

## Standard Development Timeline

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*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 February 21, 2014 – March 24, 2014

[First posting May 19, 2014 – July 2, 2014](#)

### Description of Current Draft

This is the ~~first~~second 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
<del>Additional ballot</del>	<del>August 2014</del>
Final ballot	October 2014
BOT	November 2014

**Version History**

<b>Version</b>	<b>Date</b>	<b>Action</b>	<b>Change Tracking</b>
1	October 17, 2008	Adopted by Board of Trustees	New
1a	August 5, 2009	Added Appendix 1: Interpretation of R1.2 and R3 as approved by Board of Trustees	Addition
1a	March 17, 2011	Order issued by FERC approving IRO-010-1a (approval effective 5/23/11)	
1a	November 19, 2013	Updated VRFs based on June 24, 2013 approval.	
2	<del>April 2014</del> TBD	Revisions pursuant to <del>under</del> Project 2014-03	<u>Revised</u>

## 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.~~

**Real-time Assessment:** An evaluation of system conditions using Real-time data to assess existing (pre-Contingency) and potential (post-Contingency) operating conditions. The assessment shall reflect applicable inputs including, but not limited to: load, generation output levels, known Protection System and Special Protection System status or degradation, Transmission outages, generator outages, Interchange, Facility Ratings, and identified phase angle and equipment limitations. (Real-time Assessment may be provided through internal systems or through ~~contracted~~third-party services.)

**Operational Planning Analysis:** An evaluation of projected system conditions to assess anticipated (pre-Contingency) and potential (post-Contingency) conditions for next-day operations. The evaluation shall reflect applicable inputs including, but not limited to, load forecasts; generation output levels; Interchange; known Protection System and Special Protection System status or degradation; Transmission outages; generator outages; Facility Ratings; and identified phase angle and equipment limitations. (Operational Planning Analysis may be provided through internal systems or through ~~contracted~~third-party services.)

Rationale - Changes made to the proposed definitions were made in order to respond to issues raised in NOPR paragraphs 55, 73, and 74 dealing with analysis of SOLs in all time horizons, questions on Protection Systems and Special Protection Systems in NOPR paragraph 78, and recommendations on phase angles from the SW Outage Report (recommendation 27). The intent of such changes is to ensure that Real-time Assessments contain sufficient details to result in an appropriate level of situational awareness. Some examples include: 1) analyzing phase angles which may result in the implementation of an Operating Plan to adjust generation or curtail transactions so that a Transmission facility may be returned to service, or 2) evaluating the impact of a modified Contingency resulting from the status change of a Special Protection Scheme from enabled/in-service to disabled/out-of-service.

## A. Introduction

1. **Title:** Reliability Coordinator Data Specification and Collection
2. **Number:** IRO-010-2
3. **Purpose:** To prevent instability, uncontrolled separation, or Cascading outages that adversely impact reliability, by ensuring the Reliability Coordinator has the data it needs to monitor and assess the operation of its Reliability Coordinator Area.
4. **Applicability**
  - 4.1. Reliability Coordinator.
  - 4.2. Balancing Authority.
  - 4.3. ~~Planning Coordinator.~~
  - 4.4. ~~Transmission Planner.~~
  - 4.5. Generator Owner.
  - 4.6. Generator Operator.
  - 4.7. Load-Serving Entity.
  - 4.8. Transmission Operator.
  - 4.9. Transmission Owner.
  - 4.10. Distribution Provider.

**Rationale for Applicability changes:** [Changes to applicability were made based on the IRO FYRT recommendation to address the need for UVLS and UFLS information in the data specification.](#)

[The Interchange Authority was removed activities assigned to the Interchange Authority in the Coordinate Interchange standards are performed by software systems and not a responsible entity. The software, not a functional entity, performs the task of accepting and disseminating interchange data between entities. The Balancing Authority is the responsible functional entity for these tasks.](#)

[The Planning Coordinator and Transmission Planner were removed from Draft 2 as those entities would not be involved in a data specification concept as outlined in this standard. The Interchange Authority activities in the Coordinate Interchange standards are performed by software systems and not a responsible entity. The software, not a functional entity, performs the task of accepting and disseminating interchange data between entities. The Balancing Authority is the responsible functional entity for these tasks.](#)

5. **Proposed Effective Date:**

Requirement R1 and R2 shall become effective on the first day of the first calendar quarter that is ~~ten (10)~~nine (9) 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, Requirements R1 and R2 shall become effective on the first day of the first calendar quarter that is ~~ten (10)~~nine (9) months after the date the standard is adopted by the NERC Board of Trustees or as otherwise provided for in that jurisdiction.

Requirement R3 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, Requirement R3 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.~~ [See Project 2014-03 project page.](#)

## B. Requirements

### Rationale for Requirement R1:

**Proposed Requirement R1, pPart 1.1** is in response to issues raised in NOPR paragraph 67 on the need for obtaining sub-100 kV and external network data necessary for the Reliability Coordinator to fulfill its responsibilities.

**Proposed Requirement R1, pPart 1.2** is in response to NOPR paragraph 78 on relay data.

**Proposed Requirement R13, pPart 1-73.3** is in response to NOPR paragraph 92 where concerns were raised about data exchange through secured networks.

Corresponding changes have been made to proposed TOP-003-3.

- R1.** The Reliability Coordinator shall maintain a documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. The data specification shall include but not be limited to: (*Violation Risk Factor: MediumLow*) (*Time Horizon: Operations Planning*)
- 1.1.** A list of data and information needed by the Reliability Coordinator to support its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments including sub-100 kV data and external network data, as deemed necessary by the Reliability Coordinator.
  - 1.2.** Provisions for notification of current Protection System and Special Protection System status or degradation that impacts System reliability.
  - 1.3.** A periodicity for providing data.
  - 1.4.** The deadline by which the respondent is to provide the indicated data.
- M1.** The Reliability Coordinator shall make available its dated, current, in force documented specification for data.
- R2.** The Reliability Coordinator shall distribute its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. (*Violation Risk Factor: MediumLow*) (*Time Horizon: Operations Planning*)
- M2.** The Reliability Coordinator shall make available evidence that it has distributed its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. This evidence could include, but is not limited to, web postings with an electronic notice of the posting, dated operator logs, voice recordings, postal receipts showing the recipient, date and contents, or e-mail records.

- R3.** Each Reliability Coordinator, Balancing Authority, ~~Planning Coordinator, Transmission Planner,~~ Generator Owner, Generator Operator, Load-Serving Entity, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall satisfy the obligations of the documented specifications using: *(Violation Risk Factor: Medium) (Time Horizon: Operations Planning, Same-Day Operations, Real-time Operations)*
- 3.1** A mutually agreeable format
  - 3.2** A mutually agreeable process for resolving data conflicts
  - 3.3** A mutually agreeable security protocol
- M3.** The Reliability Coordinator, Balancing Authority, ~~Planning Coordinator, Transmission Planner,~~ Generator Owner, Generator Operator, Load-Serving Entity, Reliability Coordinator, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R2 shall make available evidence that it satisfied the obligations of the documented specification using the specified criteria. Such evidence could include, but is not limited to, electronic or hard copies of data transmittals or attestations of receiving entities.

## 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~~Assessment Processes

~~Compliance Audits~~

~~Self-Certifications~~

~~Spot Checking~~

~~Compliance Violation Investigations~~

~~Self-Reporting~~

~~Complaints~~

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Assessment Processes” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated reliability standard.

#### 1.3. Data Retention

The Reliability Coordinator, Balancing Authority, Planning Coordinator, Transmission Planner, Generator Owner, Generator Operator, Load-Serving Entity, Transmission Operator, Transmission Owner, and Distribution Provider shall each keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation:

The Reliability Coordinator shall retain its dated, current, in force documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R1, Measure M1 as well as any documents in force since the last compliance audit.

The Reliability Coordinator shall keep evidence for three calendar years that it has distributed its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessments for Requirement R2, Measure M2.

Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-Serving Entity, Transmission Operator, Transmission Owner, and Distribution Provider receiving a data specification shall retain evidence for the most recent 90-calendar days that it has satisfied the obligations of the documented specifications in accordance with Requirement R3 and Measurement M3.

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 Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
R1	Operations Planning	<del>Medium</del> <u>Low</u>	The Reliability Coordinator did not include one of the parts (Part 1.1 through Part 1.4) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include two of the parts (Part 1.1 through Part 1.4) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include three of the parts (Part 1.1 through Part 1.4) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	The Reliability Coordinator did not include <del>four or more</del> <u>any</u> of the parts (Part 1.1 through Part 1.4) of the documented specification for the data necessary for it to perform its Operational Planning Analyses, Real-time monitoring, and Real-time Assessments. OR, The Reliability Coordinator did not have a documented specification for the data necessary for it to perform its Operational Planning Analyses,

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
						Real-time monitoring, and Real-time Assessments.
<p><u>For the Requirement R2 VSLs only, 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 of entity. If a small entity has just one affected reliability entity to inform, the intent is that that situation would be a Severe violation.</u></p>						
R2	Operations Planning	<del>Medium</del> Low	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to one entity, or 5% or less of the entities, whichever is less, that have data required by the Reliability Coordinator’s Operational Planning Analyses, Real-time	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to two entities, or more than 5% and less than or equal to 10% of the reliability entities, whichever is less, that have data required by the Reliability	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to three entities, or more than 10% and less than or equal to 15% of the reliability entities, whichever is less, that have data required by the	The Reliability Coordinator did not distribute its data specification as developed in Requirement R1 to four or more entities, or more than 15% of the entities, whichever is less, that have data required by the Reliability Coordinator’s

R#	Time Horizon	VRF	Violation Severity Levels			
			Lower	Moderate	High	Severe
			monitoring, and Real-time Assessments.	Coordinator’s Operational Planning Analyses, and Real-time monitoring, and Real-time Assessments.	Reliability Coordinator’s Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.	Operational Planning Analyses, Real-time monitoring, and Real-time Assessments.
<b>R3</b>	Operations Planning, Same-Day Operations, Real-time Operations	Medium	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow one of the criteria shown in <del>parts</del> 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow two of the criteria shown in <del>parts</del> 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 satisfied the obligations of the documented specifications for data but failed to follow any of the criteria shown in <del>parts</del> 3.1 – 3.3.	The responsible entity receiving a data specification in Requirement R2 did not satisfy the obligations of the documented specifications for data.

**D. Regional Variances**

None

**E. Interpretations**

None

**F. Associated Documents**

None