

Resolution of Issues Assigned to Project 2007-03 Real-time Operations ~~SDT (Project 2007-03)~~ Standard Drafting Team

| Standard | Source | Language | Resolution |
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| TOP-001 | | | |
| TOP-001-1 | FERC Order 693 | 1580 - Consider adding other measures and levels of non-compliance. | Measures and VSLs have been assigned to all requirements. |
| TOP-001-1 | FERC Order 693 | 1585 - Clarify the definition of “emergency” and define the criteria for entering into the various states. Also define the authority for declaring these states. | <p>The RTOSDT feels that the TOP-001 standard should be restricted to Transmission System operations and that definition of operating states more correctly belong in EOP-001 as pointed out in Order 693, paragraph 560. To make certain that the issue is handled there; the RTOSDT has entered an official item in the NERC database of project issues in this regard. This will require the SDT working on revisions to EOP-001 to formally address this concern. EOP-001 is listed in the Reliability Standards Development Plan under Project 2009-03 which has not yet started.</p> <p>The TOP standards have been re-written to specifically address what a Transmission Operator is responsible for. The proposed TOP requirements are no longer restricted to the undefined term ‘operating emergency’ and are now more inclusive and stringent than the previous requirement. Indeed, the undefined term ‘operating emergency’ is no longer utilized in the proposed revisions. Therefore, any delay in defining operating states in the EOP Project has no effect on the TOP standards.</p> |
| TOP-001-1 | FERC Order 693 | 1588 - Consider Santa Clara’s comments to provide that the transmission operator may | This is covered in proposed TOP-001-2, Requirement R5. |

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| | | notify the reliability coordinator or the balancing authority that it is removing facilities from service as part of the standards development process. | |
| TOP-001-1 | Version 0 Team | What is 'clear decision making authority'? | Requirement using this term was deleted as not needed in a reliability standard. The standards already require the necessary actions. |
| TOP-001-1 | Version 0 Team | Need to define single, central communications point during emergencies | This is an issue for COM standards. |
| TOP-001-1 | Version 0 Team | Some emergencies will require follow up notification as opposed to immediate | Requirements have been re-written to eliminate confusion. |
| TOP-001-1 | Version 0 Team | Define emergency | The RTOSDT feels that the TOP-001 standard should be restricted to Transmission System operations and that definition of operating states more correctly belong in EOP-001 as pointed out in Order 693, paragraph 560. To make certain that the issue is handled there; the RTOSDT has entered an official item in the NERC database of project issues in this regard. This will require the SDT working on revisions to EOP-001 to formally address this concern. EOP-001 is listed in the Reliability Standards Development Plan under Project 2009-03 which has not yet started. |
| TOP-001-1 | Version 0 Team | Need to expand included entities | Applicability has been reviewed by the SDT and changed as required. |
| TOP-002 | | | |
| TOP-002-2 | FERC Order 693 | 1600 - Address critical energy infrastructure confidentiality as part of the routine standard development process. | Restrictions due to confidentiality have been eliminated by re-writing the data specification requirements in proposed TOP-003-2. |

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| TOP-00-2 | FERC Order 693 | 1601 – Require next day analysis for all IROs to identify and communicate control actions to system operators | See proposed TOP-002-3, Requirements R1, R2, and R3. |
| TOP-002-2 | FERC Order 693 | 1603 - Requires next-day analysis of minimum voltages at nuclear power plants auxiliary power buses. | <p>Next day analysis is required in proposed TOP-002-3, R1. A specified minimum voltage limit is by definition an SOL which must be studied in proposed TOP-002-3, Requirement R1. Additionally, approved NUC-001-2, Requirements R3 & R4.1 require the transmission entity to incorporate NPIRs in their planning and operating analyses. Approved FAC-011-2 and approved FAC-014-2, Requirement R2 require the Transmission Operator to incorporate SOLs into their analyses. All data required for Operational Planning Analyses is stipulated in proposed TOP-003-2.</p> <p>Approved NUC-001-2, Requirements R3 & R8 covers the information flowing back to the nuclear plant operator.</p> |
| TOP-002-2 | FERC Order 693 | 1604/1608 - Requires simulation contingencies to match what will actually happen in the field. | This is covered in proposed TOP-002-3, Requirement R1 by the phrase “... <u>and shall</u> represent projected System conditions”. |
| TOP-002-2 | FERC Order 693 | 1606 - Commenters did not take issue with the proposed interpretation of the term “deliverability” as “the ability to deliver the output from generation resources to firm load without any reliability criteria violations for plausible generation dispatches.” ¹ The Commission adopts this proposed | <p>Deliverability and limits are included in Operational Planning Analysis in TOP-002-3, Requirement R1.</p> <p>Operational Planning Analysis contains deliverability and much more and is thus more stringent than the Order. Limit violations in the Operational Planning Analysis will show any deliverability problems regardless of type and proposed requirements mandate</p> |

¹ Id. at P 974.

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| | | interpretation. In order to ensure the necessary clarity, the term as used in Requirement R7 of TOP-002-2 should be understood in this manner. | that these issues be resolved. In addition, the proposed requirements clearly state that an individual entity, the Transmission Operator, is wholly responsible for these concerns which is an improvement over the previous vaguely worded requirement that placed this responsibility with the Balancing Authority which has no control over the issues involved. |
| TOP-002-1 | Fill in the Blank Team | Remove "in accordance with NERC, Regional Reliability Organization, sub-regional, and local reliability requirements" from R6 and "in accordance with filed tariffs and/or regional Total Transfer Capability and Available Transfer Capability calculation processes" from R12 . | Requirement R6 has been deleted. For the Balancing Authority – deleted as not applicable as the Balancing Authority needs only respond to CPS and DCS. For the Transmission Operator - replaced by proposed TOP-002-3, Requirement R1. Requirement R12 has been deleted as duplicative of MOD-030-2 (not yet approved). |
| TOP-002-2: R19 | NERC Audit Observation Team | How do you address the term - verify "Accurate" | Requirement R19 was eliminated as unmeasurable. |
| TOP-002-2 | NERC Standards DT Coordinators | Requirements R2, R5, and R6 (for coordination in real-time) of PRC-001-1 System Protection Coordination are better addressed in the TOP family of standards. Consider putting R5 of PRC-001-1 in TOP-002 R1, R3, R4, or R5 or TOP-003 R1, R3, R4 | See proposed TOP-003-2, Requirement R1. |
| TOP-002-1 | Version 0 Team | Define N-1 | Requirement R6 has been deleted. |

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| | | | <p>For the Balancing Authority – deleted as not applicable as the Balancing Authority needs only respond to CPS and DCS.</p> <p>For the Transmission Operator - replaced by proposed TOP-002-3, Requirement R1.</p> <p>This term is no longer in use for this standard.</p> |
| TOP-002-1 | Version 0 Team | Define ‘without intentional delay’ | This term was considered unmeasurable and has been deleted from this standard. |
| TOP-002-1 | Version 0 Team | Reliability should ‘trump’ confidentiality | The SDT has removed all references to confidentiality by re-writing the data specification requirements. |
| TOP-002-1 | Version 0 Team | Coordination of planning required | The SDT has re-written and tightened up the requirements for distributing data and information. |
| TOP-002-1 | Version 0 Team | Limit of 2 tests per year | This requirement has been deleted by the SDT as verification testing is not needed in this standard. |
| TOP-002-1 | VRF Team | R9 – related to INT-003 | Requirement R9 has been deleted as it is duplicative of approved INT-003-2 |
| TOP-002-1 | VRF Team | R14 & 14.1 – ambiguous | Deleted – duplicative of proposed TOP-003-2. |
| TOP-002-1 | VRF Team | R2 – administrative in nature, not a real requirement | The SDT agreed and deleted this requirement. |
| TOP-003 | | | |
| TOP-003-0 | FERC Order 693 | 1620 & 1621 - Incorporate an appropriate lead time for planned outages using suggestions from the various commenters. We direct the ERO to modify the Reliability | The SDT posed a question on this issue as a fact finding exercise in the second posting of this project in order to assist them in making a decision on how to respond to the FERC directive as requested in Order 693 – “The ERO should utilize the information filed by |

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| | | Standard to incorporate an appropriate lead time for planned outages. | <p>commenters in the Reliability Standards development process.” The majority of respondents indicated that they do not feel that there is a reliability based need for such a North American requirement. Several respondents pointed out that such a requirement (if needed at all for reliability) would be better suited to a regional standard and several others stated that such requirements already exist in their particular regions. There are several regions that have existing rules for lead times but they are all different and are based on the requirements of their regional markets. Any attempt to impose a North American standard runs the risk of interfering with those FERC approved markets. While NERC Reliability Standards are intended to promote reliability, they must at the same time accommodate competitive electricity markets.</p> <p>After reviewing the industry comments, the SDT concluded that proposed TOP-001-2, Requirements R5 & R6 adequately cover this issue. The SDT bases this position on the requirement which includes the Operations Planning Time Horizon that covers the period from one day to one year. The requirement mandates that actions are coordinated. The SDT interprets this to include planned outages when they are known.</p> <p>Therefore, the SDT has not included a standard lead time in the revised requirements.</p> |
| TOP-003-0 | FERC Order 693 | 1622 - Consider TVA’s suggestion for including breaker outages within the | New data specifications in proposed TOP-003-2 handle this concern. |

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| | | meaning of facilities that are subject to advance notice for planned outages. | |
| TOP-003-0 | FERC Order 693 | 1624 - Require any facility, that in the opinion of the reliability coordinator, balancing authority, or transmission operator, will have a direct impact on the reliability of the bulk power system be subject to the requirement R1 for planned outage coordination. | New data specifications in proposed TOP-003-2, Requirement R1 (and bullets) handle this concern. |
| TOP-003-0 | NERC Standards DT Coordinators | Requirements R2, R5, and R6 (for coordination in real-time) of PRC-001-1 System Protection Coordination are better addressed in the TOP family of standards. Consider putting R5 of PRC-001-1 in TOP-002 R1, R3, R4, or R5 or TOP-003 R1, R3, R4 | See proposed TOP-003-2, Requirement R1 |
| TOP-003-0 | Version 0 Team | Outage information needed sooner than 1 day prior | New data specifications in proposed TOP-003-2 handle this concern. |
| TOP-003-0 | Version 0 Team | RA can't request outage cancellation | Deleted – now covered in Project 2006-06. |
| TOP-003-0 | Version 0 Team | Submit outage data ASAP but no later than noon day ahead | New data specifications in proposed TOP-003-2 handle this concern. |
| TOP-003-0 | VRF Team | R4 – poorly written | Deleted – now covered in Project 2006-06. |
| TOP-003-1 | FMPA – Frank Gaffney | With respect to requirement R1.2, why is the TOP responsible for providing generator outage information? Isn't that the BA's or GOP's responsibility and isn't this redundant with IRO-010-1? | Requirement deleted as duplicative of proposed TOP-003-2, R1. |

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| TOP-004 | | | |
| TOP-004-1 | FERC Order 693 | 1636 - Modify requirement R4 to state that the system should be restored to respect proven limits as soon as possible taking no more than 30 minutes. | <p>Replaced by proposed TOP-001-2, R7 through R11. T_v is more stringent than the existing 30 minute requirement for IROLs and 30 minutes is retained for selected SOLs.</p> <p>Unknown states, in this context, cannot exist because valid operating limits have been determined for all Facilities in a TOP's footprint. The SDT feels that proposed EOP-001-2 dealing with emergency operations planning covers the general intent of being prepared to react to Emergencies.</p> |
| TOP-004-1 | FERC Order 693 | 1637 - Reliability coordinators should report any IROL violations to NERC on a monthly basis for one year beginning August 2, 2007. | Not within the scope of the SDT. |
| TOP-004-1 | FERC Order 693 | 1638 - Defines high risk conditions under which the system must be operated to respect multiple outages in requirement R3. We direct the ERO to develop a modification to the Reliability Standard that explicitly incorporates this interpretation with the details identified in the Reliability Standards development process (. . .the Commission proposed to interpret "multiple outages" in the context of Requirement R3 to include multiple element outages resulting from high risk conditions such as hurricanes, wild fires, ice storms or | <p>The SDT feels that proposed EOP-001-2 dealing with emergency operations planning covers the general intent of being prepared to react to the cited situations. The method chosen to respond to a given catastrophic challenge to a localized portion of the bulk power system cannot be predetermined by science; rather, it is an art. Reliability entities develop their response mechanisms based on experience in their local areas to achieve the maximum societal benefit during these periods.</p> <p>In addition, FAC-011-2 and FAC-014-2 deal with specific requirements for dealing with multiple contingencies.</p> |

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| | | <p>periods of high solar magnetic disturbances during which the probability of multiple outages approaches that of a single element outage. This is not an exhaustive list but is meant to contain illustrative examples, and the Reliability Standards development process should develop a procedure to identify applicable high risk conditions. Under . . . high-risk conditions, the Commission understands that systems are normally operated in a more secure manner so that the Bulk-Power System can withstand multiple outages. These multiple outages exceed the normal N-1 criterion because the probability of multiple outages during high risk conditions approaches that of a single outage during normal conditions.)</p> | |
| TOP-004-1 | FERC Order 693 | <p>1639 - Consider Santa Clara’s comments regarding changes to requirement R2 in the standards development process. (Santa Clara states that Requirement R2 of the Reliability Standard should be revised to include frequency monitoring in addition to the monitoring of voltage, real and reactive power flows.)</p> | <p>This is covered as part of the new data specification requirements in proposed TOP-003-2 for the Transmission Operator & Balancing Authority. The Reliability Coordinator is covered by proposed IRO-010-1, Requirement R3.</p> |
| TOP-004-1 | FERC Order 693 | <p>1641 - NERC should report the results of the survey to the Commission within 18 months</p> | <p>Not within the scope of the SDT.</p> |

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| | | of the effective date of this rule. | |
| TOP-004-1 | Fill in the Blank Team | No action required | No action required. |
| TOP-004-1 | Version 0 Team | Operations should conform to planning standards | Operations and planning are different timeframes with different problems and solutions |
| TOP-004-1 | Version 0 Team | Vagueness in application of IROL limits | Requirement moved to proposed TOP-001-2, Requirement R5 and clarified. |
| TOP-004-1 | Version 0 Team | Define SOL & IROL | These are defined terms in the NERC Glossary. |
| TOP-004-1 | Version 0 Team | Clarify roles | Applicability has been reviewed and updated as necessary. |
| TOP-004-1 | Version 0 Team | Define (or remove) practical | The term has been removed. |
| TOP-004-1 | Version 0 Team | Specify disconnection as acceptable in R5 | The requirement has been deleted. Relationships between the Reliability Coordinator and Transmission Operator as described in the revised standards cover these actions. |
| TOP-005 | | | |
| TOP-005-1 | FERC Order 693 | 1648 - Include information about the operational status of special protection systems and power system stabilizers in Attachment 1. | Attachment 1 has been deleted and replaced by the new data specification requirement in proposed TOP-003-2. |
| TOP-005-1 | FERC Order 693 | 1649 - Delete references to confidentiality agreements but ensure critical energy infrastructure confidentiality is addressed in the standards development process. | New data specifications in proposed TOP-003-2 handle this concern. |
| TOP-005-1 | FERC Order 693 | 1650 - Consider FirstEnergy's modifications to Attachment 1 and ISO-NE's recommended revision to requirement R4 in the standards | Attachment 1 has been deleted and replaced by the new data specification requirement in proposed TOP-003-2. |

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| | | development process. ISO-NE recommends that the reference to “purchasing-selling entity” in Requirement R4 should be replaced with “generator owner, transmission owner, and LSE. | Requirement R4 has been superseded by proposed TOP-003-2 which does include the indicated entities. |
| TOP-005-1 | NERC Standards DT Coordinators | Requirements R2, R5, and R6 (for coordination in real-time) of PRC-001-1 System Protection Coordination are better addressed in the TOP family of standards. Consider putting R2 of PRC-001-1 in TOP-005. Note: These requirements are being removed from PRC. | See proposed TOP-003-2, Requirement R1 |
| TOP-005-1 | Version 0 Team | Need to include GO & LSE | New data specifications in proposed TOP-003-2 handle this concern. |
| TOP-005-1 | Version 0 Team | Data update is too slow | New data specifications in proposed TOP-003-2 handle this concern. |
| TOP-005-1 | Version 0 Team | Generator data should include voltage control & stabilizers | New data specifications in proposed TOP-003-2 handle this concern. |
| TOP-005-1 | Version 0 Team | GO needs to supply data to BA & TO | New data specifications in proposed TOP-003-2 handle this concern |
| TOP-005-1 | Received for the November 4, 2009 Technical Conference on Interpretations of Standards | NERC staff believes that the interpretation does not support the stated purpose of IRO-005-1: “The Reliability Coordinator must be continuously aware of conditions within its Reliability Coordinator Area and include this information in its reliability assessments. The | While this issue was entered against the Transmission Operator as the interpretation request was primarily for TOP-005-1, the emphasis on such informative actions has shifted in current revision projects. The proposed IRO-010-1, Requirement R1 gives the Reliability Coordinator the right to ask for any reliability related data that they need to perform their Reliability Coordinator task. |

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| | from Manitoba Hydro | <p>Reliability Coordinator must monitor BES parameters that may have significant impacts upon the Reliability Coordinator Area and neighboring Reliability Coordinator Areas.” Given that Requirement R12 presupposes that the SPS is armed to address inter-Balancing Authority or inter-Transmission Operator impacts (e.g., could potentially affect transmission flows resulting in a SOL or IROL violation), the argument not discussed in the interpretation is that the SPS itself with one communication channel in service can be viewed for advance planning or reliability assessment purposes as a single contingency (loss of the communication channel). The question asked by the requestor indicates that the operation of the SPS on a single channel is known ahead of the timeframe for which the SPS may be armed and that the condition was not first identified when the SPS was called to operate.</p> <p>In this regard, the Reliability Coordinator must be aware of the less dependable state of the SPS in order to properly assess the impact and plan for the next single contingency that it conceivably could</p> | <p>And it also mandates the Transmission Operator to provide said data in Requirement R3. (Note – This standard has been approved by the BOT but has not yet been approved by FERC.)</p> |

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| | | <p>experience. In this case, the Reliability Coordinator may wish to consider the loss of an armed SPS when performing its reliability assessments. While the Reliability Coordinator may not elect to proactively position the system to withstand the loss of the SPS that is operating on a single communication channel, the Reliability Coordinator may elect to develop a contingency plan in the event the SPS does fail to operate as designed or if the remaining communication channel is lost. The importance of the SPS relative to current or anticipated system conditions would be considerations for the Reliability Coordinator. This consideration only becomes possible if the Transmission Operator notifies the Reliability Coordinator that the SPS is operating on a single communication channel. Therefore, Transmission Operator notification to the Reliability Coordinator of this condition raises the Reliability Coordinator’s situational awareness that may influence current or future operating conditions or decisions in a preventive rather than reactive manner. NERC staff does agree that the SPS</p> | |

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| | | <p>is still mission capable with only one communication channel in service, but degraded in terms of its dependability due to the unavailability of redundant communications channels. The fact that a second communications channel was part of the original design of the SPS suggests that both channels were important to the dependability of the system, and that the unavailability of either channel causes some degradation in the overall dependability of the SPS. Additionally, the team equated “any degradation” with “potential failure to operate as expected” in IRO-005. The use of the term “or” connecting these two phrases in the standard indicates these were not intended to be equivalent. Therefore, NERC staff believes the conclusion reached by the team that the two terms are synonymous is incorrect. Further, the specific circumstances contemplated in the interpretation request are not likely to occur often and the additional burden to Transmission Operators to notify the Reliability Coordinator is de minimis when compared to the improved situational awareness that would result. On</p> | |

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| | | this basis, NERC staff believes the interpretation is not serving the best interests of reliability and should be remanded to the team for further consideration of the NERC staff opinion. | |
| TOP-006 | | | |
| TOP-006-1 | FERC Order 693 | 1660 & 1661 - Add requirement related to the provision of minimum capabilities that are necessary to enable operators to deal with real-time situations and to ensure reliable operation of the bulk power system. | Minimum capabilities for Transmission Operators are being handled in project 2009-02, Real-time Monitoring and Analysis Capabilities. Requirement for phase angle information is covered by proposed TOP-003-2. |
| TOP-006-1 | FERC Order 693 | 1663 - Clarify the meaning of “appropriate technical information” concerning protective relays. To provide more clarity, criteria that define what “appropriate technical information” is necessary should be specified so that operators can make better informed decisions. | This term is no longer used. Requirement R3 deleted as duplicative of proposed PER-005-1 (training) and TOP-003-2 (data). |
| TOP-006-1 | FERC Order 693 | 1664 - Consider APPA’s comments regarding missing measures in the standards development process. | Measures have been assigned to all requirements. |
| TOP-006-1 | NERC Standards DT Coordinators | Requirements R2, R5, and R6 (for coordination in real-time) of PRC-001-1 System Protection Coordination are better addressed in the TOP family of standards. | See proposed TOP-003-2, Requirement R1 |

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| | | Consider putting R6 of PRC-001-1 in TOP-003 R5 or TOP-006. Note: These requirements are being retired in PRC-001-1. | |
| TOP-006-1 | Version 0 Team | Need to match roles with FM | Applicability has been reviewed by the SDT and changed as required in accordance with the FM and the Compliance Registry. |
| TOP-006-1 | Version 0 Team | Monitor frequency at multiple points | New data specifications in proposed TOP-003-2 handle this concern. |
| TOP-006-1 | Version 0 Team | Load forecasting data required | New data specifications in proposed TOP-003-2 handle this concern. |
| TOP-006-1 | Version 0 Team | GO needs to provide normal & emergency data | New data specifications in proposed TOP-003-2 handle this concern. |
| TOP-006-1 | VRFs Team | R1, 1.1, 1.2 – ‘available in emergency situation’ may be needed | New data specifications in proposed TOP-003-2 handle this concern. |
| TOP-006-1 | VRFs Team | R3 – define appropriate | This requirement was deleted as duplicative of approved PRC-001-1, Requirement R1. |
| TOP-006-1 | VRFs Team | R4 – What information is required and what is a load pattern? | New data specifications in proposed TOP-003-2 handle this concern. |
| TOP-006-2 | FMPA – Frank Gaffney | With respect to requirements R1 and R1.2, why are BAs responsible for information regarding transmission resources available for use? Isn't that the role of the TOP? | Deleted – covered as part of the new data specification requirements in proposed TOP-003-2. |
| TOP-006-2 | FMPA – Frank Gaffney | With respect to requirement R2, why is the BA responsible for monitoring transmission line status, voltage, load tap changer settings, and reactive power in general? | Deleted – SDT agrees. |

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| | | Monitoring and managing reactive resources, voltage and tap settings is clearly made the responsibility of the TOP in VAR-001-1a. | |
| TOP-006-2 | FMPA – Frank Gaffney | With respect to requirement R3 why does the BA need to understand protective relaying? Isn't that the role of the TOP and GOP? | Requirement R3 deleted as duplicative of proposed PER-005-1 (training) and proposed TOP-003-2 (data). |
| TOP-007 | | | |
| TOP-007-0 | FERC Order 693 | 1673 - Consider the NRC's comments on voltage requirements as part of the standards development process. | <p>Next day analysis is required in proposed TOP-002-3, R1. A specified minimum voltage limit is by definition an SOL which must be studied in proposed TOP-002-3, Requirement R1. Additionally, approved NUC-001-2, Requirements R3 & R4.1 require the transmission entity to incorporate NPIRs in their planning and operating analyses. Approved FAC-011-2 and approved FAC-014-2, Requirement R2 require the Transmission Operator to incorporate SOLs into their analyses. All data required for Operational Planning Analyses is stipulated in proposed TOP-003-2.</p> <p>Approved NUC-001-2, Requirements R3 & R8 covers the information flowing back to the nuclear plant operator.</p> |
| TOP-007-0 | Version 0 Team | Need to define evidence of evaluation | This term isn't used in the requirements – no action required. |
| TOP-007-0 | Version 0 Team | Need to tighten the non-compliance terms | Measures and VSL have been assigned to all requirements. |
| TOP-007-0 | Version 0 Team | Not enforceable with current criteria | Not enough information provided to address concern. |
| TOP-007-0 | Version 0 Team | RA should be included | Reliability Coordinator is now covered in Project 2006-06. |

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| TOP-007-0 | Version 0 Team | More of a compliance issue than a true standard | Not enough information provided to address concern. |
| TOP-008 | | | |
| TOP-008-1 | FERC Order 693 | 1681 - Consider APPA's comments regarding missing measures in the standards development process. | Measures have been assigned to all requirements. |
| PER-001 | | | |
| PER-001-0 | Version 0 Team | Data retention should be 1 year | This standard will be retired. |
| <u>Transferred from Project</u> | | | |
| <u>PRC-001</u> | <u>Project 2007-06</u> | <u>1441- S- Ref 10339 - Clarify the term corrective action. 1440. We believe that [t]he transmission operator shall take corrective action as soon as possible refers to transmission operators taking operator control actions. It does not refer to troubleshooting, repairing or replacing failed relays or equipment, etc., since these time-consuming corrective actions would prolong the risk of cascading failures to the Bulk-Power System. 1441. We direct the ERO to clarify the term corrective action consistent with this discussion when it modifies PRC-001-1 in the Reliability Standards development process.</u> | <u>Addressed in Requirement R5 in proposed TOP-001-2 where the Transmission Operator coordinates its operations.</u> |
| <u>PRC-001</u> | <u>Project 2007-06</u> | <u>1444 - S- Ref 10340 - Consider First Energy and the California PUCs comments about the</u> | <u>Addressed in Requirement R5 in proposed TOP-001-2 where the Transmission Operator coordinates its operations. The</u> |

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| | | <p><u>maximum time for corrective actions in the standards development process. 1428. California PUC contends that imposing a time restriction for returning a system to a stable state may cause more harm than good since additional information and options may be available as time elapses. It repeats its suggestion from its earlier comments on the Staff Preliminary Assessment and proposes the following alternative language: Transmission or generation operators shall carry out corrective control actions, i.e., returning the system to a stable state that respects system requirements as soon as possible, and no longer than 30 minutes, except where a longer response time is feasible, or where a longer response is demonstrated to produce a better ultimate solution without unacceptable interim risk.</u></p> <p><u>1431. FirstEnergy contends that Requirement R2.1 essentially requires generator operators to report all protective relay or equipment failures, since generator operators may not be able to tell which failures will reduce system reliability. FirstEnergy suggests that R2.1 should be</u></p> | <p><u>Transmission Operator is the true functional entity responsible here.</u></p> <p><u>Covered as part of the new data specification requirements in proposed TOP-003-2.</u></p> |

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| | | <p><u>revised to require generator operators to report all equipment failures or outages. FirstEnergy further suggests that PRC-001-1 be revised to provide that if a company performs reasonable testing procedures, undiscoverable equipment failures will not be violations of R2.1</u></p> | |
| PRC-001 | Project 2007-06 | <p><u>1449 - S- Ref 10341 - Upon detection of failures in relays or protection system elements on the bulk power system that threaten reliability, relevant transmission operators must be informed promptly, but within a specified period of time. -- (2) a requirement that transmission and generator operators be informed immediately upon the detection of failures in relays or protection system elements on the Bulk-Power System that would threaten reliable operation, so that these entities could carry out appropriate corrective control actions consistent with those used in mitigating IROL violations.</u></p> | <p><u>Covered as part of the new data specification requirements in proposed TOP-003-2.</u></p> |
| PRC-001 | Project 2007-06 | <p><u>1449 - S- Ref 10343 - Para 1420. Once informed, transmission operators must carry out corrective control actions that return the system to a stable state that respects system requirements as soon as possible and no</u></p> | <p><u>Covered in TOP-001-2, Requirement R11.</u></p> |

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| | | <u>longer than 30 minutes. 1440. [t]he transmission operator shall take corrective action as soon as possible refers to transmission operators taking operator control actions. It does not refer to troubleshooting, repairing or replacing failed relays or equipment, etc., since these time-consuming corrective actions would prolong the risk of cascading failures to the Bulk-Power System.</u> | |