Standard Authorization Request Form

Title of Proposed Standard	Balancing Authority Controls (Project 2007-05)
Request Date	June 20, 2007
Revised Date	December 3, 2007

SAR Requestor Information	**SAR Type** (*Check a box for each one that applies.*)	
Name Resources Subcommittee	☐	New Standard
Primary Contact Terry Bilke	☒	Revision to existing Standards – see list below: BAL-002 - Disturbance Control Performance BAL-004 – Time Error Correction BAL-005 – Automatic Generation Control BAL-006 - Inadvertent Interchange
Telephone 317.249.5463 Fax 317.249.5994	☐	Withdrawal of existing Standard
E-mail tbilke@midwestiso.org	☐	

Purpose (Describe the purpose of the standard — what the standard will achieve in support of reliability.)

The purpose of this set of four standards is to ensure that Balancing Authorities take actions to maintain interconnection frequency with each Balancing Authority contributing its fair share to frequency control and without burdening transmission facilities with excessive imbalances of load and generation.

This SAR is intended to address the following:

- FERC Final Rule "Mandatory Reliability Standards for the Bulk-Power System, FERC Order 693" on the NERC standards BAL-002, 004, 005, and 006
- To specify the Time Error Correction, special Area Control Error cases, and Inadvertent Interchange reliability requirements/business practices with NERC and NAESB collaborative participation
- To incorporate the necessary content, structure, and language to comply with the NERC standards process

This SAR expands on the work already underway with the BAL-004, 005, 006 SARs, by requiring that BAL-002, 004, 005, and 006 be upgraded in accordance with the NERC Reliability Standards Development Plan 2007- 2009.

Industry Need (**Provide** a detailed statement justifying the need for the proposed standard, along with any supporting documentation.)

The four standards in this set are all Version 0 standards (BAL-006-1 was revised, effective on May 1, 2006, to add SPP to the standard's regional differences). As the ERO begins enforcing compliance with reliability standards under Section 215 of the Federal Power Act in the United States and applicable statutes and regulations in Canada, the industry needs a set of clear, measurable, and enforceable reliability standards. The Version 0 standards, while a good foundation, were translated from historical operating and planning policies and guides that were appropriate in an era of voluntary compliance. The Version 0 standards and recent updates were put in place as a temporary starting point to start-up the ERO and begin enforcement of mandatory standards. However, it is important to update the standards in a timely manner, incorporating improvements to make the standards more suitable for enforcement and to capture prior recommendations that were deferred during the Version 0 translation and any subsequent standards development that have implications to the BAL standards.

In addition, the Resources Subcommittee believes there is sufficient electric power industry interest to review, re-evaluate, specify, expand, and determine the proper location of each reliability requirement and business practice associated the following NERC Standards and NAESB business practices:

- Time error correction (NERC BAL-004 and NAESB WEQBPS — 004-000)
- Automatic Generation Control and ACE equation special cases (NERC BAL-005 and NAESB WEQBPS — 003-000)
- Inadvertent interchange (NERC BAL-006 and NAESB WEQBPS — 005-000).

The drafting team will review all of the requirements in the existing standards and make a determination with stakeholders on whether to:

- Modify the requirements to improve clarity and measurability, while removing ambiguity
- Move the requirement (into another SAR or Standard or to the certification process)
- Eliminate the requirement (either because it is redundant or because it does not support bulk power reliability)

Supporting Documents:

- NAESB WEQ Manual Time Error Correction Standards - WEQBPS-004-000: Copyright c 1996-2005 NAESB, Reproduced with NAESB's Permission
- NAESB WEQ Area Control Error (ACE) Equation Special Cases Standards - WEQBPS-003-000: Copyright c 1996-2005 NAESB, Reproduced with NAESB's Permission
- NAESB WEQ Inadvertent Interchange Payback Standards - WEQBPS-005-000: Copyright 1996-2005 NAESB, Reproduced with NAESB's Permission

Brief Description (Describe the proposed standard in sufficient detail to clearly define the scope in a manner that can be easily understood by others.)

The standard drafting team will:

- Work collaboratively with NAESB to ensure that the elements of these standards that are needed to support reliability are include in the revised standard
- Consider comments received during the initial development of this set of standards and other comments received from ERO regulatory authorities and stakeholders
- Bring the standards into conformance with the latest version of the Reliability Standards Development Procedure and the ERO Rules of Procedures

The standard drafting team will review all of the requirements in the following set of standards:

- BAL-002 – Disturbance Control Standard
- BAL-004 – Time Error Correction
- BAL-005 – Automatic Generation Control
- BAL-006 – Inadvertent Interchange

For each existing requirement, the standard drafting team will also work with NAESB and stakeholders to:

- Eliminate redundancy (or overlap) in the requirements and associated business practices
- Identify requirements that should be moved into other SARs, standards, or business practices
- Eliminate requirements that do not support bulk power reliability
- Improve clarity of, improve measurability of, and remove ambiguity from the remaining requirements

Detailed Description (Describe the proposed standard in sufficient detail to clearly define the scope in a manner that can be easily understood by others.)

The standard drafting team will, working cooperatively with NAESB and representatives of the Compliance Program, address the comments from stakeholders and directives from FERC identified in Attachment 1 (relative to the following standards), while also bringing the requirements and compliance elements into conformance with the latest version of the Reliability Standards Development Procedure, the ERO Sanctions Guidelines and other general improvements identified in Attachment 2:

- BAL-002 – Disturbance Control Standard
- BAL-004 – Time Error Correction
- BAL-005 – Automatic Generation Control
- BAL-006 – Inadvertent Interchange

Reliability Functions

The Standard will Apply to the Following Functions *(Check box for each one that applies.)*		
☒	Reliability Coordinator	Responsible for the real-time operating reliability of its Reliability Coordinator Area in coordination with its neighboring Reliability Coordinator's wide area view.
☒	Balancing Authority	Integrates resource plans ahead of time, and maintains load-interchange-resource balance within a Balancing Authority Area and supports Interconnection frequency in real time.
☐	Interchange Authority	Ensures communication of interchange transactions for reliability evaluation purposes and coordinates implementation of valid and balanced interchange schedules between Balancing Authority Areas.
☐	Planning Coordinator	Assesses the longer-term reliability of its Planning Coordinator Area.
☐	Resource Planner	Develops a >one year plan for the resource adequacy of its specific loads within a Planning Coordinator area.
☐	Transmission Planner	Develops a >one year plan for the reliability of the interconnected Bulk Electric System within its portion of the Planning Coordinator area.
☐	Transmission Service Provider	Administers the transmission tariff and provides transmission services under applicable transmission service agreements (e.g., the pro forma tariff).
☐	Transmission Owner	Owns and maintains transmission facilities.
☒	Transmission Operator	Ensures the real-time operating reliability of the transmission assets within a Transmission Operator Area.
☐	Distribution Provider	Delivers electrical energy to the End-use customer.
☐	Generator Owner	Owns and maintains generation facilities.
☒	Generator Operator	Operates generation unit(s) to provide real and reactive power.
☐	Purchasing-Selling Entity	Purchases or sells energy, capacity, and necessary reliability-related services as required.
☐	Market Operator	Interface point for reliability functions with commercial functions.
☒	Load-Serving Entity	Secures energy and transmission service (and reliability-related services) to serve the End-use Customer.

Reliability and Market Interface Principles

Applicable Reliability Principles *(Check box for all that apply.)*	
☒	Interconnected bulk electric systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
☒	The frequency and voltage of interconnected bulk electric systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
☒	Information necessary for the planning and operation of interconnected bulk electric systems shall be made available to those entities responsible for planning and operating the systems reliably.
☐	Plans for emergency operation and system restoration of interconnected bulk electric systems shall be developed, coordinated, maintained and implemented.
☐	Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk electric systems.
☐	Personnel responsible for planning and operating interconnected bulk electric systems shall be trained, qualified, and have the responsibility and authority to implement actions.
☒	The security of the interconnected bulk electric systems shall be assessed, monitored and maintained on a wide area basis.
☐	Bulk power systems shall be protected from malicious physical or cyber attacks.

Does the proposed Standard comply with all the following Market Interface Principles? *(Select "yes" or "no" from the drop-down box.)*
The planning and operation of bulk electric systems shall recognize that reliability is an essential requirement of a robust North American economy. Yes
An Organization Standard shall not give any market participant an unfair competitive advantage.Yes
An Organization Standard shall neither mandate nor prohibit any specific market structure. Yes
An Organization Standard shall not preclude market solutions to achieving compliance with that Standard. Yes
An Organization Standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards. Yes

Related Standards

Standard No.	Explanation
BAL-002-0	Revision
BAL-004-0	Revision
BAL-005-0	Revision
BAL-006-1	Revision

Related SARs

SAR ID	Explanation
BAL-004	Individual SAR withdrawn by this SAR
BAL-005	Individual SAR withdrawn by this SAR
BAL-006	Individual SAR withdrawn by this SAR
BAL-003	Addresses management of schedule changes, management of ACE during curtailments, and definition of some of the components of ACE (frequency bias)
Frequency Response SAR	Addresses the relationship between reserves and frequency response
RBC SAR	Addresses the revisions to BAL-007 to BAL-011, which includes replacing BAL-001 and BAL-003

Regional Differences

Region	Explanation
Eastern Interconnection	BAL-004, Eastern Interconnection shall not initiate a manual “fast time” time error correction between the hours 0400 – 1100 Central Prevailing Time (proposed)
WECC	BAL-004 – WECC Regional standard for Time Error Correction (proposed)
SPP	BAL-006, Inadvertent Interchange accounting waiver approved by the Operating Committee on May 1, 2007 (included in approved standard; waiver will be addressed in the Applicability section or the Requirements section of the revised standard.)
MISO RTO	BAL-006-1, Inadvertent Interchange accounting Waiver approved by the Operating Committee on March 25, 2004 2007 (included in approved standard, waiver will addressed in the Applicability section or the Requirements section of the revised standard.)

Attachment 1 – Comments and Directives to Address in Revising BAL-002, BAL-004, BAL-005 and BAL-006

In addition to working collaboratively with NAESB to confirm the "location" of currently overlapping requirements in the NERC Standards and NAESB business practices, the standard drafting team will assist the stakeholders in considering these comments in determining the changes to make to the standards, including directives from FERC Order 693, regional fill-in-the-blank team comments, Version 0 (V0) industry comments, Violation Risk Factor comments, and comments submitted with the SAR. **BAL-002-0 Disturbance Control Standard**

FERC Order 693

- Modify to make requirements R4.2 and R6.2 refer to NERC rather than the NERC Operating Committee
- Include requirement that explicitly provides that Demand Side Management (DSM) may be used as a resource for contingency reserves
- Include a continent-wide contingency reserve policy, which should include uniform elements (definitions and requirements)
- Recognizes the loss of transmission as well as generation, thereby providing a realistic simulation of possible events that might affect the contingency reserves
- Define a significant (frequency) deviation and reportable event, taking into account all events that have an impact on frequency, e.g. loss of supply, loss of load, and significant scheduling problems

Regional Fill-in-the-Blank Team Comments

- Modify R2 to remove reference to "sub-Regional Reliability Organization or Reserve Sharing Group"
- Determine what elements of contingency reserve should be included in North American standard and what elements should be included in regional standard

VO Industry Comments

- Modify Requirements:
    - BPL – PBL - Though they are technically correct, the first two sentences of the first paragraph are located in the wrong section of this standard. Since they refer to which disturbances must be reported on for compliance purposes, they belong in the Compliance Monitoring Process section of this standard.
    - NPPD - R2 - The requirement should state a minimum performance level that must be met by the reserve levels and mix of Operating Reserve - Spinning and Operating Reserve - Supplemental.
    - NPPD - R3 - There appear to be two requirements here. First the requirement to deploy contingency reserves. Second the requirement to review the amount of reserves to be carried. They should be split. There is no measurement included for review of the contingencies on an annual basis and there should be.
    - BPL – PBL - An important part of this requirement that is missing from what is written here is that the specified recovery MUST occur within the Disturbance Recovery Period; which is presently specified as 15 minutes. Rectify this by adding "within the Disturbance Recovery Period" to the end of the first sentence of this requirement.
- Modify Compliance Elements:

- NPPD - Reset Period - The reset period should be one calendar quarter without a violation on a reportable disturbance.
- FRCC - The Levels of Non-compliance are not really levels of non-compliance. These are what a BA or RSG must do if they do not meet the DCS, so really appear to be sanctions or penalties associated with non-compliance. This should be reviewed and corrected.

Violation Risk Factor Comments

- None

SAR Modification Posted for Comments Considerations

- Consider adding frequency measure as a component of recovery
- Consider moving the following terms that are included in Requirements 4 and 6 to the NERC Glossary, eliminating the need for Requirements 4.1, 4.2, 6.1, and 6.2:
  (1) Reportable Disturbances (defined in NERC Glossary)
  (2) Disturbance Recovery Criterion
  (3) Disturbance Recovery Period
  (4) Contingency Reserve Restoration Period
- Consider adding a requirement that contingency reserve must be deliverable

BAL-004-0 Time Error Correction

FERC Order 693

- Include levels of non-compliance (now replaced by violation severity levels) and additional measures for requirement R3
- Perform research that would provide technical basis for present or any alternative approach that is more effective and helps reduce inadvertent interchange, in five-year review cycle of standard

VO Industry Comments

- None

Violation Risk Factor Comments

- None

SAR Modification Posted for Comments Considerations

- Consider all options for time error including: automatic time error correction for all interconnections; using a smaller frequency offset for a longer period of time; increase the time error correction trigger values and initiate an all day 24 hour correction.
- Support regional variance for Eastern Interconnection to NOT initiate a manual “fast time” time error correction between 0400 hours and 1100 hours Central Prevailing Time
- Examine WECC Automatic Time Error Correction
- Limit applicability to the Balancing Authority
- Address time error correction settlement methodology
- Define any new terms used in the revised standard

BAL-005-0 Automatic Generation Control

FERC Order 693

- Develop process to calculate minimum regulating reserve for Balancing Authority, taking into account expected load and generation variation and transactions being ramped in and out
- Change title to be neutral as to source of regulating reserves and allows inclusion of technically qualified DSM
- Clarify requirement R5 to specify the requirement type of transmission or backup plans when receiving regulation from outside the Balancing Authority when using nonfirm service
- Include measure that provides for verification process over required automatic generation control or regulating reserves Balancing Authority maintains
- Consider comments submitted by Excel:
  - Xcel requests that the Commission reconsider Requirement R17 of this Reliability Standard stating that the accuracy ratings for older equipment (current and potential transformers) may be difficult to determine and may require the costly replacement of this older equipment on combustion turbines and older units while adding little benefit to reliability. Xcel states that the Commission should clarify that Requirement R17 need only apply to interchange metering of the balancing area in those cases where errors in generating metering are captured in the imbalance responsibility calculation of the balancing area.
- Consider comments submitted by FirstEnergy:
  - FirstEnergy suggests that a single entity should have the responsibility to establish, through an annual review process, the level of regulating reserves that a balancing authority must maintain pursuant to the control performance standard requirements.
  - FirstEnergy suggests that all generators and technically qualified DSM that participate in energy markets should install automatic generation control as a condition of market participation. In non-market areas, FirstEnergy suggests that balancing authorities could meet requirements through bilateral contracts or the normal scheduling process and suggests that the Commission might have to assert its jurisdiction and order technically qualified DSM providers to install automatic generation control at their facilities. FirstEnergy states that further work would need to be conducted on the technical qualifications and capacity thresholds that would control whether installation of automatic generation control would be required.
  - FirstEnergy states that Requirement R17 should include only “control center devices” instead of devices at each substation. FirstEnergy states that accuracy at the substation level is unnecessary and the costs to install automatic generation control equipment at each substation would be high. FirstEnergy also states that the term “check” in Requirement R17 needs to be clarified.

VO Industry Comments

- Purpose statement
  - BPL-PBL - To properly communicate the purpose of this complex standard to those who are unfamiliar with this subject, it is necessary to first discuss "what we are trying to accomplish" before stating "how we will to accomplish it through use of ACE and Regulating Reserves". This can be achieved by reverseing the order of the two sentences in this paragraph and rewording them such that they flow appropriately.
- Re-order and re-work requirements
  - BPL-PBL - Placing the requirements in this standard in the order that they appeared in the NERC Policies has resulted in them being in a confusing and seemingly random order. Calrity of this standard would be improved immensely if these many requirements were to be

reordered in more of a building block approach; beginning with the most fundamental and working toward the most complex. A suggestion would be to put them in the order of R1, R6 - R8, R13 - R16, R9 - R12, R2, R3, R4, R5.

- BPL-PBL - The three sentences of this requirement are actually three separate requirements that will require separate measures for compliance. Therefore, we ask that they be split into two separate requirements.
- BPL-PBL - The phrase "shall sample data" is not specific enough about "what data" as to enable this requirement to be measurable. If possible, please list specifically what data or types of data are meant. If existing policy is not specific enough in this area to be able to do this as a part of Version 0 then, we ask that this issue be forwarded to the appropriate Version 1 Drafting Team for resolution.
- BPL-PBL - The two sentences of this requirement are actually two separate requirements that will require separate measures for compliance. Therefore, we ask that they be split into two separate requirements.
- BPL-PBL - The words "prevent such service from becoming a burden upon …" are not sufficiently definitive enough to enable this requirement to be measurable. Since existing policy does not give any further guidance in this area, we ask that this issue be forwarded to the appropriate Version 1 Drafting Team for resolution.

- Non-compliance is missing:
  - ISO-NE, NPCC, IMO - Levels of Non-Compliance - These are missing and needs to be added in Standard simultaneously.

Violation Risk Factor Comments

- R12 – sub-requirements should be separate requirements
- R12.3 – redundant
- R14 – check for redundancy of second statement. This seems to be a real-time requirement, not planning. Is this for archival data requirements?

SAR Modification Posted for Comments Considerations

- Work cooperatively with NAESB to consider all supplemental regulation service, overlap regulation service, pseudo ties, and dynamic schedule options and then revise the appropriate reliability requirements and business practices.
- Limit applicability to just the Balancing Authority.
- Recommend developing a reference to support the ACE calculation.
- Clarify how Pseudo Ties are included in the ACE equation
- Consider including the two necessary conditions for maintaining interconnection reliability reliability that are currently the basis for ACE Equation implementation: (1) all BAs control to the same scheduled frequency value and (2) all scheduled interchange sums to zero across the interconnection.
- Consider the following comments and suggestions from NPCC members:
  - In R2.4, replace “its ties and schedules” with “the ties and schedules of the receiving Balancing Authority”. Do we wish to say Balancing Area instead?
  - NPCC participating members have indicated that it is improper to restrict supplemental regulation service to dynamic scheduling. For example, the NPCC ACE Diversity Interchange (ADI) project uses pseudo-ties successfully. In such an arrangement, the signed expected value of supplemental service received is 0 for an hour, however, it can and will differ and is not particularly predictable. Please change this here and in all other places to give pseudo-ties equal status with dynamic schedules for supplemental regulation. It is inconsistent to allow pseudo-ties for moving load and generation, which can have fairly predictable values and should be e-tagged for use in IDC. The NPCC ADI project, using pseudo-ties, was

reviewed and approved by the NERC SAR Drafting Team prior to its implementation, its results have been shared with the NERC SAR Drafting Team, has been problem-free, and has served as useful input into the MISO ADI project and the prospective WECC ADI project. Prohibiting pseudo-ties for supplemental regulation is without technical basis, overly prescriptive, and would incur needless conversion costs.

- In R3.2.4, NIs is used in 2 places with 2 definitions, and it should be clarified if loads and generation in these equations are all positive values (or not).
- In R3.2.5, NIa is used in 2 places with 2 definitions, and it should be clarified if loads and generation in these equations are all positive values (or not). Also, the use of pseudo-ties should be added to allow for supplemental regulation.
- R2.3.6 needs to be revamped, merely stating that ACE = 0 for overlap regulation.
- Does the "may" in R3.3.3 need to be changed to "shall"?
- How does one enforce or validate the 99.95% reliability criterion of R3.5?
- Measure M1's wording is very tedious.

Current Approved Interpretation

- Incorporate approved Interpretation BAL-005-1, Requirement 17

BAL-006-1 Inadvertent Interchange

FERC Order 693

- Add measures concerning the accumulation of large inadvertent interchange balances and levels of non-compliance
- Examine WECC time error correction procedure as a possible guide
- Modify the regional differences (now regional variances) so they reference the current Reliability Standards and are in the standard form, which includes Requirements, Measures and Levels of Non-Compliance (now Violation Severity Levels)
- Explore FirstEnergy's request to define function of waiver in reliability standard development process

VO Industry Comments

- Purpose/requirement contradiction
  - BPA - R1-R5 - These requirements correctly describe how to calculate Inadvertent Interchange. However, they fail to actually address the stated purposes of the standard, which are to ensure that both "reliability is not compromised by inadvertent flows" and "Balancing Authorities do not excessively depend upon (others) ". Please either modify the purpose to reflect the requirements or add requirements that address the purposes as stated.
- Split requirements
  - BPL-PBL - The two sentences of this requirement are actually two separate requirements that will require separate measures for compliance. Therefore, we ask that they be split into two separate requirements.
- Wording in R4
  - CAISO - R4 - In the last paragraph, the term "non-reliability considerations" is going to be impossible to define in this context. After-the-fact changes that are made between consenting BAs do not affect the interconnection.
  - IMO, NPCC, NYPA - Remove the wording "with like values but opposite signs" in order to make more clarity in R4.
- Requirements mixed in Compliance

  - NPPD - Compliance Monitoring - The Compliance Monitoring Process contains requirements. The level of non-compliace refers to the requirements in the Compliance Monitoring Process instead of the requirements.
  - BPL-PBL - The section 1G1.1 of the Compliance Monitoring Process talks specifically about a requirement for the BA to do AIEs to submit data to NERC for analysis purposes. Since AIE is not a part of the NERC Compliance Program at this time, this section should be moved to in the Requirements section of this standard.
- Non-compliance missing
  - NPPD - Levels of Non Compliance - The only non-compliance is related to providing a report and does not support the purpose "to ensure that, over the long term, the BALANCING AUTHORITY AREAS do not excessively depend on other BALANCING AUTHORITY AREAS in the INTERCONNECTION for meeting their demand or INTERCHANGE obligations."

Violation Risk Factor Comments

- None

SAR Modification Posted for Comments Considerations

- Consider payback options including, but not limited to, unilateral inadvertent interchange payback, bilateral inadvertent interchange payback, financial inadvertent interchange settlement, and automatic time error correction
- Add clarifying language to the regional variances to address MISO and SPP's use of "scheduling agents;" or add inadvertent interchange requirements to eliminate regional differences for MISO, SPP, and other ISOs/RTOs use of "scheduling agents"
- Consider adding inadvertent interchange dispute resolution requirements or business practices, including adding requirements or business practices to provide data to identify and resolve disputes about interchange quantities
- Add requirements to use NERC designated electronic application for inadvertent interchange accounting
- Consider the following comments and suggestions from NPCC members:
  - In R1, the phrase "for any jointly owned generating units or remote load" should be dropped from the NIa and Nis definitions. Supplemental regulation should be included in either term.
  - R1.4 and R1.5 have redundancy in referring to the NERC OC designated electronic tool.
  - In R.2, it is not clear what hourly adjustments are, but it seems like a replacement for the end of the month meter correction presently performed when one reads the strikeout language.
  - In R2.4, replace intermediate with intermediary.
  - R2.5 and R2.6 are changing the present rules (currently, Balancing Authorities give their data to their regional representative by the 15th, who then cross-checks and resolves differences by the 22nd when it is forwarded to NERC via entry into the SPP Inadvertent Tool). The due date has been changed by one day to the 21st. It is not clear what benefit there is to decreasing the process by one day, and, re-education and changing of business processes are required (small tweaks, it is true) to support it.
  - All objections to ATEC in BAL-004-1 apply here, and are not repeated for brevity.
  - R7 needs some additional work. Bilateral payback is a method to reduce accumulated inadvertent, and it is not a type of accumulated energy. Given the extreme difficulty in doing sufficient bilateral payback to keep inadvertent levels at low values, it is impractical to suggest that all past accumulated energy will be paid back bilaterally.

- R1.1.6's first sentence should replace the phrase "removed from" with "removed from and added to". Also, it is suggested that its final sentence be modified to read: "The net of these "settlement" schedules equal zero in the absence of scheduling errors".
- R1.1.7 refers to a seemingly non-existent section F.

Attachment 2: Reliability Standard Review Guidelines

Applicability
Does this reliability standard clearly identify the functional classes of entities responsible for complying with the reliability standard, with any specific additions or exceptions noted? Where multiple functional classes are identified is there a clear line of responsibility for each requirement identifying the functional class and entity to be held accountable for compliance? Does the requirement allow overlapping responsibilities between Registered Entities possibly creating confusion for who is ultimately accountable for compliance?

Does this reliability standard identify the geographic applicability of the standard, such as the entire North American bulk power system, an interconnection, or within a regional entity area? If no geographic limitations are identified, the default is that the standard applies throughout North America.

Does this reliability standard identify any limitations on the applicability of the standard based on electric facility characteristics, such as generators with a nameplate rating of 20 MW or greater, or transmission facilities energized at 200 kV or greater or some other criteria? If no functional entity limitations are identified, the default is that the standard applies to all identified functional entities.

Purpose
Does this reliability standard have a clear statement of purpose that describes how the standard contributes to the reliability of the bulk power system? Each purpose statement should include a value statement.

Performance Requirements
Does this reliability standard state one or more performance requirements, which if achieved by the applicable entities, will provide for a reliable bulk power system, consistent with good utility practices and the public interest?

Does each requirement identify who shall do what under what conditions and to what outcome?

Measurability
Is each performance requirement stated so as to be objectively measurable by a third party with knowledge or expertise in the area addressed by that requirement?

Does each performance requirement have one or more associated measures used to objectively evaluate compliance with the requirement?

If performance results can be practically measured quantitatively, are metrics provided within the requirement to indicate satisfactory performance?

Technical Basis in Engineering and Operations
Is this reliability standard based upon sound engineering and operating judgment, analysis, or experience, as determined by expert practitioners in that particular field?

Completeness
Is this reliability standard complete and self-contained? Does the standard depend on external information to determine the required level of performance?

Consequences for Noncompliance

In combination with guidelines for penalties and sanctions, as well as other ERO and regional entity compliance documents, are the consequences of violating a standard clearly known to the responsible entities?

Clear Language
Is the reliability standard stated using clear and unambiguous language? Can responsible entities, using reasonable judgment and in keeping with good utility practices, arrive at a consistent interpretation of the required performance?

Practicality
Does this reliability standard establish requirements that can be practically implemented by the assigned responsible entities within the specified effective date and thereafter?

Capability Requirements versus Performance Requirements
In general, requirements for entities to have 'capabilities' (this would include facilities for communication, agreements with other entities, etc.), should be located in the standards for certification. The certification requirements should indicate that entities have a responsibility to 'maintain' their capabilities.

Consistent Terminology
To the extent possible, does this reliability standard use a set of standard terms and definitions that are approved through the NERC reliability standards development process?

If the standard uses terms that are included in the NERC Glossary of Terms Used in Reliability Standards, then the term must be capitalized when it is used in the standard. New terms should not be added unless they have a 'unique' definition when used in a NERC reliability standard. Common terms that could be found in a college dictionary should not be defined and added to the NERC Glossary.

Are the verbs on the 'verb list' from the DT Guidelines? If not – do new verbs need to be added to the guidelines or could you use one of the verbs from the verb list?

Violation Risk Factors (Risk Factor)

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

This is 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, 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. A requirement that is administrative in nature;

Or 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. A planning requirement that is administrative in nature.

itigation Time Horizon

The drafting team should also indicate the time horizon available for mitigating a violation to the requirement using the following definitions:

- **Long-term Planning** — a planning horizon of one year or longer.
- **Operations Planning** — operating and resource plans from day-ahead up to and including seasonal.
- **Same-day Operations** — routine actions required within the timeframe of a day, but not real-time.
- **Real-time Operations** — actions required within one hour or less to preserve the reliability of the bulk electric system.
- **Operations Assessment** — follow-up evaluations and reporting of real time operations.

Violation Severity Levels

The drafting team should indicate a set of violation severity levels that can be applied for the requirements within a standard. ('Violation severity levels' replaces the existing 'levels of non-compliance.') The violation severity levels must be applied for each requirement and may be combined to cover multiple requirements, as long as it is clear which requirements are included and that all requirements are included.

The violation severity levels should be based on the following definitions and the latest version of the VSL Development Guidelines:

- **Lower: mostly compliant with minor exceptions** — the responsible entity is mostly compliant with and meets the intent of the requirement but is deficient with respect to one or more minor details.
- **Moderate: mostly compliant with significant exceptions** — the responsible entity is mostly compliant with and meets the intent of the requirement but is deficient with respect to one or more significant elements.

- **High: marginal performance or results** — the responsible entity has only partially achieved the reliability objective of the requirement and is missing one or more significant elements.
- **Severe: poor performance or results** — the responsible entity has failed to meet the reliability objective of the requirement.

Compliance Enforcement Authority
Replace, 'Regional Reliability Organization' with 'Regional Entity'

Fill-in-the-blank Requirements
Do not include any 'fill-in-the-blank' requirements. These are requirements that assign one entity responsibility for developing some performance measures without requiring that the performance measures be included in the body of a standard – then require another entity to comply with those requirements.

Every reliability objective can be met, at least at a threshold level, by a North American standard. If we need regions to develop regional standards, such as in under-frequency load shedding, we can always write a uniform North American standard for the applicable functional entities as a means of encouraging development of the regional standards.

Requirements for Regional Reliability Organization
Do not write any requirements for the Regional Reliability Organization. Any requirements currently assigned to the RRO should be re-assigned to the applicable functional entity. If the requirement can only be performed at a regional level, assign the requirement to the Regional Entity, not the RRO.

Effective Dates
Must be 1st day of 1st quarter after entities are expected to be compliant – must include time to file with regulatory authorities and provide notice to responsible entities of the obligation to comply. If the standard is to be actively monitored, time for the Compliance Monitoring and Enforcement Program to develop reporting instructions and modify the Compliance Data Management System(s) both at NERC and Regional Entities must be provided in the implementation plan.

Associated Documents
We will delay populating this section of the standard with a list of 'related' standards because standards are all being changed and many will have new numbers. We should limit the references to those support documents that are useful in complying with the standard.