

Version 0 Risk Factors — Personnel

Summary Consideration: The industry determined the VRFs for the standards/requirements by majority vote. 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.

Company	Segment	Balloter	Comments
ALCOA Yadkin/Tapoco Divisions	1	Marion Lucas	PER-002-0 R2.1 and R2.2 needs to be a medium. The requirement for training is for those having primary responsibility “either directly or through communication with others” on real time operations or anyone responsible for complying with NERC standards. This broad statement needs a limit as it could encompass too many operating employees. PER-004-0 R4 should be medium and the word “extensive” is a non-measurable, which should be removed. The list of elements that the operating personnel are to have the extensive knowledge of may not be applicable to every entity. Suggest adding the “if applicable phrase” to this list. The amount of training and VRF applicable is highly dependent upon the nature of the individual entity’s overall system and the significance of their system within the grid.
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.			
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	Many requirements are rated high risk but do not rise to that level as high is defined.

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Response: The industry determined the VRFs for the standards/requirements by majority vote.			
Entergy EES	1	George Bartlett	PER-002 training VRFs are rated as High but should be Medium to Low based upon their administrative nature.
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.			
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	The general ratings of the factors are too high. Although we don't disagree some of them should be high they are explanatory and it is difficult to measure. 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. The drafting team cannot make changes to the definitions for 'High, Medium and Lower' risk factors.			
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.
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.			
Potomac Electric Power Company PEPW	1	Richard Kafka	These requirements should be rated MEDIUM. The industry has confused importance with risk. It is important to have a training program and trained operators, but the key to reliability is monitoring and rating the performance of those operators. Good performing operators are trained, and training is important, but it does not assure good performance.
Response: The industry determined the VRFs for the Standards/requirements by majority vote.			
Westar Energy WR	1	Allen Klassen	Does not consistently apply the three levels of risk as defined in

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			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>			
Alberta Electric System Operator AESO	2	Anita Lee	<p>The AESO has the following comments regarding the VFR for the PER standards: "PER-002-0 R2 requires a TOP and BA to have a training program for all operating personnel. The proposed VRF is HIGH and we think it should be MEDIUM. This is particular valid when considering that R1 already requires the TOP and BA to be "staffed with adequately trained operating personnel" (we agree that R1 is appropriately ranked HIGH). "PER-002-0 R3 requires the training program to meet certain criteria. Again the proposed VRF is HIGH and we think it should be MEDIUM. PER-002-0 R4 requires the operating personnel to be provided at least five days per year of training and drills. Again the proposed VRF is HIGH and we think it should be MEDIUM. PER-004-0 R2 requires the Reliability Coordinator operating personnel to complete a minimum of five days per year of training and drills. Again the proposed VRF is HIGH and we think it should be MEDIUM. Our assessment is that these requirements are unduly ranked HIGH because they do not meet the criteria for a HIGH VRF which is defined as "A requirement that, if violated, could directly cause or contribute to bulk electric system instability, separation or a cascading sequence of failures...". We also believe that these standards are far too prescriptive on how personnel training should be done. We believe that reliability standards should specify the desired effects (the "whats") and not prescribes the methods "the hows".</p>
<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. 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>			
California Independent System Operator	2	David Hawkins	<p>PER002-0 R3 ...should be rated as Medium instead of High. All of the subjacent items in R3 at rated Medium or Lower so R3 should be rated as Medium. PER002-0 R4. While adequate training of all operating personnel is certainly important, a rating of Medium instead of High would be more appropriate for R4. There is no clear and immediate threat to the reliability of the grid if some of the operators</p>

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			did not complete their minimum of 5 days of training and drills in a year. A rating of Medium is more justified.
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.			
ISO New England Inc ISNE	2	Kathleen Goodman	Although ISO New England is voting for the adoption of the 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			
Lincoln Electric System LES	3	Bruce E Merrill	To many Requirements are rated as HIGH based on their importance rather than their risk.
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.			
Manitoba Hydro MHEB	3	Ronald Dacombe	The general ratings of the factors are too high. Although we don't disagree some of them should be high they are explanatory and it is difficult to measure. 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. The drafting team cannot change the definitions for 'High, Medium and Lower' risk factors.			
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.			

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Wisconsin Electric Power Marketing WEPM	3	James Keller	PER-002-0 R1, R2, R2.1, R2.2 should be medium. PER-002-0 R3 should be medium. It cannot be high with all sub-requirements that define the criteria being less than high. PER-002-0 R4 should be medium. It does not place the BES one step away from a cascading failure. PER-003-0 R1, R1.1, R1.2 should be medium.
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. Please refer to the posted work plan for details.			
Wisconsin Public Service Corporation WPS	3	James Maenner	Too many requirements within the Personnel Standards, which are important components of the standard and for compliance are rated too high relative to reliability risk impact.
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.			
American Public Power Association	4	Allen Mosher	APPA support for these risk factors is predicated on their application only to TOPs that operate part of the Bulk Electric System as now defined. Application of medium or high VRF 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.			
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.			
Madison Gas and Electric Company MGE	4	Joe Buch	PER-002-0 R1. requires staffing with adequately trained operating personnel and is appropriately rated as HIGH risk. PER-002-0 R4 requires at least 5 days of training per year. This should not be rated as HIGH risk. Just because an individual does not have the 5 days of training per year doesn't necessarily result in the BES being at HIGH risk.
Response: The industry determined the VRFs for the Standards/requirements by majority vote. There are not enough comments on the standards you reference to override the industry's VRF values.			
Municipal Energy Agency of Nebraska	4	John Krajewski	See previous comments.
Response: See previous response.			
Snohomish County PUD SNPD	4	John Martinsen	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

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			<p>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 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.</p>			
Wisconsin Energy Corporation - PM WEC	4	Anthony Jankowski	<p>PER-002-0 R1, R2, R2.1, R2.2 should be medium. PER-002-0 R3 should be medium. It cannot be high with all sub-requirements that define the criteria being less than high. PER-002-0 R4 should be medium. It does not place the BES one step away from a cascading failure. PER-003-0 R1, R1.1, R1.2 should be medium.</p>
<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.</p>			
APGI - Yadkin division	5	Alan Jones	<p>The amount of training and risk factor applicable should be dependent upon the nature of the individual entity's overall system and it's significance on the grid.</p>
<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.</p>			

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City of Tallahassee TAL	5	Alan Gale	For these to have a negative impact on the grid, additional failures have to occur. These should all be medium or lower.
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.			
Dairyland Power Cooperative DPC	5	Warren Schaefer	Risk factors too heavily weighted to HIGH rating
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.			
Detroit Edison	5	Ronald Bauer	Similar concerns as MISO.
Response: See MISO response.			
Manitoba Hydro Power Supply	5	Mark Aikens	The general ratings of the factors are too high. Although we don't disagree some of them should be high they are explanatory and it is difficult to measure. 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. The drafting team cannot change the definitions for 'High, Medium and Lower' risk factors.			
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 registration process will make these determinations. 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 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.			
Pacific Gas & Electric Company PGEU	5	Richard Padilla	"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

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Company	Segment	Balloter	Comments
			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>			
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 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</p>

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			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>Response: Only one of the standards/requirements referenced in your comments is in this Personnel sequence of standards addressed by this ballot. 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.</p>			
Wisconsin Electric Power Company	5	Linda Horn	PER-002-0 R1, R2, R2.1, R2.2 should be medium. PER-002-0 R3 should be medium. It cannot be high with all sub-requirements that define the criteria being less than high. PER-002-0 R4 should be medium. It does not place the BES one step away from a cascading failure. PER-003-0 R1, R1.1, R1.2 should be medium.
<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.</p>			
Florida Municipal Power Agency FMPA	6	Robert C Williams	Agree with APPA comments made separately.
<p>Response: See APPA response.</p>			
Manitoba Hydro Electric Board MHEB	6	Daniel C Prowse	The general ratings of the factors are too high. Although we don't disagree some of them should be high they are explanatory and it is difficult to measure. 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 standard/requirement you reference to override the industry's VRF value. The drafting team cannot change the definitions for 'High, Medium and Lower' risk factors.</p>			
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.
<p>Response: The industry determined the VRFs for the Standards/requirements by majority vote.</p>			
ALCOA Inc.	7	Thomas Gianneschi	PER-002-0 R2.1 and R2.2 needs to be a medium. The requirement for training is for those having primary responsibility" either directly or through communication with others" on real time operations or anyone responsible for complying with NERC standards. This broad statement needs a limit as it could encompass too many operating employees. PER-004-0 R4 should be medium and the word "extensive" is a non-measurable, which should be removed. The list of elements that the operating personnel are to have the extensive

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Company	Segment	Balloter	Comments
			knowledge of may not be applicable to every entity. Suggest adding the “if applicable phrase” to this list. The amount of training and VRF applicable is highly dependent upon the nature of the individual entity’s overall system and the significance of their system within the grid.
<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.</p>			
Alcoa Inc.	8	Michael Caufield	PER-002-0 R2.1 should be a medium ranking not high. PER-002 R2.2 should be a medium ranking not high. The requirement for those needing training is too broadly defined. PER-004-0 R4 should be medium ranking not high.
<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.</p>			