NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

TOP/IRO Technical Conference

Moderated by: Tom Bowe, PJM

March 6, 2014
Arlington, VA/Washington, DC

RELIABILITY | ACCOUNTABILITY




Agenda

- Introductory remarks
- Review of conference objectives, ground rules, and overview of next steps
- Discussion of technical issues raised in the FERC NOPR
  - Operating Concepts
  - Tools and Analysis
  - Coordination and Communication
- Recap of discussion and themes to carry forward to March 6 Technical Conference
- Concluding remarks

Antitrust Compliance Guidelines

- It is NERC's policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition. It is the responsibility of every NERC participant and employee who may in any way affect NERC's compliance with the antitrust laws to carry out this commitment.

Public Announcement

- Participants are reminded that this meeting is public. Notice of the meeting was posted on the NERC website and widely distributed. The notice included the number for dial-in participation. Participants should keep in mind that the audience may include members of the press and representatives of various governmental authorities, in addition to the expected participation by industry stakeholders.

Introductory Remarks

Conference Objectives and Ground Rules

- Objectives
  - Discuss the technical issues raised in the FERC NOPR
  - Get everyone on the same page
  - Provide inputs to the DC Technical Conference that will provide the SDT with sufficient information and rationale to allow it to craft appropriate requirements that will resolve the concerns
- Ground Rules
  - Not the time to debate the FERC/NERC/industry model
  - Focus is on guidance that could assist SDT – so pose recommendations/solutions
  - Approximately twenty minutes per topic
    - Be concise
    - Leverage Parking Lot

Overview of Next Steps

- Draft SAR posted for comment February 21 through March 24
- Two one-day conferences to explore issues (March 3-4 and 6)
- Two weeks after conferences – Written comments due on issues
- April – SDT meets to consider inputs, revise SAR as needed, and create other supporting documents as required
- May – Post final SAR and draft standards with supporting documentation for 45 days
- August – second posting for 45 days
- October – final posting and ballot
- November 12, 2014 – Board adoption
- File by January 31, 2015

Overview

- April 16, 2013 – NERC petition for approval of three revised TOP, four revised IRO standards
- November 21, 2013 - FERC Notice of Proposed Rulemaking (NOPR) proposes to remand revised TOP and IRO standards
- December 20, 2013 – NERC motion to defer action on NOPR until January 31, 2015
- January 14, 2014 – FERC grants motion to defer action until January 15, 2015
- February 12, 2014 – Standards Committee appoints SDT for Project 2014-03 Revisions to TOP/IRO Reliability Standards

SDT Roster

- Chair – Dave Souder, PJM
- Vice Chair – Andrew Pankratz, FP&L
- David Bueche, CenterPoint Energy
- Jim Case, Entergy
- Allen Klassen, Westar Energy
- Bruce Larsen, WE Energies
- Jason Marshall, ACES Power Marketing
- Bert Peters, Arizona Public Service Co.
- Robert Rhodes, SPP
- Eric Senkowicz, FRCC
- Kevin Sherd, MISO

Discussion of Technical Issues

- Operating Concepts
- Tools and Analysis
- Coordination and Communication

Operating Concepts

- Decision making authority (paragraphs 84 & 87)
- Analysis of System Operating Limits (SOLs) (paragraphs 42 & 52)
- Mitigation Plans (paragraph 54)
- Operating to the Most Severe Single Contingency (paragraph 70)
- Unknown Operating States (paragraph 75)

Decision Making Authority

- Submittal
- TOP-001-2, R11
- Each TOP 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.

- NOPR (paragraph 87)
- NERC's proposal with respect to mitigating IROLs appears to give both the transmission operator and reliability coordinator authority to act. Therefore, we seek clarification and technical explanation whether the RC or the TOP has primary responsibility for IROLs

Analysis of System Operating Limits

- Submittal
- TOP-001-2, R8
- Each TOP shall inform its RC of each SOL which, while not an IROL, has been identified by the TOP as supporting reliability internal to its TOP Area based on its assessment of its Operational Planning Analysis

- NOPR (paragraph 42)
- Without a requirement to analyze and operate within all SOLs in the proposed standards and by limiting non-IROL SOLs to only those identified by the TOP internal to its area, system reliability is reduced and negative consequences can occur outside of the TOP's internal area

Mitigation Plans

- Submittal
- TOP-001-2, R7: Each TOP shall not operate outside any identified IROL for a continuous duration exceeding its associated IROL T_v
- TOP-001-2, R8: Each TOP shall not operate outside any SOL identified in R8 for a continuous duration that would cause a violation of the Facility Rating or Stability criteria upon which it is based

- NOPR (paragraph 54)
- The TOP should have operational or mitigation plans for all Bulk-Power System IROLs and SOLs that can be implemented within 30 minutes or less to return the system to a secure state

Operating to the Most Severe Single Contingency

- Submittal
- Replaced by TOP-001-2, R7 & R9
- R7: Each TOP shall not operate outside any identified IROL for a continuous duration exceeding its associated IROL T_v.
- R9: Each TOP shall not operate outside any 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.

- NOPR (paragraph 70)
- NERC proposes to delete TOP-004-2, Requirement R2, which provides that each TOP "shall operate so that instability, uncontrolled separation, or cascading outages will not occur as a result of the most severe single contingency."

Unknown Operating States

- Submittal
- Requirement deleted
- SDT viewed 'unknown operating states' as referring to lack of studies of all possible conditions. And, in today's environment, didn't feel that such a condition would exist.

- NOPR (paragraph 75)
- With regard to mitigation of unknown operating states, while NERC asserts that "unknown states" cannot exist, a transmission provider could have valid operating limits for all facilities but lack situational awareness when valid limits are exceeded. … the Commission seeks comment and technical explanation from NERC and other interested entities on the proposed retirement.

Tools and Analysis

- Time Horizons (paragraph 55)
- System Models, Monitoring, and Tools (Transmission Operator - paragraph 60) (Reliability Coordinator – paragraph 95)
- Cause of SOL Violations (paragraph 73)
- Real-time Contingency Analysis (RTCA) (paragraph 74)
- External Networks and sub-100 kV Facilities and Contingencies (paragraph 67)

Time Horizons

- Submittal
- TOP-001-2, R8
- Each TOP shall inform its RC of each SOL which, while not an IROL, has been identified by the TOP as supporting reliability internal to its TOP Area based on its assessment of its Operational Planning Analysis. *[Time Horizon: Operations Planning]*

- NOPR (paragraph 55)
- Requirement R8 should pertain to all IROLs and all SOLs for all operating time horizons

System Models, Monitoring and Tools

- Submittal
- None – SDT believed certification covered this topic.

- NOPR (paragraph 60)
- Monitoring and analysis capabilities are essential in establishing and maintaining situational awareness. NERC indicates that these functions are assured through the certification process. We are not convinced that NERC's certification process is a suitable substitute for a mandatory Reliability Standard. … certification is a one-time process that may not adequately assure continual operational responsibility would occur.

Cause of SOL Violations

- Submittal
- Requirement deleted as Real-time is not when to investigate or to do root-cause analysis – but instead is the time to 'fix' the problem. Causes can be determined later and off-line.
- NOPR (paragraph 73)
- Proposal deletes requirement for determining the cause of SOL violations in all time-frames, including real-time

Real-time Contingency Analysis

- Submittal
- None – deferred to Project 2009-02

- NOPR (paragraph 74)
- Should all TOPs be required to run a real-time contingency analysis (RTCA) frequently, since the lack of such analysis can impair situational awareness substantially?

External Networks and sub-100 kV Facilities and Contingencies

- Submittal
- TOP-002-3, R1
- Each TOP shall have an Operational Planning Analysis that represents projected System conditions that will allow it to assess whether the planned operations for the next day within its TOP Area will exceed any of its Facility Ratings or Stability Limits during anticipated normal and Contingency event conditions.

- NOPR (paragraph 67)
- Does 'projected System conditions' include external networks or sub-100 kV facilities?

Coordination and Communication

- Reliability Directive (paragraph 64)
- Corrective Action (paragraph 78)
- Notification of Emergencies (paragraph 80)
- Outage Coordination (paragraph 89)
- Secure Network (paragraph 92)

Reliability Directive

- Submittal
- Definition
- Reliability Directive — A communication initiated by an RC, TOP, or BA where action by the recipient is necessary to address an Emergency or Adverse Reliability Impacts.

- NOPR (paragraph 64)
- TOP now uses "reliability directive," which does not appear to be limited to a specific set of circumstances. …, proposed definition of "Reliability Directive" appears to require compliance with directives only in emergencies, not normal or pre-emergency times. … We believe that directives from a RC or TOP should be mandatory at all times, and not just during emergencies (unless safety is violated, etc.).

Corrective Action

- Submittal
- Requirement deleted
- The SDT believes that the proposed TOP-001-2 covers this situation for operations and that the proposed TOP-002-3 covers it for operations planning. The proposed standards do not limit the circumstances for which corrective actions need to be taken or what situation caused the problem. When exceedances occur, the TOP must take the prescribed actions.

- NOPR (paragraph 78)
- The Commission seeks comment and technical explanation on how current PRC-001-1 R2 requirement for corrective action (i.e., return a system to a stable state) is addressed in its proposal.

Notification of Emergencies

- Submittal
- TOP-001-2, R3: Each TOP shall inform its RC and TOPs that are known or expected to be affected by each actual and anticipated Emergency based on its assessment of its Operational Planning Analysis. *[Time Horizon: Operations Planning]*
- TOP-001-2, R5: Each TOP shall inform its RC and other TOPs 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. *[Time Horizon: Same-day Operations, Real-Time Operations]*

- NOPR (paragraphs 80 – 82)
- We believe that, consistent with the currently-effective TOP Reliability Standards, the notification requirement of proposed TOP-001-2 should apply to all emergencies, including real-time and same day emergencies.

Outage Coordination

- Submittal
- IRO-008-1, R3. When an RC 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 RC shall share its results with those entities that are expected to take those actions.
- IRO-010-1a, R3. Each BA, GO, GOP, IA, LSE, RC, TOP, and TO shall provide data and information, as specified, to the RC(s) with which it has a reliability relationship.

- NOPR (paragraph 89)
- The Commission does not see the specified requirements as dictating outage coordination.

Secure Network

- Submittal
- Requirement deleted

- NOPR (paragraph 92)
- Is there a need for a specific requirement that the data exchange between the RC, TOP, and BA be accomplished “via a secure network?”

Recap of Discussion and Themes to Carry Forward

- Items to be added as we go and then presented

Concluding Remarks