Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard becomes effective.

Development Steps Completed

SAR posted for comment February 21, 2014 to March 24, 2014

Proposed Action Plan and Description of Current Draft

This is the first posting of the revised standard under Project 2014-03 Revisions to the TOP/IRO Reliability Standards. The SDT is working under a deadline for filing the revised standards with FERC of January 31, 2015.

Anticipated Actions	Anticipated Date
Additional ballot	August 2014
Final ballot	October 2014
BOT	November 2014

Version History

Version	Date	Action	Change Tracking
1	October 17, 2008	Adopted by NERC Board of Trustees	
1	March 17, 2011	Order issued by FERC approving IRO-008-1 (approval effective 5/23/11)	
1	February 28, 2014	Updated VSLs and VRF's based on June 24, 2013 approval.	
2	April 2014	Changes pursuant to Project 2014-03	Revise

Definitions of Terms Used in Standard

This section includes all newly defined or revised terms used in the proposed standard. Terms already defined in the Reliability Standards Glossary of Terms are not repeated here. New or revised definitions listed below become approved when the proposed standard is approved. When the standard becomes effective, these defined terms will be removed from the individual standard and added to the Glossary.

There are no new or revised definitions proposed in this standard revision.

A. Introduction

1. Title: Reliability Coordinator Operational Analyses and Real-time Assessments

2. Number: IRO-008-2

3. Purpose: Perform analyses and assessments to prevent instability, uncontrolled separation, or Cascading.

4. Applicability

4.1. Reliability Coordinator.

5. Proposed Effective Date:

The standard shall become effective on the first day of the first calendar quarter that is twelve (12) months after the date that the standard is approved by an applicable governmental authority or as otherwise provided for in a jurisdiction where approval by an applicable governmental authority is required for a standard to go into effect. Where approval by an applicable governmental authority is not required, the standard shall become effective on the first day of the first calendar quarter that is twelve (12) months after the date the standard is adopted by the NERC Board of Trustees or as otherwise provided for in that jurisdiction.

6. Background

On April 16, 2013, NERC submitted two petitions requesting Commission approval of TOP and IRO standards. One petition addresses three revised TOP Reliability Standards: TOP-001-2 (Transmission Operations), TOP-002-3 (Operations Planning), TOP-003-2 (Operational Reliability Data), and one Protection Systems (PRC) Reliability Standard, PRC-001-2 (System Protection Coordination) to replace the eight currently-effective TOP standards. The second petition addresses four revised IRO Reliability Standards: IRO-001-3 (Responsibilities and Authorities), IRO-002-3 (Analysis Tools), IRO-005-4 (Current Day Operations), and IRO-014-2 (Coordination Among Reliability Coordinators) to replace six currently-effective IRO standards.

On November 21, 2013, the Commission issued a NOPR proposing to remand these TOP and IRO Standards, stating that NERC "has removed critical reliability aspects that are included in the currently-effective standards without adequately addressing these aspects in the proposed standards." For example, the Commission cites the fact that the proposed TOP Standards do not require Transmission Operators to plan and operate within all System Operating Limits ("SOLs"), which is a requirement in the currently-effective standards.

On December 20, 2013, NERC filed a motion requesting that the Commission defer action on the NOPR until January 31, 2015 to provide NERC and the industry the opportunity to thoroughly examine the technical concerns raised in the NOPR and afford time to review the proposed TOP and IRO Standards through the NERC standards development process to ensure that a technically justified set of solutions is in place for reliability. That motion to defer action was granted on January 14, 2014.

On February 12, 2014, the Standards Committee appointed a Standard Drafting Team to take on the task of revising the aforementioned standards in response to the NOPR issues and the recommendations made by the Independent Expert Review Panel, the IRO FYRT, and the SW Outage Report.

B. Requirements and Measures

Rationale for Requirement R1: Revised in response to NOPR paragraph 96 on the obligation of Reliability Coordinators to monitor SOLs. Measure M1 revised for consistency with TOP-003-3, Measure M1.

R1. Each Reliability Coordinator shall perform an Operational Planning Analysis that will allow it to assess whether the planned operations for the next day will exceed System Operating Limits (SOLs) or Interconnection Operating Reliability Limits (IROLs) within its Reliability Coordinator Wide Area. [*Violation Risk Factor: Medium] [Time Horizon: Operations Planning]*

M1. Each Reliability Coordinator shall have evidence of a completed Operational Planning Analysis. Such evidence could include, but is not limited to, dated power flow study results.

Rationale for Requirements R2, R3, and R4: In response to IERP and SW Outage Report recommendations concerning the coordination and review of plans.

R2. Each Reliability Coordinator shall review the Operating Plans for next-day operations provided by its Transmission Operators and Balancing Authorities. [*Violation Risk Factor: Medium] [Time Horizon: Operations Planning]*

M2. Each Reliability Coordinator shall have evidence that it reviewed the Operating Plans for next-day operations provided by its Transmission Operators and Balancing Authorities. Such evidence could include, but is not limited to, dated e-mail messages.

R3. Each Reliability Coordinator shall have a coordinated Operating Plan(s) for next-day operations to address potential System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances identified as a result of its Operational Planning Analysis as required in Requirement R1 considering the Operating Plans for the next-day provided by its Transmission Operators and Balancing Authorities. [*Violation Risk Factor: Medium] [Time Horizon: Operations Planning]*

M3. Each Reliability Coordinator shall have evidence that it has a coordinated Operating Plan for next-day operations to address potential System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances identified as a result of the Operational Planning Analysis performed in Requirement R1 and that considers the Operating Plans for the next-day provided by its Transmission Operators and Balancing Authorities. Such evidence could include, but is not limited to, plans for precluding operating in excess of each SOL and IROL that were identified as a result of the Operational Planning Analysis.

R4. Each Reliability Coordinator shall notify impacted NERC registered entities identified in the Operating Plan(s) cited in Requirement R3 as to their role in those plan(s). *[Violation Risk Factor: Medium] [Time Horizon: Operations Planning]*

M4. Each Reliability Coordinator shall have evidence that it notified impacted NERC registered entities identified in the Operating Plan(s) cited in Requirement R3 as to their role in the plan(s). Such evidence could include but is not limited to dated operator logs, or e-mail records.

R5. Each Reliability Coordinator shall perform a Real-time Assessment at least once every 30 minutes. *[Violation Risk Factor: High] [Time Horizon: Real-time Operations]*

M5. Each Reliability Coordinator shall have, and make available upon request, evidence to show it conducted a Real-Time Assessment at least once every 30 minutes. This evidence could include, but is not limited to, dated computer logs showing times the assessment was conducted, dated checklists, or other evidence.

Rationale for Requirement R6: Language changed from IROL exceedance to Emergency, as Emergency is a stronger term which includes IROL exceedance and thus raises the bar for this requirement. Requirement R7 is the extension of Requirement R6 ensuring actions are taken to deal with the Emergency. In Requirements R6 and R8 the use of the term 'impacted' and the tie to the Operating Plan where notification protocols will be set out should minimize the volume of notifications.

R6. Each Reliability Coordinator shall notify impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area, and other impacted Reliability Coordinators as indicated in its Operating Plan, when the results of a Real-time Assessment indicate an actual or expected condition that results in, or could result in, a System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance within its Reliability Coordinator Wide Area. *[Violation Risk Factor: High] [Time Horizon: Same-Day Operations, Real-time Operations]*

M6. Each Reliability Coordinator shall make available upon request, evidence that it informed impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area, and other impacted Reliability Coordinators as indicated in its Operating Plan, of its actual or expected operations that result in, or could result in, a System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance. Such evidence could include, but is not limited to, dated operator logs, voice recordings or transcripts of voice recordings, electronic communications, or other equivalent evidence. If such a situation has not occurred, the Reliability Coordinator may provide an attestation.

R7. Each Reliability Coordinator shall issue Operating Instructions, as necessary, to ensure that actions are taken to deal with the System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance identified in Requirement R6. *[Violation Risk Factor: High] [Time Horizon: Same-Day Operations, Real-time Operations]*

M7. Each Reliability Coordinator shall have evidence that it issued Operating Instructions, as necessary, to ensure that actions were taken to deal with the System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance identified in Requirement R6. Such evidence could include, but is not limited to, dated operator logs, dated records, dated and time-stamped voice recordings or dated transcripts of voice recordings, electronic communications, or equivalent documentation.

R8. Each Reliability Coordinator shall notify impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area, and other impacted Reliability Coordinators as indicated in its Operating Plan, when the System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance identified in Requirement R6 has been prevented or mitigated. *[Violation Risk Factor: Medium] [Time Horizon: Same-Day Operations, Real-time Operations]*

M8. Each Reliability Coordinator shall make available upon request, evidence that it informed impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area, and other impacted Reliability Coordinators as indicated in its Operating Plan, when the System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance identified in Requirement R6 has been prevented or mitigated. Such evidence could include, but is not limited to, dated operator logs, voice recordings or transcripts of voice recordings, electronic communications, or other equivalent evidence. If such a situation has not occurred, the Reliability Coordinator may provide an attestation.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority

As defined in the NERC Rules of Procedure, "Compliance Enforcement Authority" (CEA) means NERC or the Regional Entity in their respective roles of monitoring and enforcing compliance with the NERC Reliability Standards.

1.2. Compliance Monitoring and Enforcement Processes

Compliance Audit

Self-Certification

Spot Checking

Compliance Investigation

Self-Reporting

Complaint

Exception Reporting

1.3. Data Retention

The following evidence retention periods identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full time period since the last audit.

Each Reliability Coordinator shall keep data or evidence to show compliance for Requirements R1 through R4, R6 through R8 and Measures M1 through M4, M6 through M8 for a rolling six month period for analyses, the most recent three months for voice recordings, and 12 months for operating logs and e-mail records unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

Each Reliability Coordinator shall each keep data or evidence for Requirement R5 and Measure M5 for the current calendar year and one previous calendar year, with the exception of voice recordings which shall be retained for a minimum of ninety calendar days, unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

If a Reliability Coordinator is found non-compliant, it shall keep information related to the non-compliance until found compliant or the time period specified above, whichever is longer.

The Compliance Enforcement Authority shall keep the last audit records and all requested and submitted subsequent audit records.

1.4. Additional Compliance Information

None

Table of Compliance Elements

R#	Time Horizons	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
R1	Operations Planning	Medium	N/A	N/A	N/A	The Reliability Coordinator did not have an Operational Planning Analysis allowing it to assess whether its planned operations for the next day within its Reliability Coordinator Wide Area will exceed any of its System Operating Limits (SOLs) or Interconnection Operating Reliability Limits (IROLs).
R2	Operations Planning	Medium	N/A	N/A	N/A	The Reliability Coordinator did not review the Operating Plans for next-day operations provided by its Transmission Operators and Balancing Authorities
R3	Operations Planning	Medium	N/A	N/A	N/A	The Reliability Coordinator did not have a coordinated Operating Plan(s) for next-day operations to address potential System Operating Limit (SOL) and Interconnection Reliability Operating Limit (IROL) exceedances identified as a result

R#	Time Horizons	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
						of its Operational Planning Analysis as required in Requirement R1 and considering the Operating Plans for the next-day provided by its Transmission Operators and Balancing Authorities.
For the Requirements R4, R6, and R9 VSLs, the intent of the SDT is to start with the Severe VSL first and then to work your way to the left until you find the situation that fits. In this manner, the VSL will not be discriminatory by size. If a Reliability Coordinator has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation						
R4	Operations Planning	Medium	The Reliability Coordinator did not notify one impacted NERC registered entity or 5% or less of the impacted NERC registered entities whichever is less identified in the Operating Plan(s) as to their role in the plan(s).	The Reliability Coordinator did not notify two impacted NERC registered entities or more than 5% and less than or equal to 10% of the impacted NERC registered entities whichever is less, identified in the Operating Plan(s) as to their role in	The Reliability Coordinator did not notify three impacted NERC registered entities or more than 10% and less than or equal to 15% of the impacted NERC registered entities whichever is less, identified in the Operating Plan(s) as to	The Reliability Coordinator did not notify four or more impacted NERC registered entities or more than 15% of the impacted NERC registered entities identified in the Operating Plan(s) as to their role in the plan(s).

R#	Time Horizons	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
				the plan(s).	their role in the plan(s).	
R5	Real-time Operations	High	The Reliability Coordinator performed Real-time Assessments but did so at a periodicity of more than 30 minutes but less than 35 minutes.	The Reliability Coordinator performed Real-time Assessments but did so at a periodicity of more than or equal to 35 minutes and less than 40 minutes.	The Reliability Coordinator performed Real-time Assessments but did so at a periodicity of more than or equal to 40 minutes and less than 45 minutes.	The Reliability Coordinator did not perform Real-time Assessments. OR The Reliability Coordinator performed Real-time Assessments but did so at a periodicity of more than or equal to 45 minutes.
R6	Same-Day Operations, Real-time Operations	High	The Reliability Coordinator did not notify one impacted Transmission Operator or Balancing Authority within its Reliability Coordinator Area or 5% or	The Reliability Coordinator did not notify two impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area or more than 5%	The Reliability Coordinator did not notify three impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator	The Reliability Coordinator did not notify four or more impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area or more than 15% of the impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area identified in the Operating Plan(s)

R#	Time Horizons	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			less of the impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area whichever is less, when the results of its Real-time Assessment indicate an actual or expected condition that results in, or could result in, a System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL)	and less than or equal to 10% of the impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area whichever is less, when the results of its Real-time Assessment indicate an actual or expected condition that results in, or could result in, a System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance within its Reliability	Area or more than 10% and less than or equal to 15% of the impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area whichever is less, when the results of its Real-time Assessment indicate an actual or expected condition that results in, or could result in, a System Operating Limit (SOL) or Interconnection	as to their role in the plan(s). OR The Reliability Coordinator did not notify the other impacted Reliability Coordinators, as indicated in its Operating Plan, when the results of its Real-time Assessment indicate an actual or expected condition that results in, or could result in, a System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance within its Reliability Coordinator Wide Area.

R#	Time Horizons	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			exceedance within its Reliability Coordinator Wide Area.	Coordinator Wide Area.	Reliability Operating Limit (IROL) exceedance within its Reliability Coordinator Wide Area.	
R7	Same-Day Operations, Real-time Operations	High	N/A	N/A	N/A	The Reliability Coordinator failed to issue Operating Instructions, as necessary, to ensure that actions are taken to deal with the System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance identified in Requirement R6.
R8	Same-Day Operations, Real-time Operations	Medium	The Reliability Coordinator did not notify one impacted Transmission Operator or Balancing Authority within its Reliability	The Reliability Coordinator did not notify two impacted Transmission Operators or Balancing Authorities within its Reliability	The Reliability Coordinator did not notify three impacted Transmission Operators or Balancing Authorities within its	The Reliability Coordinator did not notify four or more impacted Transmission Operators or Balancing Authorities within its Reliability Coordinator Area or more than 15% of the impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area when

R#	Time Horizons	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			Coordinator Area or 5% or less of the impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area whichever is less, when the System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance identified in Requirement R6 has been prevented or mitigated.	Coordinator Area or more than 5% and less than or equal to 10% of the impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area whichever is less, when the System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance identified in Requirement R6 has been prevented or mitigated. OR	Reliability Coordinator Area or more than 10% and less than or equal to 15% of the impacted Transmission Operators and Balancing Authorities within its Reliability Coordinator Area whichever is less, when the System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance identified in Requirement R6 has been	the System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance identified in Requirement R6 has been prevented or mitigated. OR The Reliability Coordinator did not notify four or more other impacted Reliability Coordinators as indicated in its Operating Plan when the System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance identified in Requirement R6 has been prevented or mitigated.

R#	Time Horizons	VRF	Violation Severity Levels			
			Lower VSL	Moderate VSL	High VSL	Severe VSL
			OR The Reliability Coordinator did not notify one other impacted Reliability Coordinator as indicated in its Operating Plan when the Emergency identified in Requirement R6 has been prevented or mitigated	The Reliability Coordinator did not notify two other impacted Reliability Coordinators as indicated in its Operating Plan when the System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance identified in Requirement R6 has been prevented or mitigated	prevented or mitigated. OR The Reliability Coordinator did not notify three other impacted Reliability Coordinators as indicated in its Operating Plan when the System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance identified in Requirement R6 has been prevented or mitigated	

D. Regional Variances

None

E. Interpretations

None

F. Associated Documents

None