

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Electric Reliability Organization)	
Interpretations of Interconnection)	
Reliability Operations and Coordination)	Docket No. RM10-8-000
and Transmission Operations Reliability)	
Standards)	

COMMENTS OF THE ISO/RTO COUNCIL

I. INTRODUCTION

The ISO/RTO Council (“IRC”)¹ submits these comments in response to the Commission’s Notice of Proposed Rulemaking (NOPR) issued in the above-captioned docket on December 16, 2010.²

In the NOPR, the Federal Energy Regulatory Commission (Commission) proposes to approve the North American Electric Reliability Corporation’s (NERC) interpretation of certain requirements in the Commission-approved Reliability Standards, TOP-005-1 - Operational

¹ The IRC is comprised of the Alberta Electric System Operator (“AESO”), the California Independent System Operator (“CAISO”), Electric Reliability Council of Texas (“ERCOT”), the Independent Electricity System Operator of Ontario, Inc., (“IESO”), ISO New England, Inc. (“ISONE”), Midwest Independent Transmission System Operator, Inc., (“Midwest ISO”), New York Independent System Operator, Inc. (“NYISO”), PJM Interconnection, L.L.C. (“PJM”), Southwest Power Pool, Inc. (“SPP”), and New Brunswick System Operator (“NBSO”). The IESO, AESO and NBSO are not subject to the Commission’s jurisdiction and these comments do not constitute agreement or acknowledgement that they can be subject to the Commission’s jurisdiction. Because it is not subject to Commission jurisdiction, the AESO is not joining these comments. The IRC’s mission is to work collaboratively to develop effective processes, tools and standard methods for improving the competitive electricity markets across North America. In fulfilling this mission, it is the IRC’s goal to provide a perspective that balances reliability standards with market practices so that each complements the other, thereby resulting in efficient, robust markets that provide competitive and reliable service to customers.

² 75 Fed. Reg. 80391 (December 22, 2010) (the “NOPR”).

Reliability Information, and IRO-005-1, Reliability Coordination – Current-Day Operations. The Commission also proposes to direct NERC to develop modifications to TOP-005-1 and IRO-005-1 through the Reliability Standards development process to add reporting obligations when the primary response in a redundant Special Protection System (SPS) component is lost.

The IRC supports the approval of the interpretations, but does not believe the additional reporting obligations are necessary to support the reliability purposes of the relevant functional entities under the respective standards, or generally. Accordingly, the IRC respectfully requests that the Commission reconsider its directive regarding the imposition of additional reporting requirements.

II. IRC COMMENTS

A. NERC Interpretations

The IRC agrees with NERC's interpretations and supports the Commission's proposal to accept them as filed.³ With respect to TOP-005-1, NERC's interpretation does not equate "degraded" to any particular operational state of the SPS. Rather, the reporting obligation under R3 is triggered upon request of the relevant functional entity. These entities are best positioned to identify the types of information needed to perform their respective functions. NERC appropriately leaves it to the discretion of the entities involved in the exchange to determine the scope of the information relative to their operational needs. With respect to IRO-005-1 R12, the

³ NERC's interpretations in response to the respective Manitoba Hydro requests are:

TOP-005-1 does not provide, nor does it require, a definition for the term "degraded."

The IRO-005-1 ([Requirement] R12) standard implies that degraded is a condition that will result in a failure of an SPS to operate as designed. If the loss of a communication channel will result in the failure of an SPS to operate as designed, then the Transmission Operator would be mandated to report that information. On the other hand, if the loss of a communication channel will not result in the failure of the SPS to operate as designed, then such a condition can be, but is not mandated to be, reported.

reporting obligation should be based on conditions that actually present a risk to reliability. It is the functional failure of an SPS that poses a reliability risk in terms of the relevant Reliability Standard, and generally. The failure or the unavailability of a redundant component or capability of an SPS does not result in the failure of the functional operation of the SPS and thus does not create a reliability concern. Reporting this condition is generally not necessary, however the IRC does not oppose the discretionary reporting of such information.⁴ This position is supported by the plain language in the requirement, which focuses on the armed status of the SPS and its operation.⁵ NERC's interpretation is appropriate in that it limits the reporting obligations to conditions where "degradation" actually prevents the functional operation of an SPS.

B. Proposed Directive to Establish Reporting Obligations for the Failure of the Primary Response in Redundant SPS Components

In addition to its proposal to approve the interpretations, the Commission proposes to direct NERC to revise the relevant Reliability Standards to address a perceived reliability gap. Specifically, in cases where an SPS utilizes redundant components or capabilities for a particular action within an SPS and one of the redundant components or capabilities fails (*i.e.* the SPS continues to operate based on the redundant component or capability), the Commission expressed concern that this situation could compromise reliability. To address the issue, the

⁴ The IRC notes that an RC may want this information. In that case, it can request the information pursuant to IRO-002-1 R2. The IRC maintains, however, that the information should not be subject to a general reporting obligation. The discretionary authority provided to the RC to request information under IRO-002-1 R2 is not in the subsequent version of the standard, IRO-002-2. However, IRO-010-1a R3 provides for the same ability. Both IRO-002-2 and IRO-010-1a are pending Commission approval.

⁵ IRO-00501 R12: Whenever a Special Protection System that may have an inter-Balancing Authority, or inter-Transmission Operator impact (*e.g.*, could potentially affect transmission flows resulting in a SOL or IROL violation) *is armed*, the ***Reliability Coordinators shall be aware of the impact of the operation*** of that Special Protection System on inter-area flows. The Transmission Operator shall immediately ***inform the Reliability Coordinator of the status of the Special Protection System*** including any ***degradation or potential failure to operate*** as expected. (*Emphasis Supplied*)

NOPR directs NERC to develop appropriate reporting obligations. Presumably the intent is to make the relevant functional entities aware of such conditions when they arise, with the justification being that this information will enhance system reliability by enabling those parties to take action in response to the circumstances. The IRC appreciates the Commission's efforts in this regard. Communication of information that facilitates reliable operation of the Bulk Electric System (BES) is critical to system security. However, the rules imposed to achieve that goal should be narrowly tailored to information that is necessary for reliability.

The IRC recognizes the role redundancy plays in enhancing the effectiveness of SPS operation in terms of reliability (*i.e.* dependability and security). This value was noted in the November 18, 2008 white paper, "Protection System Reliability, Redundancy of Protection System Elements," issued by the NERC System Protection and Control Subcommittee (SPCS). There, the SPCS determined that "no single Protection System component failure would prevent the BES from meeting system performance requirements in the NERC Reliability Standards."⁶ There is no question that redundancy can help to ensure that no single point of failure of a Protection System component results in the inability of the Bulk-Power System to meet the system performance requirements established in the Transmission Planning (TPL) Reliability Standards.⁷ However, the loss of a redundant component does not impact system reliability – the system is still in an n-0 state. Only when the SPS cannot perform its intended function do n-1 scenarios arise, and it is only then that actionable reliability risks arise. This is further evidenced

⁶ NERC SPCS white paper at 9, available at <http://www.nerc.com/filez/spctf.html> (dated Jan. 14, 2009). P12.

⁷ While the benefits of redundancy were recognized by the SPCS, it is not a required practice. The SPCS noted in Section 1 that "Local redundancy of components plays a major role in elevating the reliability of Protection Systems; however, it is not the only mitigation that can be used to improve the reliability of Protection Systems." In addition, see Section 4.2 of the white paper, which focuses on the development of a test to determine the need for redundancy.

by reference to the purpose statement of IRO-005-1, which states that the Reliability Coordinator must monitor “BES parameters that may have significant impacts on the RC area.” As discussed, SPS redundancy is designed to increase the reliability of the Protection System in order to mitigate the impact of a single component failure of the Protection System on the BES, but loss of a redundant component does not impact the performance of the SPS. Consequently, the loss of the primary response within a redundant SPS component would not be a significant impact on an RC area, and imposition of the proposed requirements is beyond the purpose of IRO-005-1.

The Reliability Standards are driven by particular operating scenarios, *e.g.* n-1, n-2, etc. The Standards impose specific planning and operating actions based on the particular scenario. Thus, actionable reliability risks typically do not arise until the system reaches an n-1 condition. Although component redundancy enhances the effectiveness of an SPS in terms of dependency and security, the loss of a redundant component or capability in a SPS does not automatically result in an n-1 scenario, and, therefore, does not create an actionable risk to the BES. Such a risk would generally only materialize if the full functional capabilities of the SPS, relative to its purpose, were compromised such that the entire SPS was lost. This is not the case when a redundant component is lost. Under those circumstances, the SPS still retains full operational capability and its status is consistent with all relevant reliability standards/thresholds; in this case the system is still in a state of n-0. Furthermore, to the extent the functionality of the SPS is ultimately compromised, the actions taken by the relevant functional entities would be the same with or without the “preemptive” information that is the subject of the proposed reporting obligation. Consequently, because there would be no additional action taken based on this information, the Commission’s proposal provides no incremental reliability value.

In fact, in most cases, action taken based on such information – *e.g.* re-dispatch/imposition of more conservative limits – could impede operational and market efficiency without any reliability benefit. In cases where a particular RC determines the need for such information, it could be requested pursuant to applicable standards.⁸

The amount of information presented to system operators at any given time is significant, and management of such information in performing their jobs requires the ability to separate the wheat from the chaff, so to speak, in order to respect system security in the most efficient and effective manner. While awareness of information that impacts reliability is critical, as noted, reporting obligations should be limited to only that which is necessary. The NERC Reliability Standards frame reliability against specific operating scenarios (*i.e.* n-1, etc.), and information requirements should be related to management of planning and operations relative thereto. System operators should not be burdened with information that has marginal value with respect to the maintenance of system security unless the relevant functional entity specifically requests such information. Likewise, the entities subject to the proposed reporting obligations should not be generally tasked with reporting such information - it merely creates a liability risk with no reliability benefit.

The Commission also specifically notes the potential impact to the TPL standards, stating “where one communication channel has failed, the Special Protection System may not be able to meet the performance criteria of the Reliability Standards and in particular the performance criteria specified in the Transmission Planning (TPL) standards.” Protection System redundancy is intended to ensure the BES is not adversely affected by a single failure. The loss of partial redundancy does not compromise the n-0 state. Because the loss of a redundant component does

⁸ See note 4.

not prevent the SPS from operating as intended, those conditions would not compromise the ability of an SPS to meet performance criteria in the Reliability Standards, TPL or otherwise.

Furthermore, as a general policy matter, the Commission should avoid reporting obligations for conditions that *may* impact reliability based on the potential occurrence of subsequent conditions – in this case, the loss of the back-up component in a redundant action within a single SPS. This approach blurs the lines of relevance between the information provided and reliability risk, and it is a slippery slope in terms of scoping what conditions, prior to an actual reliability concern, should be reported. The Commission should limit reporting obligations to those circumstances that rise to the level of an actual reliability concern based on bright line thresholds – *e.g.* those conditions that implicate an n-1 scenario.

As a final point, the Commission should consider whether all Protection System requirements, including redundancy expectations and component failure metrics, including reporting of such conditions, should be addressed through the developing PRC⁹ standards.

III. CONCLUSION

Reporting obligations under the standards at issue should not be triggered absent actionable reliability risk, either as framed by the entity charged with the reliability function (*e.g.* the discretionary exchange of information under TOP-005-1 R3) or relative to objective reliability thresholds (*e.g.* functional operation of the SPS under IRO-005-1). The conditions underlying the proposed reporting obligations do not rise to this level. As such, the NOPR

⁹ The proposed NERC Reliability Standard PRC-012-0, Requirement R1.3 establishes a performance requirement for Special Protection Systems. Proposed Requirement R1.3 states: “Requirements to demonstrate that the SPS shall be designed so that single SPS component failure, when the SPS was intended to operate, does not prevent the interconnected transmission system from meeting the performance requirements defined in Reliability Standards TPL-001-0, TPL-002-0, and TPL-003-0.” Proposed reliability standard PRC-012-0 has not yet been approved as mandatory and enforceable by the Commission.

proposal merely creates liability risk with no reliability benefit. Accordingly, the proposed revisions to IRO-005-1, Requirement R12, and TOP-005-1, Requirement R3 are unnecessary and the IRC urges the Commission to reconsider its proposal and approve the interpretations without condition.

Respectfully submitted,

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