NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

# Mapping Document

**Project 2007-03 Real-time Operations**

Mapping document showing the translation of TOP-001-1 — Reliability Responsibilities and Authorities; TOP-002-2 — Normal Operations Planning; TOP-003-1 — Planned Outage Coordination; TOP-004-2 — Transmission Operations; TOP-005-1 — Operational Reliability Information; TOP-006-1 – Monitoring System Conditions; TOP-007-0 - Reporting System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) Violations; TOP-008-1 - Response to Transmission Limit Violations; PRC-001-1 – System Protection Coordination; and PER-001-0 - Operating Personnel Responsibility and Authority.

| Standard TOP-001-1 — Reliability Responsibilities and Authorities | | |
|---|---|---|
| Requirement in Approved Standard | Translation to New Standard or Other Action | Proposed Language in New Standard or Comment |
| R1. Each Transmission Operator shall have the responsibility and clear decision-making authority to take whatever actions are needed to ensure the reliability of its area and shall exercise specific authority to alleviate operating emergencies. | Deleted | This is a generic requirement that is no longer necessary since there are now specific requirements that cover all needed reliability actions. Deletion of this requirement doesn't alleviate responsibility for actions as each individual requirement in the Reliability Standards now specifies an action and a responsible entity. These needed actions required for reliability of the bulk power system have been more clearly laid out in revised standards. (See FERC Order 693a, paragraph 112.) The requirement is also non-specific, ambiguous, and not performance oriented. If an entity doesn't perform as specified in an individual requirement, then they are held accountable at that level. All of this makes this requirement redundant. The overall reliability of the bulk power system is not adversely affected by the deletion of this requirement.<br><br>In FERC Order 693a, paragraph 112, the Commission clarifies that a Reliability Coordinator's authority to issue directives arises out of the Commission's approval of Reliability Standards that mandate compliance with such directives. The SDT believes that this same logic applies to Transmission Operators and Balancing Authorities, makes this requirement superfluous, and, thus, it can be deleted. |

| | | |
|---|---|---|
| | | FERC Order 693a, paragraph 112:<br>"In response to Avista, the Commission clarifies that a reliability coordinator's authority to issue directives arises out of the Commission's approval of Reliability Standards that mandate compliance with such directives. Avista is correct that contracts are unnecessary to authorize reliability coordinators to issue directives. Under the voluntary reliability scheme in place prior to section 215 of the FPA, a contractual basis was needed to assure that entities would comply with a reliability coordinator's directive. Pursuant to the current, mandatory reliability scheme established by statute, contracts are no longer needed. We view the concerns raised by Avista as part of the transition from a voluntary to mandatory scheme. Although, as noted by Avisa, IRO-001-1 retains references to contracts, we view these as vestiges of an earlier program that no longer control given the current, mandatory mechanism. |
| R2. Each Transmission Operator shall take immediate actions to alleviate operating emergencies including curtailing transmission service or energy schedules, operating equipment (e.g., generators, phase shifters, breakers), shedding firm load, etc. | Proposed TOP-001-2, Requirement R11 | Replaced by proposed TOP-001-2, R11:<br><br>The undefined term 'operating emergencies' is no longer utilized and the requirement has been made more stringent by not restricting Transmission Operator actions to that undefined condition. The inclusion of the $T_v$ term adds clarity and tends to make the new requirement more stringent than the existing requirement by providing a relevant timeframe.<br><br>TOP-001-2, R11. Each Transmission Operator shall act or direct others to act, to mitigate both the magnitude and duration of exceeding an IROL within the IROL's $T_v$, or of an SOL identified in Requirement R8. |
| R3. Each Transmission Operator, Balancing Authority, and Generator Operator shall comply with reliability directives issued by the Reliability Coordinator, and each Balancing Authority and Generator Operator shall comply with reliability directives issued | Proposed IRO-001-3, Requirements R2, R3 & R4. | Replaced by:<br><br>IRO-001-3, R2. Each Reliability Coordinator shall take actions or direct actions, which could include issuing Reliability Directives, of Transmission Operators, Balancing Authorities, Generator Operators, Interchange Coordinators and Distribution Providers within its Reliability Coordinator Area to prevent |

| | | |
|---|---|---|
| by the Transmission Operator, unless such actions would violate safety, equipment, regulatory or statutory requirements. Under these circumstances the Transmission Operator, Balancing Authority or Generator Operator shall immediately inform the Reliability Coordinator or Transmission Operator of the inability to perform the directive so that the Reliability Coordinator or Transmission Operator can implement alternate remedial actions. | | identified events or mitigate the magnitude or duration of actual events that result in Adverse Reliability Impacts.<br><br>IRO-001-3, R3. Each Transmission Operator, Balancing Authority, Generator Operator, Interchange Coordinator and Distribution Provider shall comply with its Reliability Coordinator's direction per Requirement R2 unless the direction per Requirement R2 cannot be implemented or such actions would violate safety, equipment, regulatory or statutory requirements.<br><br>IRO-001-3, R4. Each Transmission Operator, Balancing Authority, Generator Operator, Interchange Coordinator and Distribution Provider shall inform its Reliability Coordinator upon recognition of its inability to perform as directed per Requirement R3. |
| R4. Each Distribution Provider and Load Serving Entity shall comply with all reliability directives issued by the Transmission Operator, including shedding firm load, unless such actions would violate safety, equipment, regulatory or statutory requirements. Under these circumstances, the Distribution Provider or Load Serving Entity shall immediately inform the Transmission Operator of the inability to perform the directive so that the Transmission Operator can implement alternate remedial actions. | Proposed TOP-001-2, Requirements R1 & R2 | Replaced by proposed:<br><br>TOP-001-2, R1. Each Balancing Authority, Generator Operator, Distribution Provider, and Load-Serving Entity shall comply with each identified Reliability Directive issued and identified as such by its Transmission Operator, unless such actions would violate safety, equipment, regulatory, or statutory requirements.<br><br>TOP-001-2, R2. Each Balancing Authority, Distribution Provider, Load-Serving Entity, and Generator Operator shall inform its Transmission Operator upon recognition of its inability to perform an identified Reliability Directive issued by that Transmission Operator. |
| R5. Each Transmission Operator shall inform its Reliability Coordinator and any other potentially affected Transmission Operators of real time or anticipated emergency conditions, and take actions to avoid, when possible, or mitigate | Proposed TOP-001-2, Requirement R3<br><br>Proposed TOP-001-2, Requirement R11. | Replaced by proposed:<br><br>TOP-001-2, R3. Each Transmission Operator shall inform its Reliability Coordinator and Transmission Operators that are known or expected to be affected by each actual and anticipated Emergency based on its assessment of its Operational Planning Analysis. |

| | | |
|---|---|---|
| the emergency. | | TOP-001-2, R11. Each Transmission Operator shall act or direct others to act, to mitigate both the magnitude and duration of exceeding an IROL within the IROL's $T_v$, or of an SOL identified in Requirement R8.<br><br>The inclusion of the $T_v$ term adds clarity and tends to make the new requirement more stringent than the existing requirement by providing a relevant timeframe. |
| R6. Each Transmission Operator, Balancing Authority, and Generator Operator shall render all available emergency assistance to others as requested, provided that the requesting entity has implemented its comparable emergency procedures, unless such actions would violate safety, equipment, or regulatory or statutory requirements. | Proposed TOP-001-2, Requirement R4 for the Transmission Operator.<br><br>Approved EOP-001-0 and proposed EOP-001-2b, Requirement R1 for the Balancing Authority | Replaced by proposed TOP-001-2, R4.<br><br>TOP-001-2, R4. Each Transmission Operator shall render emergency assistance to other Transmission Operators, as requested and available, provided that the requesting entity has implemented its comparable emergency procedures, unless such actions would violate safety, equipment, regulatory, or statutory requirements.<br><br>The Generator Operator was deleted from this requirement since it can't be contacted directly by others and will only respond to such requests if they were in the form of a Reliability Directive from its Transmission Operator which is covered in proposed TOP-001-2, Requirement R1.<br><br>TOP-001-2, R1. Each Balancing Authority, Generator Operator, Distribution Provider, and Load-Serving Entity shall comply with each identified Reliability Directive issued and identified as such by its Transmission Operator, unless such actions would violate safety, equipment, regulatory, or statutory requirements.<br><br>The approved EOP-001-0 and proposed EOP-001-2b, Requirement R1 covers the Balancing Authority so to eliminate a redundancy the Balancing Authority has been removed from this requirement. In addition, the Balancing Authority must still respond to any Reliability Directive from the Transmission Operator as stated in proposed TOP-001-2, Requirement R1.<br><br>EOP-001-2b, R1. Balancing Authorities shall have |

| | | |
|---|---|---|
| | | operating agreements with adjacent Balancing Authorities that shall, at a minimum, contain provisions for emergency assistance, including provisions to obtain emergency assistance from remote Balancing Authorities. |
| R7. Each Transmission Operator and Generator Operator shall not remove Bulk Electric System facilities from service if removing those facilities would burden neighboring systems unless:<br><br>R7.1 - For a generator outage, the Generator Operator shall notify and coordinate with the Transmission Operator. The Transmission Operator shall notify the Reliability Coordinator and other affected Transmission Operators, and coordinate the impact of removing the Bulk Electric System facility.<br><br>R7.2 - For a transmission facility, the Transmission Operator shall notify and coordinate with its Reliability Coordinator. The Transmission Operator shall notify other affected Transmission Operators, and coordinate the impact of removing the Bulk Electric System facility.<br><br>R7.3 - When time does not permit such notifications and coordination, or when immediate action is required to prevent a hazard to the public, lengthy customer service interruption, or damage to facilities, the Generator Operator shall notify the Transmission Operator, and the Transmission Operator shall | Proposed TOP-001-2, Requirement R5<br><br>Proposed TOP-003-2, Requirement R5 | R7: Replaced by proposed TOP-001-2, R5 for the Transmission Operator.<br><br>TOP-001-2, R5. Each Transmission Operator shall inform its Reliability Coordinator and other Transmission Operators of its operations known or expected to result in an Adverse Reliability Impact on those respective Transmission Operator Areas unless conditions do not permit such communications. Such operations may include relay or equipment failures and changes in generation, Transmission, or Load.<br><br>R7 – The Generator Operator can't know if their actions will burden neighboring systems since they do not have reliability data. The Transmission Operator will know if the Generator Operator actions will burden neighboring systems and is required to act on this information as per proposed TOP-001-2, R5.<br><br>R7.1 – Replaced by proposed TOP-001-2, R5 for both the Transmission Operator and the Generator Operator.<br><br>TOP-003-2, R5. Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-Serving Entity, and Transmission Owner receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications for data.<br><br>R7.2 - Replaced by proposed TOP-001-2, R5 for the Transmission Operator.<br><br>After the fact notifications have been replaced by the proposed TOP-003-2, R1 and approved IRO-010-1a since those actions will now be seen through telemetry. |

| | | |
|---|---|---|
| notify its Reliability Coordinator and adjacent Transmission Operators, at the earliest possible time. | | TOP-003-2, R1. Each Transmission Operator shall create a documented specification for the data necessary for it to perform its required Operational Planning Analyses and Real-time monitoring<br><br>IRO-010-1a, R1. The Reliability Coordinator shall have a documented specification for data and information to build and maintain models to support Real-time monitoring, Operational Planning Analyses, and Real-time Assessments of its Reliability Coordinator Area to prevent instability, uncontrolled separation, and cascading outages. |
| R8. During a system emergency, the Balancing Authority and Transmission Operator shall immediately take action to restore the Real and Reactive Power Balance. If the Balancing Authority or Transmission Operator is unable to restore Real and Reactive Power Balance it shall request emergency assistance from the Reliability Coordinator. If corrective action or emergency assistance is not adequate to mitigate the Real and Reactive Power Balance, then the Reliability Coordinator, Balancing Authority, and Transmission Operator shall implement firm load shedding. | Approved EOP-002-3, Requirement R6.<br><br>Approved VAR-001-1, Requirement R8.<br><br>Proposed TOP-001-2, Requirement R1.<br><br>Approved VAR-001-1, Requirements R1, R8, and R12.<br><br>Approved IRO-009-1, Requirements R1 and R2.<br><br>Approved EOP-003-1, Requirement R1. | Real Power Balance and Reactive Power Balance are not defined terms.<br><br>First sentence – real power:<br><br>For the Balancing Authority part of the requirement, replaced by approved EOP-002-2.1, Requirement R6.<br><br>The Transmission Operator does not balance real power so that part of the sentence can be deleted per the NERC Functional Model V5.<br><br>First sentence – reactive power:<br><br>Replaced by Approved VAR-001-1, Requirement R8 for the Transmission Operator which covers reactive power requirements and the meaning of balancing reactive power for the Transmission Operator.<br><br>The Balancing Authority must be told by the Transmission Operator to take actions regarding reactive power per the NERC Functional Model V5 (see proposed TOP-001-2, Requirement R1) and therefore the Balancing Authority can be deleted from this part of the requirement.<br><br>Second sentence –<br><br>The Balancing Authority must be told by the |

| | | |
|---|---|---|
| | | Transmission Operator to take actions regarding reactive power (see proposed TOP-001-2, Requirement R1) and thus the Balancing Authority is not necessary.<br><br>Replaced by approved VAR-001-1, Requirements R1, R8, and R12 for the Transmission Operator.<br><br>Third sentence –<br><br>Replaced by approved IRO-009-1, Requirements R1 and R2 for the Reliability Coordinator.<br><br>Replaced by approved EOP-003-1, Requirement R1 for the Transmission Operator and Balancing Authority.<br><br>EOP-002-3, R6. If the Balancing Authority cannot comply with the Control Performance and Disturbance Control Standards, then it shall immediately implement remedies to do so.<br><br>VAR-001-1 R1. Each Transmission Operator, individually and jointly with other Transmission Operators, shall ensure that formal policies and procedures are developed, maintained, and implemented for monitoring and controlling voltage levels and Mvar flows within their individual areas and with the areas of neighboring Transmission Operators.<br><br>VAR-001-1, R8. Each Transmission Operator shall operate or direct the operation of capacitive and inductive reactive resources within its area – including reactive generation scheduling; transmission line and reactive resource switching; and, if necessary, load shedding – to maintain system and Interconnection voltages within established limits.<br><br>VAR-001-1, R12. The Transmission Operator shall direct corrective action, including load reduction, necessary to prevent voltage collapse when reactive resources are insufficient. |

| | | |
|---|---|---|
| | | TOP-001-2, R1. Each Balancing Authority, Generator Operator, Distribution Provider, and Load-Serving Entity shall comply with each identified Reliability Directive issued and identified as such by its Transmission Operator, unless such actions would violate safety, equipment, regulatory, or statutory requirements.<br><br>IRO-009-1, R1. For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take or actions it shall direct others to take (up to and including load shedding) that can be implemented in time to prevent exceeding those IROLs.<br><br>IRO-009-1, R2.For each IROL (in its Reliability Coordinator Area) that the Reliability Coordinator identifies one or more days prior to the current day, the Reliability Coordinator shall have one or more Operating Processes, Procedures, or Plans that identify actions it shall take or actions it shall direct others to take (up to and including load shedding) to mitigate the magnitude and duration of exceeding that IROL such that the IROL is relieved within the IROL's Tv.<br><br>EOP-003-1, R1. After taking all other remedial steps, a Transmission Operator or Balancing Authority operating with insufficient generation or transmission capacity shall shed customer load rather than risk an uncontrolled failure of components or cascading outages of the Interconnection. |
| Standard TOP-002-2 — Normal Operations Planning | | |
| Requirement in Approved Standard | Translation to New Standard or Other Action | Proposed Language in New Standard or Comment |
| R1. Each Balancing Authority and Transmission Operator shall maintain a set of current plans that are designed to evaluate | Approved BAL-001-0.1a.<br><br>Approved BAL- | First sentence – Deleted for Balancing Authority, retained for Transmission Operator.<br><br>The Balancing Authority is required to balance by |

| | | |
|---|---|---|
| options and set procedures for reliable operation through a reasonable future time period. In addition, each Balancing Authority and Transmission Operator shall be responsible for using available personnel and system equipment to implement these plans to ensure that interconnected system reliability will be maintained. | 002-1.<br><br>Approved EOP-002-2.1, Requirement R6.<br><br>Proposed TOP-002-3, Requirements R1 through R3. | approved BAL-001-0.1a and approved BAL-002-1 and must take action per approved EOP-002-2.1, Requirement R6 and thus the Balancing Authority part of this sentence can be deleted.<br><br>Retained for Transmission Operator and moved to proposed TOP-002-3, Requirements R1 through R3. This is patterned after the approved IRO-008-1, Requirement R1 for the Reliability Coordinator.<br><br>Second sentence – Deleted as superfluous. Use of appropriate personnel and equipment is incumbent to responsible entities as per their certification as NERC registered entities.<br><br>BAL-001-0.1a, Purpose: To maintain Interconnection steady-state frequency within defined limits by balancing real power demand and supply in real-time.<br><br>BAL-002-1, Purpose: The purpose of the Disturbance Control Standard (DCS) is to ensure the Balancing Authority is able to utilize its Contingency Reserve to balance resources and demand and return Interconnection frequency within defined limits following a Reportable Disturbance. Because generator failures are far more common than significant losses of load and because Contingency Reserve activation does not typically apply to the loss of load, the application of DCS is limited to the loss of supply and does not apply to the loss of load.<br><br>EOP-002-2.1, R6. If the Balancing Authority cannot comply with the Control Performance and Disturbance Control Standards, then it shall immediately implement remedies to do so.<br><br>TOP-002-3, R1:<br>Each Transmission Operator shall have an Operational Planning Analysis that represents projected System conditions.<br><br>TOP-002-3, R2:<br>Each Transmission Operator shall plan to operate within each Interconnection Reliability Operating |

| | | |
|---|---|---|
| | | Limit (IROL) and each System Operating Limit (SOL) which, while not an IROL, has been identified by the Transmission Operator as supporting its internal area reliability, identified as a result of the Operational Planning Analysis performed in Requirement R1.<br><br>TOP-002-3, R3:<br>Each Transmission Operator shall notify all NERC registered entities identified in the plan(s) cited in Requirement R2 as to their role in those plan(s). |
| R2. Each Balancing Authority and Transmission Operator shall ensure its operating personnel participate in the system planning and design study processes, so that these studies contain the operating personnel perspective and system operating personnel are aware of the planning purpose. | Deleted | The SDT reviewed the purpose of the Reliability Standard and believes that this requirement referred to operations planning. Given the current definition of Transmission Operator in the Glossary and Functional Model v5, operations planning is part of what the Transmission Operator is required to do and as such this requirement is no longer needed and can be deleted.<br><br>Functional Model V5: Transmission Operator: The entity responsible for the reliability of its "local" transmission system, and that operates or directs the operations of the transmission facilities. |
| R3. Each Load Serving Entity and Generator Operator shall coordinate (where confidentiality agreements allow) its current-day, next-day, and seasonal operations with its Host Balancing Authority and Transmission Service Provider. Each Balancing Authority and Transmission Service Provider shall coordinate its current-day, next-day, and seasonal operations with its Transmission Operator. | Proposed TOP-003-2.<br><br>Approved MOD-001-1a, Requirements R1 & R2.<br><br>Approved MOD-030-2, Requirement R3. | For all but the Transmission Service Provider, moved to proposed TOP-003-2 requires the transfer of any and all required data regardless of timeframe involved.<br><br>The Transmission Service Provider provisions are already covered in:<br><br>• Approved MOD-001-1a, Requirement R1: Transmission Operators select transfer capability methodology from approved MOD-028, -029, or -030.<br>• Approved MOD-030-2, Requirement R3: Transmission Operator gives transmission model updated at least once per day to Transmission Service Provider<br>• Approved MOD-001-1a, Requirement R2: Transmission Service Providers use the methodology designated in approved MOD-001-1a, Requirement R1 by the Transmission |

| | | |
|---|---|---|
| | | Operator.<br><br>TOP-003-2, R1. Each Transmission Operator shall create a documented specification for the data necessary for it to perform its required Operational Planning Analyses and Real-time monitoring.<br><br>MOD-001-1a, R1. Each Transmission Operator shall select one of the methodologies1 listed below for calculating Available Transfer Capability (ATC) or Available Flowgate Capability (AFC) for each ATC Path per time period identified in R2 for those Facilities within its Transmission operating area.<br><br>MOD-030-2, R3. The Transmission Operator shall make available to the Transmission Service Provider a Transmission model to determine Available Flowgate Capability (AFC) that meets the following criteria:<br><br>MOD-001-1a, R2. Each Transmission Service Provider shall calculate ATC or AFC values as listed below using the methodology or methodologies selected by its Transmission Operator(s). |
| R4. Each Balancing Authority and Transmission Operator shall coordinate (where confidentiality agreements allow) its current-day, next-day, and seasonal planning and operations with neighboring Balancing Authorities and Transmission Operators and with its Reliability Coordinator, so that normal Interconnection operation will proceed in an orderly and consistent manner. | Proposed TOP-003-2, Requirement R5.<br><br>Approved IRO-010-1a, Requirement R3. | Proposed TOP-003-2 requires the transfer of any and all required data between and amongst Balancing Authorities and Transmission Operators regardless of the timeframe involved.<br><br>Data requirements for Reliability Coordinators are covered in approved IRO-010-1a, Requirement R3 making this requirement redundant for Reliability Coordinators so the Reliability Coordinator has been removed here.<br><br>TOP-003-2, R5. Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-Serving Entity, and Transmission Owner receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications for data.<br><br>IRO-010-1a, R3. Each Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-serving Entity, Reliability Coordinator, |

| | | |
|---|---|---|
| | | Transmission Operator, and Transmission Owner shall provide data and information, as specified, to the Reliability Coordinator(s) with which it has a reliability relationship. |
| R5. Each Balancing Authority and Transmission Operator shall plan to meet scheduled system configuration, generation dispatch, interchange scheduling and demand patterns. | Approved BAL-001-0.1a.<br><br>Proposed TOP-003-2, Requirement R4.<br><br>Proposed TOP-002-3, Requirement R1. | The part of the requirement dealing with the Balancing Authority is replaced by approved BAL-001-0.1a.<br><br>The Functional Model requires a Balancing Authority to operate under the direction of the Transmission Operator for such matters. It is also a basic tenet of operations and good standards that only one entity should be 'in charge'. The Balancing Authority can only work within the constraints handed down by the Transmission Operator. Any needed coordination issues are built in to the Functional Model. Therefore, the Transmission Operator should be developing the plan and passing it down to the Balancing Authority.<br><br>The Balancing Authority provides any needed data to the Transmission Operator through the data specification requirements in proposed TOP-003-2, Requirement R5.<br><br>The part of the requirement dealing with the Transmission Operator has been moved to proposed TOP-002-3, Requirement R1.<br><br>BAL-001-0.1a, Purpose: To maintain Interconnection steady-state frequency within defined limits by balancing real power demand and supply in real-time.<br><br>TOP-003-2, R5. Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-Serving Entity, and Transmission Owner receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications for data.<br><br>TOP-002-3, R1. Each Transmission Operator shall have an Operational Planning Analysis that represents projected System conditions. |
| R6. Each Balancing Authority and Transmission Operator shall plan | | The part of this requirement dealing with the Balancing Authority is replaced by approved BAL-002- |

| | | |
|---|---|---|
| to meet unscheduled changes in system configuration and generation dispatch (at a minimum N-1 Contingency planning) in accordance with NERC, Regional Reliability Organization, subregional, and local reliability requirements. | Approved BAL-002-1, Requirements R2 – R4.<br><br>Proposed TOP-003-2, Requirement R5.<br><br>Proposed TOP-002-3, Requirement R1 | 0 and proposed BAL-002-1, Requirements R2 through R4 and approved EOP-002-2.1 and the proposed EOP-002-3, Requirement R6.<br><br>The Functional Model requires a Balancing Authority to operate under the direction of the Transmission Operator for such matters. It is also a basic tenet of operations and good standards that only one entity should be 'in charge'. The Balancing Authority can only work within the constraints handed down by the Transmission Operator. Any needed coordination issues are built in to the Functional Model. Therefore, the Transmission Operator should be doing the plan and passing it down to the Balancing Authority.<br><br>The Balancing Authority gets any needed data to the Transmission Operator through the data specification requirements in proposed TOP-003-2, Requirement R4.<br><br>The part of the requirement dealing with the Transmission Operator - replaced by proposed TOP-002-3, Requirement R1. The n-1 contingency planning is 'built in' to the Operational Planning Analysis since SOLs are derived according to FAC-010-2.1, FAC-011-2, and FAC-014-2 which includes contingency planning.<br><br>The SDT does not believe that there is a need for the last part of the sentence 'in accordance with…' with the advent of the ERO and enforceable reliability standards.<br><br>As stated in the NERC Functional Model V5: " the Balancing Authority's mission is to maintain the balance between loads and resources in real time within its Balancing Authority Area by keeping its actual interchange equal to its scheduled interchange and meeting its frequency bias obligation." To this end and in accordance with approved NERC Reliability Standards BAL-001-0.1a and BAL-002-0 (and the proposed BAL-002-1), Balancing Authorities are required to meet all control performance and disturbance recovery criteria for any system |

| | | |
|---|---|---|
| | | condition. Balancing Authorities are not responsible for the operation of the transmission system. The Transmission Operator is responsible for the real-time operating reliability of the transmission assets under its purview, and as such has the authority to issue reliability-related directives to entities within its Transmission Operator Area. Balancing Authorities are required to implement directives received from the Transmission Operator or the Reliability Coordinator regarding load, generation and interchange for transmission concerns both predicted (e.g., through Unit Commitment) and actual (e.g., through re-dispatch, Interchange modifications or load shedding). If the Balancing Authorities' actions do not resolve the transmission issues, it is the Transmission Operators' or Reliability Coordinators' responsibility to direct alternative actions.<br><br>BAL-002-1, R2. Each Regional Reliability Organization, sub-Regional Reliability Organization or Reserve Sharing Group shall specify its Contingency Reserve policies, including:<br><br>BAL-002-1, R3. Each Balancing Authority or Reserve Sharing Group shall activate sufficient Contingency Reserve to comply with the DCS.<br><br>BAL-002-1, R4. Balancing Authority or Reserve Sharing Group shall meet the Disturbance Recovery Criterion within the Disturbance Recovery Period for 100% of Reportable Disturbances.<br><br>TOP-003-2, R5. Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-Serving Entity, and Transmission Owner receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications for data.<br><br>TOP-002-3, R1. Each Transmission Operator shall have an Operational Planning Analysis that represents projected System conditions.<br><br>FAC-010-2.1, Purpose: To ensure that System |

| | | |
|---|---|---|
| | | Operating Limits (SOLs) used in the reliable planning of the Bulk Electric System (BES) are determined based on an established methodology or methodologies.<br><br>FAC-011-2, Purpose: To ensure that System Operating Limits (SOLs) used in the reliable operation of the Bulk Electric System (BES) are determined based on an established methodology or methodologies.<br><br>FAC-014-2, Purpose. To ensure that System Operating Limits (SOLs) used in the reliable planning and operation of the Bulk Electric System (BES) are determined based on an established methodology or methodologies.<br><br>BAL-001-0.1a, Purpose: To maintain Interconnection steady-state frequency within defined limits by balancing real power demand and supply in real-time.<br><br>BAL-002-1, Purpose: The purpose of the Disturbance Control Standard (DCS) is to ensure the Balancing Authority is able to utilize its Contingency Reserve to balance resources and demand and return Interconnection frequency within defined limits following a Reportable Disturbance. Because generator failures are far more common than significant losses of load and because Contingency Reserve activation does not typically apply to the loss of load, the application of DCS is limited to the loss of supply and does not apply to the loss of load. |
| R7. Each Balancing Authority shall plan to meet capacity and energy reserve requirements, including the deliverability/capability for any single Contingency. | Approved BAL-002-1, Requirement R2.<br><br>Proposed TOP-002-3, Requirement R1. | The Balancing Authority is required to always plan to meet and recover from Contingency events as stated in approved BAL-002-1, Requirement R2 and therefore this requirement is redundant and can be deleted as all elements of the requirement are now covered in other standards.<br><br>Deliverability is not in the control of the Balancing Authority; it is a Transmission Operator responsibility and are replaced by proposed TOP-002-3, Requirement R1. Operational Planning Analysis includes deliverability considerations since any deliverability problems will appear as limit violations |

| | | |
|---|---|---|
| | | in the analysis.<br><br>BAL-002-1, R2. Each Regional Reliability Organization, sub-Regional Reliability Organization or Reserve Sharing Group shall specify its Contingency Reserve policies, including:<br><br>TOP-002-3, R1. Each Transmission Operator shall have an Operational Planning Analysis that represents projected System conditions. |
| R8. Each Balancing Authority shall plan to meet voltage and/or reactive limits, including the deliverability/capability for any single contingency. | Proposed TOP-001-2, Requirement R1.<br><br>Approved VAR-001-1, Requirement R1.<br><br>Proposed TOP-002-3, Requirement R1 | The Balancing Authority must be told by the Transmission Operator to take actions regarding reactive power (see proposed TOP-001-2, Requirement R1) and, thus, this requirement can be deleted as all elements of the requirement are now covered in other standards.<br><br>Voltage and reactive power balance are the responsibility of the Transmission Operator and are replaced by approved VAR-001-1, Requirement R1.<br><br>Deliverability is not in the control of the Balancing Authority; it is a Transmission Operator responsibility and is replaced by proposed TOP-002-3, Requirement R1 since any deliverability problems will appear as limit violations in the analysis.<br><br>TOP-001-2, R1. Each Balancing Authority, Generator Operator, Distribution Provider, and Load-Serving Entity shall comply with each identified Reliability Directive issued and identified as such by its Transmission Operator, unless such actions would violate safety, equipment, regulatory, or statutory requirements.<br><br>VAR-001-1, R1. Each Transmission Operator, individually and jointly with other Transmission Operators, shall ensure that formal policies and procedures are developed, maintained, and implemented for monitoring and controlling voltage levels and Mvar flows within their individual areas and with the areas of neighboring Transmission Operators. |

| | | |
|---|---|---|
| | | TOP-002-3, R1. Each Transmission Operator shall have an Operational Planning Analysis that represents projected System conditions. |
| R9. Each Balancing Authority shall plan to meet Interchange Schedules and ramps. | Approved INT-003-2, Requirement R1. | Replaced by approved INT-003-2, R1.<br><br>INT-003-2, R1. Each Receiving Balancing Authority shall confirm Interchange Schedules with the Sending Balancing Authority prior to implementation in the Balancing Authority's ACE equation. |
| R10. Each Balancing Authority and Transmission Operator shall plan to meet all System Operating Limits (SOLs) and Interconnection Reliability Operating Limits (IROLs). | Deleted for Balancing Authority.<br><br>Proposed TOP-002-3, Requirements R1 & R2. | Balancing Authority - The Balancing Authority is only responsible to respond to Reliability Directives as per the definition of Balancing Authority in the NERC Glossary and, thus, this requirement should never have been applicable to the Balancing Authority. SOLs and IROLs are limits for which the Balancing Authority may not have (and is not required to have) the ability to monitor or control. The Transmission Operator, who is required to monitor SOLs, instructs the Balancing Authority as to what to do in these situations.<br><br>As stated in the NERC Functional Model V5, "the Balancing Authority's mission is to maintain the balance between loads and resources in real time within its Balancing Authority Area by keeping its actual interchange equal to its scheduled interchange and meeting its frequency bias obligation". The Balancing Authority does not possess the bulk power system information necessary to manage Transmission flows. Therefore, the Balancing Authority can only plan to meet SOLs and IROLs by responding to directions from the Transmission Operator, including scheduling and operating resources within the limits prescribed by the Transmission Operator.<br><br>Transmission Operator – replaced by proposed TOP-002-3, Requirement R1 (analysis of SOLs) & Requirement R2 (avoid IROLs).<br><br>TOP-002-3, R1. Each Transmission Operator shall have an Operational Planning Analysis that represents projected System conditions. |

| | | |
|---|---|---|
| | | TOP-002-3, R2. Each Transmission Operator shall plan to operate within each Interconnection Reliability Operating Limit (IROL) and each System Operating Limit (SOL) which, while not an IROL, has been identified by the Transmission Operator as supporting its internal area reliability, identified as a result of the Operational Planning Analysis performed in Requirement R1. |
| R11. The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions; and shall make the results of Bulk Electric System studies available to the Transmission Operators, Balancing Authorities (subject confidentiality requirements), and to its Reliability Coordinator. | Approved FAC-011-2.<br><br>Approved FAC-014-2.<br><br>Proposed TOP-002-3, Requirements R1 & R3. | First sentence – Replaced by FAC-011-2 and FAC-014-2 where SOLs are determined.<br><br>FAC-011-2: Purpose - To ensure that System Operating Limits (SOLs) used in the reliable operation of the Bulk Electric System (BES) are determined based on an established methodology or methodologies.<br><br>FAC-014-2: Purpose - To ensure that System Operating Limits (SOLs) used in the reliable planning and operation of the Bulk Electric System (BES) are determined based on an established methodology or methodologies.<br><br>Second sentence – Replaced by approved FAC-014-2, R2 & R5.1.<br><br>FAC-014-2, R2. The Transmission Operator shall establish SOLs (as directed by its Reliability Coordinator) for its portion of the Reliability Coordinator Area that are consistent with its Reliability Coordinator's SOL Methodology.<br><br>FAC-014-2, R5.1. The Reliability Coordinator shall provide its SOLs (including the subset of SOLs that are IROLs) to adjacent Reliability Coordinators and Reliability Coordinators who indicate a reliability-related need for those limits, and to the Transmission Operators, Transmission Planners, Transmission Service Providers and Planning Authorities within its Reliability Coordinator Area.<br><br>Third sentence – Replaced by proposed TOP-002-3. 'update… as necessary' is ambiguous and the SDT believes that proposed TOP-002-3 is a better solution. |

| | | |
|---|---|---|
| | | TOP-002-3, R1. Each Transmission Operator shall have an Operational Planning Analysis that represents projected System conditions.<br><br>TOP-002-3, R3. Each Transmission Operator shall notify all NERC registered entities identified in the plan(s) cited in Requirement R2 as to their role in those plan(s). |
| R12. The Transmission Service Provider shall include known SOLs or IROLs within its area and neighboring areas in the determination of transfer capabilities, in accordance with filed tariffs and/or regional Total Transfer Capability and Available Transfer Capability calculation processes. | Approved MOD-028-1, Requirement R6.1. Approved MOD-029-1a, Requirement R3. Approved MOD-30-2 Requirement R2.4. | Replaced by approved MOD-028-1, Requirement R6.1, MOD-029-1a, Requirement R3, and MOD-030-2, Requirement R2.4.<br><br>Because IROLs by definition are a subset of SOLs, IROLs are included.<br><br>MOD-028-1, R6.1,Determine the incremental Transfer Capability for each ATC Path by increasing generation and/or decreasing load within the source Balancing Authority area and decreasing generation and/or increasing load within the sink Balancing Authority area until either:<br><br>A System Operating Limit is reached on the Transmission Service Provider's system, or<br><br>A SOL is reached on any other adjacent system in the Transmission model that is not on the study path and the distribution factor is 5% or greater.<br><br>MOD-029-1a, R3,Each Transmission Operator shall establish the TTC at the lesser of the value calculated in R2 or any System Operating Limit (SOL) for that ATC Path.<br><br>MOD-030-2, R2.4, Establish the TFC of each of the defined Flowgates as equal to:<br><br>For thermal limits, the System Operating Limit (SOL) of the Flowgate.<br><br>For voltage or stability limits, the flow that will |

| | | |
|---|---|---|
| | | respect the SOL of the Flowgate. |
| R13. At the request of the Balancing Authority or Transmission Operator, a Generator Operator shall perform generating real and reactive capability verification that shall include, among other variables, weather, ambient air and water conditions, and fuel quality and quantity, and provide the results to the Balancing Authority or Transmission Operator operating personnel as requested. | Proposed MOD-25-2, Requirement R1<br><br>Proposed TOP-003-2, Requirement R5 | Replaced by proposed MOD-025-2, R1.<br><br>MOD-025-2, R1: Each Generator Owner shall:<br><br>1.1. Verify the Real and Reactive Power capability of its generating units and shall verify the Reactive Power capability of its synchronous condenser units in accordance with Attachment 1.<br><br>1.2. Record the information on Attachment 2 ( or on the Generator Owner's form that contains the same information as Attachment 2);<br><br>1.3. Submit within 90 calendar days of the date the data is recorded to its Transmission Planner.<br><br>TOP-003-2, R5. Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-Serving Entity, and Transmission Owner receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications for data. |
| 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: 14.1 - Changes in real and reactive output capabilities. (Retired August 1, 2007) 14.2 - Changes in real output capabilities. (Effective August 1, 2007) 14.3 - Automatic Voltage Regulator status and mode setting. (Retired August 1, 2007) | Proposed TOP-003-2, Requirement R5 | Replaced by proposed TOP-003-2, Requirement R5.<br><br>TOP-003-2, R5. Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-Serving Entity, and Transmission Owner receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications for data. |
| R15. Generation Operators shall, at the request of the Balancing Authority or Transmission | Proposed TOP-003-2, Requirement R5 | Replaced by proposed TOP-003-2, Requirement R5.<br><br>TOP-003-2, R5. Each Transmission Operator, Balancing |

| | | |
|---|---|---|
| Operator, provide a forecast of expected real power output to assist in operations planning (e.g., a seven-day forecast of real output). | | Authority, Generator Owner, Generator Operator, Interchange Authority, Load-Serving Entity, and Transmission Owner receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications for data. |
| R16. Subject to standards of conduct and confidentiality agreements, Transmission Operators shall, without any intentional time delay, notify their Reliability Coordinator and Balancing Authority of changes in capabilities and characteristics including but not limited to: 16.1 - Changes in transmission facility status. 16.2 - Changes in transmission facility rating | Approved IRO-010-1a, Requirement R3 | Replaced by approved IRO-010-1a, Requirement R3.<br><br>IRO-010-1a, R3. Each Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-serving Entity, Reliability Coordinator, Transmission Operator, and Transmission Owner shall provide data and information, as specified, to the Reliability Coordinator(s) with which it has a reliability relationship. |
| R17. Balancing Authorities and Transmission Operators shall, without any intentional time delay, communicate the information described in the requirements R1 to R16 above to their Reliability Coordinator. | Approved IRO-010-1a, Requirement R3 | Replaced by approved IRO-010-1a, Requirement R3.<br><br>IRO-010-1a, R3. Each Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-serving Entity, Reliability Coordinator, Transmission Operator, and Transmission Owner shall provide data and information, as specified, to the Reliability Coordinator(s) with which it has a reliability relationship. |
| R18. Neighboring Balancing Authorities, Transmission Operators, Generator Operators, Transmission Service Providers and Load Serving Entities shall use uniform line identifiers when referring to transmission facilities of an interconnected network. | Deleted | This requirement adds no reliability benefit. Entities have existing processes that handle this issue. There has never been a documented case of the lack of uniform line identifiers contributing to a system reliability issue. This is an administrative item as seen in the measure which simply requires a list of line identifiers. The true reliability issue is not the name of a line but what is happening to it, pointing out the difficulty in assigning compliance responsibility for such a requirement, as well as the near impossibility of coming up with truly unique identifiers on a nation-wide basis. The bottom line is that this situation is handled by the operators as part of their normal responsibilities and no one is aware of a switching error caused by confusion over line identifiers. |
| R19. Each Balancing Authority and Transmission Operator shall maintain accurate computer | Deleted | This is part of an entity's certification and is no longer required in standards. Furthermore, accuracy is a relative term that would be difficult to measure and |

| | | |
|---|---|---|
| models utilized for analyzing and planning system operations. | | assess compliance with. What is accurate? All calculated line flows are within 5% of actual flows? What if 14,999 lines out of 15,000 had calculated line flows within 5% and the 15,000th had a 6% error? Do we now call the model inaccurate and not rely on the results? How do you even define actual flows when meters have accuracy errors as well (i.e. no perfect meter exists)? |
| Standard TOP-003-1 — Planned Outage Coordination | | |
| Requirement in Approved Standard | Translation to New Standard or Other Action | Proposed Language in New Standard or Comment |
| R1. Generator Operators and Transmission Operators shall provide planned outage information. 1.1 - Each Generator Operator shall provide outage information daily to its Transmission Operator for scheduled generator outages planned for the next day (any foreseen outage of a generator greater than 50 MW). The Transmission Operator shall establish the outage reporting requirements. 1.2 - Each Transmission Operator shall provide outage information daily to its Reliability Coordinator, and to affected Balancing Authorities and Transmission Operators for scheduled generator and bulk transmission outages planned for the next day (any foreseen outage of a transmission line or transformer greater than 100 kV or generator greater than 50 MW) that may collectively cause or contribute to an SOL or IROL violation or a regional operating area limitation. The Reliability Coordinator shall establish the outage reporting requirements. | Proposed TOP-003-2, Requirements R1 & R2 | Replaced by proposed TOP-003-2, Requirements R1 & R2.<br><br>TOP-003-2, R1. Each Transmission Operator shall create a documented specification for the data necessary for it to perform its required Operational Planning Analyses and Real-time monitoring.<br><br>TOP-003-2, R2. Each Balancing Authority shall create a documented specification for the data necessary for it to perform its required Real-time monitoring. |

| | | |
|---|---|---|
| 1.3 - Such information shall be available by 1200 Central Standard Time for the Eastern Interconnection and 1200 Pacific Standard Time for the Western Interconnection. | | |
| R2. Each Transmission Operator, Balancing Authority, and Generator Operator shall plan and coordinate scheduled outages of system voltage regulating equipment, such as automatic voltage regulators on generators, supplementary excitation control, synchronous condensers, shunt and series capacitors, reactors, etc., among affected Balancing Authorities and Transmission Operators as required. | Proposed TOP-001-2, Requirement R5<br><br>Proposed TOP-003-2, Requirement R1<br><br>Proposed TOP-003-2, Requirement R4 | Replaced by: proposed TOP-001-2, Requirement R5 which requires the Transmission Operator to coordinate actions while proposed TOP-003-2, Requirement R1 requires the Transmission Operator to identify the data it needs from the Balancing Authority to coordinate outages of voltage regulation equipment. Further, proposed TOP-003-2, Requirement R4 requires the Balancing Authority to provide the data to the Transmission Operator that the Transmission Operator identified it needs.<br><br>TOP-001-2, R5:<br>Each Transmission Operator shall inform its Reliability Coordinator and other Transmission Operators of its operations known or expected to result in an Adverse Reliability Impact on those respective Transmission Operator Areas unless conditions do not permit such communications. Such operations may include relay or equipment failures and changes in generation, Transmission, or Load.<br><br>TOP-003-2, R1:<br>Each Transmission Operator and Balancing Authority shall create a documented specification for the data necessary for it to perform its required Operational Planning Analyses and Real-time monitoring.<br><br>TOP-003-2, R4:<br>Each Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-Serving Entity, Transmission Operator, and Transmission Owner receiving a data specification in Requirement R2 or R3 shall satisfy the obligations of the documented specifications for data. |
| R3. Each Transmission Operator, Balancing Authority, and Generator Operator shall plan and coordinate scheduled | Proposed TOP-001-2, Requirement R6 | Moved to proposed TOP-001-2, Requirement R6<br><br>TOP-001-2, R6. Each Balancing Authority and Transmission Operator shall notify the Reliability |

| | | |
|---|---|---|
| outages of telemetering and control equipment and associated communication channels between the affected areas. | | Coordinator and negatively impacted interconnected NERC registered entities of planned outages of telemetering equipment, control equipment and associated communication channels between the affected entities. |
| R4. Each Reliability Coordinator shall resolve any scheduling of potential reliability conflicts. | Proposed IRO-001-3, R2<br><br>Proposed IRO-005-4, R1 | Moved to the proposed IRO-001-3, Requirements R3 and proposed IRO-005-4, Requirement R1 which gives the Reliability Coordinator the authority to resolve the conflict.<br><br>IRO-001-3, R2:<br>Each Reliability Coordinator shall take actions or direct actions, which could include issuing Reliability Directives, of Transmission Operators, Balancing Authorities, Generator Operators, Interchange Coordinators and Distribution Providers within its Reliability Coordinator Area to prevent identified events or mitigate the magnitude or duration of actual events that result in Adverse Reliability Impacts.<br><br>IRO-005-4, R1:<br>When the results of an Operational Planning Analysis or Real-time Assessment indicate an anticipated or actual condition with Adverse Reliability Impacts within its Reliability Coordinator Area, each Reliability Coordinator shall notify all impacted Transmission Operators and Balancing Authorities in its Reliability Coordinator Area. |
| Standard TOP-004-2 — Transmission Operations | | |
| Requirement in Approved Standard | Translation to New Standard or Other Action | Proposed Language in New Standard or Comment |
| R1. Each Transmission Operator shall operate within the Interconnection Reliability Operating Limits (IROLs) and System Operating Limits (SOLs). | Proposed TOP-001-2, Requirements R7 and R9 | Moved to proposed TOP-001-2, Requirements R7 and R9.<br><br>TOP-001-2, R7. Each Transmission Operator shall not operate outside any identified Interconnection Reliability Operating Limit (IROL) for a continuous duration exceeding its associated IROL $T_v$.<br><br>TOP-001-2, R9. Each Transmission Operator shall not operate outside any System Operating Limit (SOL) |

| | | |
|---|---|---|
| | | identified in Requirement R8 for a continuous duration that would cause a violation of the Facility Rating or Stability criteria upon which it is based. |
| R2. Each Transmission Operator shall operate so that instability, uncontrolled separation, or cascading outages will not occur as a result of the most severe single contingency. | Proposed TOP-001-2, Requirements R7and R9 | Moved to proposed TOP-001-2, Requirements R7and R9.<br><br>TOP-001-2, R7. Each Transmission Operator shall not operate outside any identified Interconnection Reliability Operating Limit (IROL) for a continuous duration exceeding its associated IROL $T_v$.<br><br>TOP-001-2, R9. Each Transmission Operator shall not operate outside any System Operating Limit (SOL) identified in Requirement R8 for a continuous duration that would cause a violation of the Facility Rating or Stability criteria upon which it is based. |
| R3. Each Transmission Operator shall operate to protect against instability, uncontrolled separation, or cascading outages resulting from multiple outages, as specified by its Reliability Coordinator. | Proposed TOP-001-2, Requirements R7 and R9 | Moved to proposed TOP-001-2, Requirements R7 and R9. These requirements are not limited by single or multiple Contingencies but are based solely on identified IROLs (and selected SOLs) regardless of how they were identified or whether they were identified by the Transmission Operator or Reliability Coordinator.<br><br>FAC-011-02 and FAC-014-2 work collectively to establish how multiple contingencies are considered in IROLs and SOLs.<br><br>FAC-014-2, R6 requires the Planning Coordinator to identify the subset of multiple contingencies from TPL-003 which result in stability limits and to provide this list to the Reliability Coordinators.<br><br>FAC-011-2, R3.3 requires the Reliability Coordinator to include in their SOL methodology a process for determining which of the stability limits associated with multiple contingencies are used to establish SOLs.<br><br>FAC-014-2, R1 requires the Reliability Coordinator to determine which subset of SOLs qualify as IROLS.<br><br>FAC-014-2, R1 requires the Reliability Coordinator to ensure SOLs, including IROLs, are established for its |

| | | |
|---|---|---|
| | | Reliability Coordinator Area while FAC-014-2, R2 also requires the TOP to establish SOLs for its area. Thus, IROLs and SOLs that consider multiple outages will be developed appropriately and the Transmission Operator will operate to them.<br><br>FAC-011-2, R1, The Reliability Coordinator shall have a documented methodology for use in developing SOLs (SOL Methodology) within its Reliability Coordinator Area. This SOL Methodology shall:<br>R1.3. Include a description of how to identify the subset of SOLs that qualify as IROLs.<br><br>FAC-011-2, R3, The Reliability Coordinator's methodology for determining SOLs, shall include, as a minimum, a description of the following, along with any reliability margins applied for each:<br><br>R3.3. A process for determining which of the stability limits associated with the list of multiple contingencies (provided by the Planning Authority in accordance with FAC-014 Requirement 6) are applicable for use in the operating horizon given the actual or expected system conditions.<br><br>R3.3.1. This process shall address the need to modify these limits, to modify the list of limits, and to modify the list of associated multiple contingencies.<br><br>FAC-014-2, R1, The Reliability Coordinator shall ensure that SOLs, including Interconnection Reliability Operating Limits (IROLs), for its Reliability Coordinator Area are established and that the SOLs (including Interconnection Reliability Operating Limits) are consistent with its SOL Methodology.<br><br>FAC-014-2, R2, The Transmission Operator shall establish SOLs (as directed by its Reliability Coordinator) for its portion of the Reliability Coordinator Area that are consistent with its Reliability Coordinator's SOL Methodology. |

| | | |
|---|---|---|
| | | FAC-014-2 R6, The Planning Authority shall identify the subset of multiple contingencies (if any), from Reliability Standard TPL-003 which result in stability limits.<br><br>R6.1. The Planning Authority shall provide this list of multiple contingencies and the associated stability limits to the Reliability Coordinators that monitor the facilities associated with these contingencies and limits.<br><br>R6.2. If the Planning Authority does not identify any stability-related multiple contingencies, the Planning Authority shall so notify the Reliability Coordinator.<br><br>TOP-001-2, R7:<br>Each Transmission Operator shall not operate outside any identified Interconnection Reliability Operating Limit (IROL) for a continuous duration exceeding its associated IROL $T_v$.<br><br>TOP-001-2, R9:<br>Each Transmission Operator shall not operate outside any System Operating Limit (SOL) identified in Requirement R8 for a continuous duration that would cause a violation of the Facility Rating or Stability criteria upon which it is based. |
| R4. If a Transmission Operator enters an unknown operating state (i.e. any state for which valid operating limits have not been determined), it will be considered to be in an emergency and shall restore operations to respect proven reliable power system limits within 30 minutes. | Proposed TOP-001-2, Requirements R7 and R9<br><br>Approved EOP-006-2 | The SDT has determined a better way to handle such a situation is to treat it like an IROL or restoration scenario and to take the same type of actions that you would apply for alleviating those situations. Therefore, it is replaced by proposed TOP-001-2, Requirements R7 and R9 and the approved EOP-006-2. This allows the operator sufficient flexibility within a structured environment to take the necessary actions for the reliability of the bulk power system.<br><br>TOP-001-2, R7. Each Transmission Operator shall not operate outside any identified Interconnection Reliability Operating Limit (IROL) for a continuous duration exceeding its associated IROL $T_v$. |

| | | |
|---|---|---|
| | | TOP-001-2, R9. Each Transmission Operator shall not operate outside any System Operating Limit (SOL) identified in Requirement R8 for a continuous duration that would cause a violation of the Facility Rating or Stability criteria upon which it is based.<br><br>EOP-006-2, Purpose: Ensure plans are established and personnel are prepared to enable effective coordination of the System restoration process to ensure reliability is maintained during restoration and priority is placed on restoring the Interconnection. |
| R5. Each Transmission Operator shall make every effort to remain connected to the Interconnection. If the Transmission Operator determines that by remaining interconnected, it is in imminent danger of violating an IROL or SOL, the Transmission Operator may take such actions, as it deems necessary, to protect its area. | Deleted | The Transmission Operator does not have the right to unilaterally separate – that can only be done through the authorization of the Reliability Coordinator, thus this requirement is a moot point under the Functional Model definitions and can be deleted. |
| R6. Transmission Operators, individually and jointly with other Transmission Operators, shall develop, maintain, and implement formal policies and procedures to provide for transmission reliability. These policies and procedures shall address the execution and coordination of activities that impact inter- and intra-Regional reliability, including:<br>6.1 - Monitoring and controlling voltage levels and real and reactive power flows.<br>6.2 - Switching transmission elements.<br>6.3 - Planned outages of transmission elements.<br>6.4 - Responding to IROL and SOL violations. | Proposed TOP-001-2<br><br>Approved VAR-001-1, Requirement R1<br><br>Proposed TOP-001-2, Requirements R7 and R9<br><br>ProposedTOP-001-2, Requirement R5<br><br>Proposed TOP-001-2, Requirement R11 | The first sentence has been superseded by the NERC Reliability Standards taken as a whole. Examples of such would be the proposed TOP-001-2.<br><br>The second sentence was replaced as follows:<br><br>R6.1 is duplicative of approved VAR-001-1, Requirement R1 for reactive. Real power flows are covered in proposed TOP-001-2, Requirements R7 and R9.<br><br>R6.2 is covered in proposed TOP-001-2, Requirement R5<br><br>R6.3 – moved to proposedTOP-001-2, Requirement R5<br><br>R6.4 – moved to proposed TOP-001-2, Requirement R11.<br><br>TOP-001-2, Purpose: To prevent instability, |

| | | |
|---|---|---|
| | | uncontrolled separation, or cascading outages that adversely impact the reliability of the interconnection by ensuring prompt action to prevent or mitigate such occurrences<br><br>VAR-001-1, R1. Each Transmission Operator, individually and jointly with other Transmission Operators, shall ensure that formal policies and procedures are developed, maintained, and implemented for monitoring and controlling voltage levels and Mvar flows within their individual areas and with the areas of neighboring Transmission Operators.<br><br>TOP-001-2, R7. Each Transmission Operator shall not operate outside any identified Interconnection Reliability Operating Limit (IROL) for a continuous duration exceeding its associated IROL $T_v$.<br><br>TOP-001-2, R9. Each Transmission Operator shall not operate outside any System Operating Limit (SOL) identified in Requirement R8 for a continuous duration that would cause a violation of the Facility Rating or Stability criteria upon which it is based.<br><br>TOP-001-2, R5. Each Transmission Operator shall inform its Reliability Coordinator and other Transmission Operators of its operations known or expected to result in an Adverse Reliability Impact on those respective Transmission Operator Areas unless conditions do not permit such communications. Such operations may include relay or equipment failures and changes in generation, Transmission, or Load.<br><br>TOP-001-2, R11. Each Transmission Operator shall act or direct others to act, to mitigate both the magnitude and duration of exceeding an IROL within the IROL's $T_v$, or of an SOL identified in Requirement R8. |
| Standard TOP-005-1 — Operational Reliability Information | | |
| Requirement in Approved Standard | Translation to New Standard or Other Action | Proposed Language in New Standard or Comment |

| | | |
|---|---|---|
| R1. Each Transmission Operator and Balancing Authority shall provide its Reliability Coordinator with the operating data that the Reliability Coordinator requires to perform operational reliability assessments and to coordinate reliable operations within the Reliability Coordinator Area. 1.1 - Each Reliability Coordinator shall identify the data requirements from the list in Attachment 1-TOP-005-0 "Electric System Reliability Data" and any additional operating information requirements relating to operation of the bulk power system within the Reliability Coordinator Area. | Approved IRO-010-1a, Requirement R3 | Moved to approved IRO-010-1a, Requirement R3.<br><br>IRO-010-1a, R3. Each Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-serving Entity, Reliability Coordinator, Transmission Operator, and Transmission Owner shall provide data and information, as specified, to the Reliability Coordinator(s) with which it has a reliability relationship. |
| R2. As a condition of receiving data from the Interregional Security Network (ISN), each ISN data recipient shall sign the NERC Confidentiality Agreement for "Electric System Reliability Data." | Deleted | Confidentiality is not a reliability issue but a market or business issue. Since this is not a reliability issue, it does not belong in the Reliability Standards and can be deleted. |
| R3. Upon request, each Balancing Authority and Transmission Operator shall provide to other Balancing Authorities and Transmission Operators with immediate responsibility for operational reliability, the operating data that are necessary to allow these Balancing Authorities and Transmission Operators to perform operational reliability assessments and to coordinate reliable operations. Balancing Authorities and Transmission Operators shall provide the types of data as listed in Attachment 1-TOP-005-0 "Electric System Reliability Data," unless otherwise agreed to by the | Proposed TOP-003-2, Requirement R5 | Replaced by proposed TOP-003-2, Requirement R5.<br><br>TOP-003-2, R5. Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-Serving Entity, and Transmission Owner receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications for data. |

| | | |
|---|---|---|
| Balancing Authorities and Transmission Operators with immediate responsibility for operational reliability. | | |
| R4. Each Purchasing-Selling Entity shall provide information as requested by its Host Balancing Authorities and Transmission Operators to enable them to conduct operational reliability assessments and coordinate reliable operations. | Deleted | Deleted as redundant to NAESB standard –All operating data that a Purchasing Selling Entity has that a Transmission Operator or Balancing Authority needs is part of eTag and is acquired through that system. |
| Standard TOP-006-1 – Monitoring System Conditions | | |
| Requirement in Approved Standard | Translation to New Standard or Other Action | Proposed Language in New Standard or Comment |
| R1. Each Transmission Operator and Balancing Authority shall know the status of all generation and transmission resources available for use. 1.1 - Each Generator Operator shall inform its Host Balancing Authority and the Transmission Operator of all generation resources available for use. 1.2 - Each Transmission Operator and Balancing Authority shall inform the Reliability Coordinator and other affected Balancing Authorities and Transmission Operators of all generation and transmission resources available for use. | Proposed TOP-003-2, Requirements R1 & R2<br><br>Approved IRO-010-1a, Requirement R3. | R1 & R1.1 are replaced by proposed TOP-003-2, Requirement R1.<br>R1.2 – replaced by approved IRO-010-1a, Requirement R3.<br><br>TOP-003-2, R1. Each Transmission Operator shall create a documented specification for the data necessary for it to perform its required Operational Planning Analyses and Real-time monitoring.<br><br>IRO-010-1a, R3. Each Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-serving Entity, Reliability Coordinator, Transmission Operator, and Transmission Owner shall provide data and information, as specified, to the Reliability Coordinator(s) with which it has a reliability relationship. |
| R2. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall monitor applicable transmission line status, real and reactive power flows, voltage, load-tap-changer settings, and status of rotating and static reactive resources. | Proposed TOP-003-2, Requirements R1 & R2<br><br>Approved IRO-010-1a, Requirement R3.<br><br>Approved BAL-005-0.1b. | Replaced by proposed TOP-003-2, Requirement R1 for the Transmission Operator & R2 for Balancing Authority.<br><br>Replaced by approved IRO-010-1a, Requirement R1 for the Reliability Coordinator.<br><br>TOP-003-2, R1. Each Transmission Operator shall create a documented specification for the data necessary for it to perform its required Operational |

| | | |
|---|---|---|
| | Proposed TOP-001-2, Requirement R10.<br><br>Approved IRO-008-1, Requirement R2. | Planning Analyses and Real-time monitoring.<br><br>TOP-003-2, R2. Each Balancing Authority shall create a documented specification for the data necessary for it to perform its required Real-time monitoring.<br><br>IRO-010-1a, R1. The Reliability Coordinator shall have a documented specification for data and information to build and maintain models to support Real-time monitoring, Operational Planning Analyses, and Real-time Assessments of its Reliability Coordinator Area to prevent instability, uncontrolled separation, and cascading outages.<br><br>The act of monitoring is un-measureable. Entities will be in violation of other standards if they don't perform adequate monitoring. For example, approved BAL-005-0.1b for ACE calculations (Balancing Authority); proposed TOP-001-2, Requirement R10 for Transmission Operator avoiding IROLs, and approved IRO-008-1, Requirement R2 for Real-time assessments every 30 minutes for Reliability Coordinators.<br><br>BAL-005-01b, Purpose: This standard establishes requirements for Balancing Authority Automatic Generation Control (AGC) necessary to calculate Area Control Error (ACE) and to routinely deploy the Regulating Reserve. The standard also ensures that all facilities and load electrically synchronized to the Interconnection are included within the metered boundary of a Balancing Area so that balancing of resources and demand can be achieved.<br><br>TOP-001-2, R10. Each Transmission Operator shall inform its Reliability Coordinator of its actions to return the system to within limits when an IROL, or each SOL identified in Requirement R8, has been exceeded.<br><br>IRO-008-1, R1. Each Reliability Coordinator shall perform a Real-Time Assessment at least once every 30 minutes to determine if its Wide Area is exceeding any IROLs or is expected to exceed any IROLs. |

| | | |
|---|---|---|
| R3. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall provide appropriate technical information concerning protective relays to their operating personnel. | Proposed TOP-003-2, Requirements R1 & R2<br><br>Approved IRO-010-1a, Requirement R3. | Replaced by proposed TOP-003-2, Requirement R1 for the Transmission Operator & R2 for Balancing Authority.<br><br>Replaced by approved IRO-010-1a, Requirement R1 for the Reliability Coordinator.<br><br>TOP-003-2, R1. Each Transmission Operator shall create a documented specification for the data necessary for it to perform its required Operational Planning Analyses and Real-time monitoring.<br><br>TOP-003-2, R2. Each Balancing Authority shall create a documented specification for the data necessary for it to perform its required Real-time monitoring.<br><br>IRO-010-1a, R1. The Reliability Coordinator shall have a documented specification for data and information to build and maintain models to support Real-time monitoring, Operational Planning Analyses, and Real-time Assessments of its Reliability Coordinator Area to prevent instability, uncontrolled separation, and cascading outages. |
| R4. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have information, including weather forecasts and past load patterns, available to predict the system's near-term load pattern. | Proposed TOP-003-2, Requirements R1 & R2<br><br>Approved IRO-010-1a, Requirement R3. | Replaced by proposed TOP-003-2, Requirement R1 for the Transmission Operator & R2 for Balancing Authority.<br><br>Replaced by approved IRO-010-1a, Requirement R1 for the Reliability Coordinator.<br><br>TOP-003-2, R1. Each Transmission Operator shall create a documented specification for the data necessary for it to perform its required Operational Planning Analyses and Real-time monitoring.<br><br>TOP-003-2, R2. Each Balancing Authority shall create a documented specification for the data necessary for it to perform its required Real-time monitoring.<br><br>IRO-010-1a, R1. The Reliability Coordinator shall have a documented specification for data and information to build and maintain models to support Real-time monitoring, Operational Planning Analyses, and Real-time Assessments of its Reliability Coordinator Area to |

| | | |
|---|---|---|
| | | prevent instability, uncontrolled separation, and cascading outages. |
| R5. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall use monitoring equipment to bring to the attention of operating personnel important deviations in operating conditions and to indicate, if appropriate, the need for corrective action. | Deleted | Deleted as this is covered in the certification process for initial core capabilities. Entities will be in violation of other standards if they don't maintain their initial certification. For example, approved BAL-005-0.1b for ACE calculations (Balancing Authority); proposed TOP-001-2, Requirement R10 for Transmission Operator avoiding IROLs; approved IRO-008-1, Requirement R2 for real-time assessments every 30 minutes for Reliability Coordinators<br><br>BAL-005-01b, Purpose: This standard establishes requirements for Balancing Authority Automatic Generation Control (AGC) necessary to calculate Area Control Error (ACE) and to routinely deploy the Regulating Reserve. The standard also ensures that all facilities and load electrically synchronized to the Interconnection are included within the metered boundary of a Balancing Area so that balancing of resources and demand can be achieved.<br><br>TOP-001-2, R10. Each Transmission Operator shall inform its Reliability Coordinator of its actions to return the system to within limits when an IROL, or each SOL identified in Requirement R8, has been exceeded.<br><br>IRO-008-1, R1. Each Reliability Coordinator shall perform a Real-Time Assessment at least once every 30 minutes to determine if its Wide Area is exceeding any IROLs or is expected to exceed any IROLs. |
| R6. Each Balancing Authority and Transmission Operator shall use sufficient metering of suitable range, accuracy and sampling rate (if applicable) to ensure accurate and timely monitoring of operating conditions under both normal and emergency situations. | Deleted | Deleted – covered in certification process for initial core capabilities. Entities will be in violation of other standards if they don't maintain their initial certification. For example, approved BAL-005-0.1b for ACE calculations (Balancing Authority); proposed TOP-001-2, Requirement R7 for Transmission Operator avoiding IROLs.<br><br>BAL-005-01b, Purpose: This standard establishes requirements for Balancing Authority Automatic Generation Control (AGC) necessary to calculate Area Control Error (ACE) and to routinely deploy the |

| | | |
|---|---|---|
| | | Regulating Reserve. The standard also ensures that all facilities and load electrically synchronized to the Interconnection are included within the metered boundary of a Balancing Area so that balancing of resources and demand can be achieved.<br><br>TOP-001-2, R7. Each Transmission Operator shall not operate outside any identified Interconnection Reliability Operating Limit (IROL) for a continuous duration exceeding its associated IROL $T_v$. |
| R7. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall monitor system frequency. | Deleted | Deleted – covered in certification process for initial core capabilities. Entities will be in violation of other standards if they don't maintain their initial certification. For example, approved BAL-005-0.1b for ACE calculations (Balancing Authority); approved EOP-003-1, Requirement R2 for Transmission Operator avoiding underfrequency; approved EOP-006-2, Requirement R8 for resynchronization for Reliability Coordinators.<br><br>BAL-005-01b, Purpose: This standard establishes requirements for Balancing Authority Automatic Generation Control (AGC) necessary to calculate Area Control Error (ACE) and to routinely deploy the Regulating Reserve. The standard also ensures that all facilities and load electrically synchronized to the Interconnection are included within the metered boundary of a Balancing Area so that balancing of resources and demand can be achieved.<br><br>EOP-003-1, R2. Each Transmission Operator and Balancing Authority shall establish plans for automatic load shedding for underfrequency or undervoltage conditions.<br><br>EOP-006-2, R8. The Reliability Coordinator shall coordinate or authorize resynchronizing islanded areas that bridge boundaries between Transmission Operators or Reliability Coordinators. If the resynchronization cannot be completed as expected the Reliability<br>Coordinator shall utilize its restoration plan strategies to facilitate resynchronization. |

| Standard TOP-007-0 - Reporting System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) Violations | | |
|---|---|---|
| Requirement in Approved Standard | Translation to New Standard or Other Action | Proposed Language in New Standard or Comment |
| R1. A Transmission Operator shall inform its Reliability Coordinator when an IROL or SOL has been exceeded and the actions being taken to return the system to within limits. | Proposed TOP-001-2, Requirement R10 | Moved to proposed TOP-001-2, Requirement R10.<br><br>TOP-001-2, R10. Each Transmission Operator shall inform its Reliability Coordinator of its actions to return the system to within limits when an IROL, or each SOL identified in Requirement R8, has been exceeded. |
| R2. Following a Contingency or other event that results in an IROL violation, the Transmission Operator shall return its transmission system to within IROL as soon as possible, but not longer than 30 minutes. | Proposed TOP-001-2, Requirement R11 | Moved to proposed TOP-001-2, Requirement R11.<br><br>TOP-001-2, R11. Each Transmission Operator shall act or direct others to act, to mitigate both the magnitude and duration of exceeding an IROL within the IROL's $T_v$, or of an SOL identified in Requirement R8 within 30 minutes. |
| R3. A Transmission Operator shall take all appropriate actions up to and including shedding firm load, or directing the shedding of firm load, in order to comply with Requirement R2. | Approved EOP-003-1, Requirements R1 and in proposed EOP-003-2, Requirement R1 | Replaced by approved EOP-003-1, Requirements R1.<br><br>EOP-003-1, R1. After taking all other remedial steps, a Transmission Operator or Balancing Authority operating with insufficient generation or transmission capacity shall shed customer load rather than risk an uncontrolled failure of components or cascading outages of the Interconnection. |
| R4. The Reliability Coordinator shall evaluate actions taken to address an IROL or SOL violation and, if the actions taken are not appropriate or sufficient, direct actions required to return the system to within limits. | Approved IRO-008-1, Requirement R3 | Replaced by approved IRO-008-1, Requirement R3.<br><br>IRO-008-1, R3. When a Reliability Coordinator determines that the results of an Operational Planning Analysis or Real-Time Assessment indicates the need for specific operational actions to prevent or mitigate an instance of exceeding an IROL, the Reliability Coordinator shall share its results with those entities that are expected to take those actions. |
| Standard TOP-008-1 - Response to Transmission Limit Violations | | |
| Requirement in Approved Standard | Translation to New Standard or Other Action | Proposed Language in New Standard or Comment |
| R1. The Transmission Operator experiencing or contributing to | Approved EOP-003-1, | Replaced by approved EOP-003-1, Requirements R1 and proposed TOP-001-2, Requirement R11. |

| | | |
|---|---|---|
| an IROL or SOL violation shall take immediate steps to relieve the condition, which may include shedding firm load. | Requirements R1 and in proposed EOP-003-2, Requirement R1<br><br>Proposed TOP-001-2, Requirement R11 | EOP-003-1, R1. After taking all other remedial steps, a Transmission Operator or Balancing Authority operating with insufficient generation or transmission capacity shall shed customer load rather than risk an uncontrolled failure of components or cascading outages of the Interconnection.<br><br>TOP-001-2, R11. Each Transmission Operator shall act or direct others to act, to mitigate both the magnitude and duration of exceeding an IROL within the IROL's $T_v$, or of an SOL identified in Requirement R8. |
| R2. Each Transmission Operator shall operate to prevent the likelihood that a disturbance, action, or inaction will result in an IROL or SOL violation in its area or another area of the Interconnection. In instances where there is a difference in derived operating limits, the Transmission Operator shall always operate the Bulk Electric System to the most limiting parameter. | Proposed TOP-001-2, Requirements R7 and R9<br><br>Approved IRO-009-1, Requirement R5 | First sentence – Replaced by proposed TOP-001-2, Requirements R7 and R9.<br><br>Second sentence – Replaced by approved IRO-009-1, Requirement R5 for the Reliability Coordinator who is now responsible for such matters.<br><br>TOP-001-2, R7. Each Transmission Operator shall not operate outside any identified Interconnection Reliability Operating Limit (IROL) for a continuous duration exceeding its associated IROL $T_v$.<br><br>TOP-001-2, R9. Each Transmission Operator shall not operate outside any System Operating Limit (SOL) identified in Requirement R8 for a continuous duration that would cause a violation of the Facility Rating or Stability criteria upon which it is based.<br><br>IRO-009-1, R5. If unanimity cannot be reached on the value for an IROL or its Tv, each Reliability Coordinator that monitors that Facility (or group of Facilities) shall, without delay, use the most conservative of the values (the value with the least impact on reliability) under consideration. |
| R3. The Transmission Operator shall disconnect the affected facility if the overload on a transmission facility or abnormal voltage or reactive condition persists and equipment is | Deleted | Placing this procedure in a requirement when it is only one of the possible options for alleviating the condition is bad practice and should not be mandated in standards. A standard should not be mandating disconnection. This is in conflict with other Reliability Standards where disconnection is dependent on |

| | | |
|---|---|---|
| endangered. In doing so, the Transmission Operator shall notify its Reliability Coordinator and all neighboring Transmission Operators impacted by the disconnection prior to switching, if time permits, otherwise, immediately thereafter. | | System conditions and coordination with other functional entities. Such actions, taken unilaterally, could make conditions worse. |
| R4. The Transmission Operator shall have sufficient information and analysis tools to determine the cause(s) of SOL violations. This analysis shall be conducted in all operating timeframes. The Transmission Operator shall use the results of these analyses to immediately mitigate the SOL violation. | Proposed TOP-003-2, Requirement R1<br><br>Proposed TOP-002-3, Requirement R1<br><br>Proposed TOP-001-2, Requirement R7<br><br>Proposed TOP-001-2, Requirement R11 | Data piece is replaced by proposed TOP-003-2, Requirement R1.<br><br>Analysis tools are covered in the certification process for core capabilities and therefore are not needed here. The Transmission Operator will be in violation of other standards if they don't maintain their initial certification. For example, they can't develop their limits without maintaining their tools.<br><br>Replaced by proposed TOP-002-3, Requirement R1 for analysis.<br><br>Replaced by proposed TOP-001-2, Requirement R7 for real-time analysis required for IROL mitigation.<br><br>Proposed TOP-001-2, Requirement R11 covers mitigation of limit violations.<br><br>TOP-003-2, R1. Each Transmission Operator shall create a documented specification for the data necessary for it to perform its required Operational Planning Analyses and Real-time monitoring.<br><br>TOP-002-3, R1. Each Transmission Operator shall have an Operational Planning Analysis that represents projected System conditions.<br><br>TOP-001-2, R7. Each Transmission Operator shall not operate outside any identified Interconnection Reliability Operating Limit (IROL) for a continuous duration exceeding its associated IROL $T_v$.<br><br>TOP-001-2, R11. Each Transmission Operator shall act or direct others to act, to mitigate both the magnitude and duration of exceeding an IROL within |

| | | |
|---|---|---|
| | | the IROL's $T_v$, or of an SOL identified in Requirement R8. |
| Standard PER-001-0 - Operating Personnel Responsibility and Authority | | |
| Requirement in Approved Standard | Translation to New Standard or Other Action | Proposed Language in New Standard or Comment |
| R1. Each Transmission Operator and Balancing Authority shall provide operating personnel with the responsibility and authority to implement real-time actions to ensure the stable and reliable operation of the Bulk Electric System. | Deleted | In FERC Order 693a, paragraph 112, the Commission clarifies that a Reliability Coordinator's authority to issue directives arises out of the Commission's approval of Reliability Standards that mandate compliance with such directives. The SDT reasonably applied this same logic to Transmission Operators and Balancing Authorities and that makes this requirement superfluous and thus it can be deleted.<br><br>FERC Order 693a, paragraph 112:<br>In response to Avista, the Commission clarifies that a reliability coordinator's authority to issue directives arises out of the Commission's approval of Reliability Standards that mandate compliance with such directives. Avista is correct that contracts are unnecessary to authorize reliability coordinators to issue directives. Under the voluntary reliability scheme in place prior to section 215 of the FPA, a contractual basis was needed to assure that entities would comply with a reliability coordinator's directive. Pursuant to the current, mandatory reliability scheme established by statute, contracts are no longer needed. We view the concerns raised by Avista as part of the transition from a voluntary to mandatory scheme. Although, as noted by Avisa, IRO-001-1 retains references to contracts, we view these as vestiges of an earlier program that no longer control given the current, mandatory mechanism. |
| Standard PRC-001-1 – System Protection Coordination | | |
| Requirement in Approved Standard | Translation to New Standard or Other Action | Proposed Language in New Standard or Comment |
| R2. Each Generator Operator and Transmission Operator shall notify reliability entities of relay or equipment failures as follows: | Proposed TOP-003-2, Requirement R5. | Moved to proposed TOP-003-2, R5:<br><br>TOP-003-2, R5. Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-Serving Entity, and |

| | | |
|---|---|---|
| | | Transmission Owner receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications for data. |