system flows, and operating reserves, and the status of Bulk Electric System elements that are or could be critical to SOLs and IROLs and system restoration requirements within its Reliability Coordinator Area. HIGH PER-004-0 R5. Reliability Coordinator operating personnel shall place particular attention on SOLs and IROLs and inter-tie facility limits. The Reliability Coordinator shall ensure protocols are in place to allow Reliability Coordinator operating personnel to have the best available information at all times. MEDIUM Is paying attention to SOL & IROL limits HIGH or MEDIUM?</p>
<p>Response: There are 110 requirements in the MOD sequence of standards, and only 2 of the requirements have a HIGH rating – all others are rated either MEDIUM or LOWER. None of the standards/requirements referenced in your comments are in this MOD sequence of standards addressed by this ballot. The industry determined the VRFs for the standards/requirements by majority vote.</p>			
Seminole Electric Cooperative SEC	5	Garl Zimmerman	Don't believe any Planning Standards should be High Risk.
<p>Response: The industry determined the VRFs for the Standards/requirements by majority vote. Note that the definitions for HIGH risk factors do allow selection of a high risk factor for planning requirements.</p>			
Manitoba Hydro Electric Board MHEB	6	Daniel C Prowse	<p>NERC needs to provide a consistent scale for assessing risk factors across the time frame from operation to planning. A violation in the operational time frame can create a risk to reliability that merits a high risk factor. Planning Standards identify the need for appropriate long-range studies. The lack of an adequate planning assessment, in itself, is not a serious reliability risk as the system operates to SOLs and IROLs. Therefore, violation of the long term assessment and all the other TPL requirements should have a lower VRF. The strict definitions of VRFs do not support assigning high risk</p>

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			factors to planning functions. The definition of a High risk factor is flawed because it excludes some important items that don't necessarily lead to an outage.
Response: Note that the definitions for HIGH risk factors do allow selection of a high risk factor for planning requirements. The industry determined the VRFs for the Standards/requirements by majority vote.			
Xcel Energy Services Inc	6	David Lemmons	Generally, the standards are still heavily weighted to the high risk end of the matrix and this does not seem reasonable.
Response: There are 110 requirements in the MOD sequence of standards, and only 2 of the requirements have a HIGH rating – all others are rated either MEDIUM or LOWER. The industry determined the VRFs for the Standards/requirements by majority vote.			
ALCOA Inc.	7	Thomas Gianneschi	TPL-001-0 R1 and TPL-003-0 R3 Should be medium risk. It is a planning horizon function.
Response: Note that the definitions for HIGH risk factors do allow selection of a high risk factor for planning requirements. The industry determined the VRFs for the Standards/requirements by majority vote. There are not enough comments on the standards/requirements you reference to override the industry's VRF values.			