

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

Automatic Underfrequency Load Shedding)	Docket No. RM11-20-000
And Load Shedding Plans Reliability)	
Standards)	

**COMMENTS OF THE
MIDWEST INDEPENDENT TRANSMISSION
SYSTEM OPERATOR, INC.**

In accordance with the Federal Energy Regulatory Commission’s (the “Commission” or “FERC”) request for comments pursuant to its October 26, 2011 Notice of Proposed Rulemaking (the “NOPR”) in the above-captioned proceeding,¹ the Midwest Independent Transmission System Operator, Inc. (“MISO”) respectfully submits the following comments concerning the Commission’s proposed approval of proposed Reliability Standards PRC-006-1 and EOP-003-2, which were submitted to the Commission for approval by the North American Electric Reliability Corporation (“NERC”) on March 31, 2011.²

I. INTRODUCTION

The primary purpose of PRC-006-1 is the establishment of design and document requirements for underfrequency load shedding (“UFLS”) programs, which are used to “arrest declining frequency, assist recovery of frequency following underfrequency events, and provide

¹ *Automatic Underfrequency Load Shedding and Load Shedding Plans Reliability Standards*, 137 FERC ¶ 61,067 (2011).

² NERC also requested the concurrent retirement of currently-effective PRC-007-0, PRC-009-0, EOP-003-1 and PRC-006-0.

last resort system preservation measures.”³ UFLS systems achieve this goal by “shedding load during system disturbances that result in substantial imbalance between load and generation.”⁴

NERC’s proposed changes in EOP-003-2 are minimal and primarily act to remove references to UFLS, which are unnecessary in light of proposed Reliability Standard PRC-006-1. NERC also modified Requirements R2, R4, and R7 of EOP-003-1 so that they no longer apply to Balancing Authorities (“BAs”).

II. COMMENTS

In the NOPR, the Commission requested comments on a number of issues presented by the proposed Reliability Standards. MISO appreciates the opportunity to comment on a number of those issues, as follows.

a. The Commission should not require Planning Coordinators to account for resources not connected to the bulk electric system in their simulations pursuant to PRC-006-1, Requirement R4.

In the NOPR, the Commission requested comments “as to whether and how all resources required for reliable operation of the bulk electric system, including resources not connected to bulk electric system facilities, are considered in the development of UFLS programs under Requirements R3 and R4” of PRC-006-1.⁵ In particular, the Commission expressed concern that a failure to account for generation that meets the 20MVA individual unit / 75 MVA aggregate criteria but that does not connect directly to bulk electric system (“BES”) facilities could result in Planning Coordinators (“PCs”) shedding more load than is necessary due to their not being aware of how such non-BES generators respond to underfrequency conditions.

³ NOPR at P 20.

⁴ *Id.* at P 21.

⁵ *Id.* at P 31.

Although MISO agrees with the Commission that Requirement R4 does not require PCs to account for all generation that meets the 20 MVA/75 MVA requirements, MISO respectfully urges the Commission not to require PCs to include such generation in their simulations performed pursuant to Requirement R4. The standard drafting team (“SDT”) for PRC-006-1 estimates that the proposed language in Requirement R4 “generally captures about 95 percent of utility-owned installed capacity” and that the “reliability of the UFLS program is supported by assessing the potential for this amount of generation to trip during events involving off-normal frequency and voltage.”⁶ MISO submits that the SDT’s assessment of the sufficiency of proposed Requirement R4 to ensure the reliability of UFLS programs deserves deference and reasonably demonstrates that all resources required for the reliable operation of the BES are considered in the development and assessment of UFLS programs under Requirements R3 and R4. Moreover, as the Commission notes in the NOPR, UFLS programs use validated models of the power system. As such, UFLS programs will always contain a small degree of uncertainty, as such models can never be 100% accurate. Omitting the small amount of non-BES generation that meets the 20 MVA/75 MVA requirements from such models will not significantly increase the amount of uncertainty that will already be present in UFLS programs by default as a result of the inherent nature of validated models of complex power systems.

b. The Commission should not require assessments under PRC-006-1, R11 in circumstances where there is no islanding event

In the NOPR, the Commission expressed concern that PRC-006-1, Requirement R11, which requires PCs to conduct an assessment after a “BES islanding event results in system frequency excursion below the initializing set points of the UFLS program,” could be interpreted

⁶ NERC Petition, Docket No. RM06-16-000, p. 362.

such that an assessment is required only where such system frequency excursions occur and BES islands form within the Interconnection.⁷ MISO respectfully submits that the intent of Requirement R11 is precisely as the Commission interprets it – that such assessments are required only where system frequency excursions occur **and** BES islands form within the Interconnection. Although MISO agrees with the Commission regarding the usefulness of assessments even where BES islands do not form within the Interconnection are useful, such assessments are beyond the scope of PRC-006-1 and should not be required. As the Commission notes in the NOPR, UFLS “is designed for use in extreme conditions to stabilize the balance between generation and load *after an electrical island has been formed[.]*”⁸ As such, the efficacy of a UFLS program can only truly be assessed in light of its performance after an island has formed. Requiring PCs to perform such an assessment – which is costly, time consuming, and resource intensive – in the absence of an islanding event should not be required. MISO therefore respectfully urges the Commission not to require PCs to conduct an assessment of the performance of their UFLS programs for an event in which system frequency excursions fall below the initializing set point for UFLS but that does not result in BES islands forming within the Interconnection.

c. The Commission should not require Reliability Coordinators to resolve disputes between Planning Coordinators over conclusions and recommendations under PRC-006-1, Requirement R11

PRC-006-1, Requirements R5 and R13 require PCs that share identified islands to coordinate UFLS program design and event assessment. Such PCs must also coordinate event assessments using one of the methods outlined in Requirement R11, one of which is for each PC

⁷ See NOPR at P 35.

⁸ *Id.* at P 4 (quoting Electric Power Research Institute, *EPRI Power Systems Dynamics Tutorial*, Chapter 4 at page 4-78 (2009)).

whose area was affected by the same islanding event to conduct an independent event assessment, and where such assessments fail to reach conclusions and recommendations that are consistent with each other, to identify differences between each PC's conclusions and recommendations and report such differences to other affected PCs. In the NOPR, the Commission requested comments on whether these differences should be "reported to the Reliability Coordinator for resolution in the event that the process does not resolve differences in the assessments."⁹

MISO respectfully urges the Commission not to require the reporting of such differences in conclusions and recommendations to the Reliability Coordinator. Because PCs are the functional entities responsible for the planning, coordination, assessment, and implementation of UFLS programs, including those used in shared identified islands, PCs are in the best position to attempt to reconcile differences in independent event assessments for events that occur in shared identified islands. MISO also wishes to note that for entities such as itself, which are registered both as a PC and as a Reliability Coordinator, requiring Reliability Coordinators effectively to act as a mediator between itself (as a PC) and another PC could potentially create a conflict of interest. Finally, MISO respectfully submits that differences in conclusions and recommendations between similarly affected PCs do not create any risk or threat to the reliability of the BES. The act of sharing information regarding such differences with all affected PCs is of primary importance, and this is achieved by the current form of the requirement. Requiring PCs to report such information to Reliability Coordinators would impose additional compliance costs on PCs – particularly where multiple Reliability Coordinators are involved – in order achieve little to no reliability benefit. As such, the Commission should not require PCs that conduct

⁹ *Id.* at P 38.

independent event assessments per Requirement R11 and that fail to reach conclusions and recommendations consistent with those of other PCs affected by the same islanding event to report such differences to the Reliability Coordinator for resolution.

d. The Commission should not alter the currently proposed time frame for completion of island event assessments

In the NOPR, the Commission expressed concern that the one-year timeframe in which PCs must complete island event assessments per Requirement R11, as well as the two-year time frame in which to conduct and document UFLS design assessments to consider program deficiencies, “may be too long since it appears that island event assessments and consideration of deficiencies could reasonably be conducted in a much shorter time frame.”¹⁰ MISO respectfully submits that the proposed time frames should not be altered. Such event assessments are time and resource intensive and should not be hurried. Although it is true that the time frames proposed in Requirements R11 and R12 are ample, in some instances the proposed time frames are likely to be necessary depending on the complexity and severity of the islanding event in question. Further, past experience indicates that most PCs will not wait until the end of these periods to complete island event analyses; rather, for less complex or severe events, PCs are likely to complete such assessments promptly and prior to the end of the full time frame. As such, MISO urges the Commission not to alter the proposed timeframes in these requirements.

e. Planning Coordinators should not be required to inform Balancing Authorities of UFLS program plans pursuant to EOP-003-2.

In the NOPR, in response to the removal of Balancing Authorities from the applicability of Requirements R2, R4, and R7 of EOP-003-2, the Commission requested comments regarding

¹⁰ *Id.* at P 40.

why Balancing Authorities should not be informed by PCs of UFLS program plans.¹¹ As stated previously, PCs are the functional entities responsible for the planning, coordination, assessment, and implementation of UFLS programs. As a result, it is not necessary for Balancing Authorities to play an active role in establishing or coordinating UFLS programs, as PCs will already specialize in and perform this task pursuant to PRC-006-1. For the same reason, it is not necessary for PCs to report UFLS program plans to Balancing Authorities. Further, as is the case with any requirement to report UFLS-related information to Reliability Coordinators, requiring PCs to report UFLS program plans to Balancing Authorities would impose additional compliance costs on PCs in order to achieve little to no reliability benefit. However, because Balancing Authorities could benefit from having access to UFLS program information, such need for information could be efficiently met if NERC were to periodically publish prevailing UFLS setpoints by PC area. Publishing such setpoint data could also assist the coordination process between PCs.

f. Planning Coordinators should not be required to obtain the consent of or to coordinate with neighboring PCs in order to study islands that deviate from Regional Entity boundaries.

In the NOPR, the Commission requested comments “concerning the required degree of coordination or ‘mutual consent’ between [PCs] . . . in order for island boundaries to be set so that, while deviating from Regional Entity boundaries, they better approximate actual island separation boundaries.”¹² MISO submits that PCs should be able to study islands as they see fit and without the consent of or coordination with neighboring PCs. This includes being able to study islands that deviate from Regional Entity boundaries as necessary, as such regional deviations may better approximate expected islands. MISO further submits that each

¹¹ *Id.* at P 52.

¹² *Id.* At P 47.

island study performed creates a reliability benefit, and therefore there is no detrimental effect associated with multiple or non-coordinated island studies.¹³ As a result, neighboring PCs should be able to study different islands scenarios involving both PCs without having to coordinate with or obtain the consent of each other.

¹³ Of course, the fact PCs should not be required to obtain the consent of or to coordinate with neighboring PCs in order to study islands that deviate from Regional Entity boundaries does not mean neighboring PCs that wish to coordinate such island studies should not be encouraged to do so if they so desire.

III. CONCLUSION

MISO respectfully submits these comments on the subject NOPR to assist the Commission in evaluating its proposed approval of PRC-006-1 and EOP-003-2.

Respectfully submitted,

/s/ Jason R. Wool
Brian M. Zimmet
Jason R. Wool
Venable LLP
575 7th Street, NW
Washington, DC 20004
(202) 344-4510
(202) 344-4511
bmzimmet@venable.com
jwool@venable.com

Christina V. Bigelow
Compliance Counsel
Midwest Independent Transmission
System Operator, Inc.
P.O. Box 4202
Carmel, IN 46082-4202
Telephone: (317) 249-5132
cbigelow@misoenergy.org

ATTORNEYS FOR
MIDWEST INDEPENDENT TRANSMISSION
SYSTEM OPERATOR, INC.

Dated: December 28, 2011