Violation Risk Factors — Version 1 Standards Pre-ballot Matrix

The following table lists the Violation Risk Factors (VRFs) for the requirements in the following Version 1 Emergency Operations, Transmission Operations, and Voltage Control standards:

EOP-005-1 — System Restoration Plans
TOP-002-2 — Normal Operations Planning
VAR-001-1 — Voltage and Reactive Control
VAR-002-1 — Generator Operations for Maintaining Network Voltage Schedules

These VRFs are the weighted average of the stakeholder VRF selections from the second posting of the Version 1 VRF survey.

EOP-005-1 — System Restoration Plans			
EOP-005-1	R1.	Each Transmission Operator shall have a restoration plan to reestablish its electric system in a stable and orderly manner in the event of a partial or total shutdown of its system, including necessary operating instructions and procedures to cover emergency conditions, and the loss of vital telecommunications channels. Each Transmission Operator shall include the applicable elements listed in Attachment 1-EOP-005 in developing a restoration plan.	MEDIUM
EOP-005-1	R10.	The Transmission Operator shall demonstrate, through simulation or testing, that the blackstart generating units in its restoration plan can perform their intended functions as required in the regional restoration plan.	MEDIUM
EOP-005-1	R10.1.	The Transmission Operator shall perform this simulation or testing at least once every five years.	MEDIUM
EOP-005-1	R11.	Following a disturbance in which one or more areas of the Bulk Electric System become isolated or blacked out, the affected Transmission Operators and Balancing Authorities shall begin immediately to return the Bulk Electric System to normal.	HIGH
EOP-005-1	R11.1.	The affected Transmission Operators and Balancing Authorities shall work in conjunction with their Reliability Coordinator(s) to determine the extent and condition of the isolated area(s).	MEDIUM
EOP-005-1	R11.2.	The affected Transmission Operators and Balancing Authorities shall take the necessary actions to restore Bulk Electric System frequency to normal, including adjusting generation, placing additional generators on line, or load shedding.	HIGH
EOP-005-1	R11.3.	The affected Balancing Authorities, working with their Reliability Coordinator(s), shall immediately review the Interchange Schedules between those Balancing Authority Areas or fragments of those Balancing Authority Areas within the separated area and make adjustments as needed to facilitate the restoration. The affected Balancing Authorities shall make all attempts to maintain the adjusted Interchange Schedules, whether generation control is manual or automatic.	HIGH
EOP-005-1	R11.4.	The affected Transmission Operators shall give high priority to restoration of off-site power to nuclear stations.	HIGH
EOP-005-1	R11.5.	The affected Transmission Operators may resynchronize the	MEDIUM

EOP-005-1 — System Restoration Plans			
		isolated area(s) with the surrounding area(s) when the following conditions are met:	
EOP-005-1	R11.5.1.	Voltage, frequency, and phase angle permit.	HIGH
EOP-005-1	R11.5.2.	The size of the area being reconnected and the capacity of the transmission lines effecting the reconnection and the number of synchronizing points across the system are considered.	HIGH
EOP-005-1	R11.5.3.	Reliability Coordinator(s) and adjacent areas are notified and Reliability Coordinator approval is given.	MEDIUM
EOP-005-1	R11.5.4.	Load is shed in neighboring areas, if required, to permit successful interconnected system restoration.	HIGH
EOP-005-1	R2.	Each Transmission Operator shall review and update its restoration plan at least annually and whenever it makes changes in the power system network, and shall correct deficiencies found during the simulated restoration exercises.	MEDIUM
EOP-005-1	R3.	Each Transmission Operator shall develop restoration plans with a priority of restoring the integrity of the Interconnection.	MEDIUM
EOP-005-1	R4.	Each Transmission Operator shall coordinate its restoration plans with the Generator Owners and Balancing Authorities within its area, its Reliability Coordinator, and neighboring Transmission Operators and Balancing Authorities.	MEDIUM
EOP-005-1	R5.	Each Transmission Operator and Balancing Authority shall periodically test its telecommunication facilities needed to implement the restoration plan.	MEDIUM
EOP-005-1	R6.	Each Transmission Operator and Balancing Authority shall train its operating personnel in the implementation of the restoration plan. Such training shall include simulated exercises, if practicable.	MEDIUM
EOP-005-1	R7.	Each Transmission Operator and Balancing Authority shall verify the restoration procedure by actual testing or by simulation.	MEDIUM
EOP-005-1	R8.	Each Transmission Operator shall verify that the number, size, availability, and location of system blackstart generating units are sufficient to meet Regional Reliability Organization restoration plan requirements for the Transmission Operator's area.	MEDIUM
EOP-005-1	R9.	The Transmission Operator shall document the Cranking Paths, including initial switching requirements, between each blackstart generating unit and the unit(s) to be started and shall provide this documentation for review by the Regional Reliability Organization upon request. Such documentation may include Cranking Path diagrams.	MEDIUM

TOP-002-2 — Normal Operations Planning			
TOP-002-2	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-002-2	R14.1	Changes in real output capabilities.	MEDIUM

VAR-001-1 — Voltage and Reactive Control			
VAR-001-1	R3	The Transmission Operator shall specify criteria that exempts generators from compliance with the requirements defined in Requirement 4, and Requirement 6.1.	LOWER
VAR-001-1	R3.1	Each Transmission Operator shall maintain a list of generators in its area that are exempt from following a voltage or Reactive Power schedule.	LOWER
VAR-001-1	R3.2	For each generator that is on this exemption list, the Transmission Operator shall notify the associated Generator Owner.	LOWER
VAR-001-1	R4	Each Transmission Operator shall specify a voltage or Reactive Power schedule [1] at the interconnection between the generator facility and the Transmission Owner's facilities to be maintained by each generator. The Transmission Operator shall provide the voltage or Reactive Power schedule to the associated Generator Operator and direct the Generator Operator to comply with the schedule in automatic voltage control mode (AVR in service and controlling voltage).	MEDIUM
VAR-001-1	R6.1	When notified of the loss of an automatic voltage regulator control, the Transmission Operator shall direct the Generator Operator to maintain or change either its voltage schedule or its Reactive Power schedule.	MEDIUM
VAR-001-1	R11	After consultation with the Generator Owner regarding necessary step-up transformer tap changes, the Transmission Operator shall provide documentation to the Generator Owner specifying the required tap changes, a timeframe for making the changes, and technical justification for these changes.	LOWER

VAR-002-1 — Generator Operations for Maintaining Network Voltage Schedules			
VAR-002-1	R1	The Generator Operator shall operate each generator connected to the interconnected transmission system in the automatic voltage control mode (automatic voltage regulator in service and controlling voltage) unless the Generator Operator has notified the Transmission Operator.	MEDIUM
VAR-002-1	R2	Unless exempted by the Transmission Operator, each Generator Operator shall maintain the generator voltage or Reactive Power output (within applicable Facility Ratings[1]) as directed by the Transmission Operator.	MEDIUM
VAR-002-1	R2.1	When a generator's automatic voltage regulator is out of service, the Generator Operator shall use an alternative method to control the generator voltage and reactive output to meet the voltage or Reactive Power schedule directed by the Transmission Operator.	MEDIUM
VAR-002-1	R2.2	When directed to modify voltage, the Generator Operator shall comply or provide an explanation of why the schedule cannot be met.	MEDIUM
VAR-002-1	R3	Each Generator Operator shall notify its associated Transmission Operator as soon as practical, but within 30 minutes of any of the following:	MEDIUM
VAR-002-1	R3.1	A status or capability change on any generator Reactive Power resource, including the status of each automatic voltage regulator	MEDIUM

VAR-002-1 — Generator Operations for Maintaining Network Voltage Schedules			
		and power system stabilizer and the expected duration of the change in status or capability.	
VAR-002-1	R3.2	A status or capability change on any other Reactive Power resources under the Generator Operator's control and the expected duration of the change in status or capability.	MEDIUM
VAR-002-1	R4	The Generator Owner shall provide the following to its associated Transmission Operator and Transmission Planner within 30 calendar days of a request.	LOWER
VAR-002-1	R4.1	For generator step-up transformers and auxiliary transformers with primary voltages equal to or greater than the generator terminal voltage:	LOWER
VAR-002-1	R4.1.1	Tap settings.	LOWER
VAR-002-1	R4.1.2	Available fixed tap ranges.	LOWER
VAR-002-1	R4.1.3	Impedance data.	LOWER
VAR-002-1	R4.1.4	The +/- voltage range with step-change in % for load-tap changing transformers.	LOWER
VAR-002-1	R5	After consultation with the Transmission Operator regarding necessary step-up transformer tap changes, the Generator Owner shall ensure that transformer tap positions are changed according to the specifications provided by the Transmission Operator, unless such action would violate safety, an equipment rating, a regulatory requirement, or a statutory requirement.	MEDIUM
VAR-002-1	R5.1	If the Generator Operator can't comply with the Transmission Operator's specifications, the Generator Operator shall notify the Transmission Operator and shall provide the technical justification.	LOWER