

February 27, 2020

To: Market Participants and Other Interested Parties (“Stakeholders”)

Re: **Consultation Letter – proposed new, retirement of existing standards and to not adopt North American Electric Reliability Corporation (“NERC”) standard**

1. Proposed new Alberta reliability standards for adoption;

- (a) EOP-011-AB-1, *Emergency Operations* (“EOP-011-AB-1”);
 - (b) PRC-006-AB-3, *Automatic Underfrequency Load Shedding* (“PRC-006-AB-3”); and
 - (c) PRC-010-AB-2, *Under Voltage Load Shedding* (“PRC-010-AB-2”);
- (collectively referred to as “new reliability standards”)

2. Proposed retirement of existing Alberta reliability standards;

- (a) EOP-001-AB1-2.1b, *Emergency Operations Planning*;
 - (b) EOP-002-AB1-2, *Capacity and Energy Emergencies*;
 - (c) EOP-003-AB1-1, *Load Shedding Plans*;
 - (d) PRC-009-AB-0, *UFLS Performance Following an Underfrequency Event*;
 - (e) PRC-010-AB-0, *Assessment of the Design and Effectiveness of UVLS Program*;
 - (f) PRC-021-AB1-1, *Under Voltage Load Shedding Program Data*; and
 - (g) PRC-022-AB-1, *Under Voltage Load Shedding Program Performance*.
- (collectively referred to as “retirement of existing reliability standards”)

3. Not adopt and assess as not applicable NERC standard:

- (a) NERC PRC-024-2, *Generator Frequency and Voltage Protective Relay Settings* (“NERC PRC-024-2”)

(Sections 1, 2 and 3 above collectively referred to as “spider web project”)

Section 19 of the *Transmission Regulation* requires the Alberta Electric System Operator (“AESO”) to consult with stakeholders likely to be directly affected by the AESO’s adoption or making of Alberta reliability standards, and also requires the AESO to forward the proposed Alberta reliability standards to the Alberta Utilities Commission (“Commission”) for review along with the AESO’s recommendation that the Commission approve or reject them.

Accordingly, the AESO is providing notice and seeking comments from Stakeholders on the attached proposed new reliability standards and retirement of existing reliability standards.

Applicability

The proposed new EOP-011-AB-1 is applicable to;

- (a) the operator of a transmission facility that is part of the bulk electric system; and
- (b) the AESO

This reliability standard does not apply to the operator of a transmission facility whose transmission facilities are only:

- (c) radial circuits connecting to any one or more of:

- (i) load;
 - (ii) one or more generating units; and
 - (iii) one or more aggregated generating facilities; or
- (d) part of an industrial complex or connected to an industrial complex, and cannot interrupt power flow on the interconnected electric system, other than power flow on its own transmission facilities.

The proposed new PRC-006-AB-3 is applicable to;

- (a) the legal owner of a transmission facility that has responsibility in an underfrequency load shedding program established by the AESO.
- (b) the legal owner of an electric distribution system that has responsibility in an underfrequency load shedding program established by the AESO.
- (c) a market participant receiving service under *Rate DTS* of the ISO tariff that has responsibility in an underfrequency load shedding program established by the AESO.

Entities identified in item (a), (b) and (c) above are collectively referred to as “UFLS entities” in this reliability standard. For requirements in this reliability standard where a specific entity or subset of entities are the applicable entity or entities, the entity or entities are specified explicitly.

The proposed new PRC-010-AB-2 is applicable to;

- (a) the legal owner of a transmission facility that has responsibility in an under voltage load shed program established by the AESO;
- (b) the legal owner of an electric distribution system that has responsibility in an under voltage load shed program established by the AESO;
- (c) a market participant receiving service under *Rate DTS* of the ISO tariff that has responsibility in an under voltage load shed program established by the AESO; and
- (d) the AESO.

Background

The AESO is currently developing standards in a project that is related to the adoption of EOP-011-AB-1 for application in Alberta. As the development of the reliability standard progressed, the AESO identified additional reliability standards that needed to be adopted and included in the project in order to completely retire some of the existing reliability standards related to EOP-011-AB-1. In the course of development, the AESO determined that certain provisions in proposed new EOP-011-AB-1 overlapped with Section 305.1 of the ISO rules, *Energy Emergency Alerts* (“Section 305.1”).

The AESO is also adopting proposed new PRC-006-AB-3. In the course of development, the AESO determined that certain provisions in proposed new PRC-006-AB-3 will overlap with provisions in existing OPP 804.

For convenience, the AESO is referring to this overall initiative as the “spider web project”. A diagram in Attachment 1 shows the related reliability standards and ISO rules in the “spider web project”. A brief summary of the spider web project is below.

EOP-011-AB-1 *Emergency Operations*:

The AESO is proposing the adoption of EOP-011-AB-1 for application in Alberta resulting in the:

- complete retirement of existing EOP-001-AB1-2.1b *Emergency Operations Planning*;
- complete retirement of existing EOP-002-AB1-2 *Capacity and Energy Emergencies*;
- retirement of certain requirements that are related to manual load shedding in EOP-003-AB1-1 *Load Shedding Plans*; and
- amendments to Section 305.1 to remove duplicative content that is in EOP-011-AB-1. Specifically subsections 2(a), (b), (c) and 3. Attachment 1 of NERC EOP-011-1 details the process and descriptions for Energy Emergency Alert levels. The AESO currently details Energy Emergency

Alert levels and declarations in Section 305.1 which, if left in, would result in duplication of requirements.

PRC-006-AB-3 Automatic Underfrequency Load Shedding:

The AESO is proposing the adoption of PRC-006-AB-3 for application in Alberta resulting in the:

- complete retirement of existing Operating Policy and Procedure OPP 804 *Off-Nominal Frequency Load Shedding and Restoration*;
- complete retirement of existing PRC-009-AB-0 *UFLS Performance Following an Underfrequency Event*; and
- retirement of certain requirements that are related to automatic underfrequency load shedding in EOP-003-AB1-1.

PRC-010-AB-2 Under Voltage Load Shedding

The AESO is proposing the adoption of PRC-010-AB-2 for application in Alberta to result in the:

- complete retirement of existing PRC-021-AB1-1 *Under Voltage Load Shedding Program Data*;
- complete retirement of existing PRC-022-AB-1 *Under Voltage Load Shedding Program Performance*; and
- retirement of certain requirements that are related to automatic undervoltage load shedding in existing EOP-003-AB1-1.

NERC PRC-024-2 Generator Frequency and Voltage Protective Relay Settings

The AESO is not proposing to adopt PRC-024. PRC-024 requires the legal owner of a generating unit and legal owner of an aggregated generating facility to set their generator protective relays such that generating units and aggregated generating facilities remain connected during defined frequency and voltage excursions.

During the review of NERC PRC-024-2, the AESO determined that the following ISO rules and associated documents collectively and adequately cover the requirements of the NERC PRC-024-2:

- Section 502.1, *Aggregated Generating Facilities Technical Requirements* (“Section 502.1”);
- Section 502.5, *Generating Unit Technical Requirements* (“Section 502.5”);
- Section 502.6, *Generating Unit Operating Requirements* (“Section 502.6”);
- Section 502.15, *Reporting Facility Modelling Data* (“Section 502.15”); and
- Section 502.16, *Aggregated Generating Facilities Operating Requirements* (“Section 502.16”).

Specifically, the requirements are covered as follows:

Requirement R1

- Requirement R1 is sufficiently covered for synchronous generating units by Section 502.5 subsection 9(2) and Appendix 3; and
- Requirement R1 in light of R3 for aggregated generating facilities is sufficiently covered by Section 502.1 subsection 7(3) and Appendix 2.

Requirement R2

- Requirement R2 in light of R3 for synchronous generating units is sufficiently covered by Section 502.5 subsections 6(3) and 7(3) and Appendices 1 and 2; and
- Requirement R2 in light of R3 for aggregated generating facilities is sufficiently covered by Section 502.1 subsection 5(2) and Appendix 1.

Requirement R3

- Requirement R3 is covered by Sections 502.6 and 502.16.

Requirement R4

Requirement R4 is sufficiently covered by subsection 2(2) in Section 502.15 where the AESO has

the ability to request modelling data for existing facilities on an individual basis in accordance with subsection 6.

Summary of Proposed Changes

In developing the proposed new, and assessed as not applicable, reliability standards the AESO determined that certain Alberta variances and administrative amendments were required in order to ensure that NERC EOP-011-1, *Emergency Operations*, NERC PRC-006-3, *Automatic Underfrequency Load Shedding*, PRC-010-2, *Undervoltage Load Shedding* and NERC PRC-024-2 *Generator Frequency and Voltage Protective Relay Settings* are capable of being applied in Alberta and do not require a material change in the framework for the market for electric energy. A summary of these Alberta variances and administrative amendments are as follows:

EOP-011-AB-1

Alberta variances:

- the NERC EOP-011-1 "Applicability" section has been redrafted to ensure the proposed new reliability standards are capable of application in Alberta;
- the AESO has removed "operator-controlled" in requirement R1.2.5 as it is redundant and is clear in R1 who the operator is;
- the AESO recommended not adopting requirement R2.2.5 to request government agencies to implement their programs to achieve necessary energy reductions because no such programs exist in Alberta;
- the AESO recommended not adopting requirement R2.2.6 for reduction of internal utility energy use because it is not determined to be an effective step in the supply shortfall procedure; and
- Appendix 1 – Alert 0, the AESO changed provision from notifying all reliability coordinators to notifying adjacent reliability coordinators as the AESO plans on using the Reliability Coordinator Information System (RCIS) to notify all reliability coordinators. However, if the AESO does not have access to RCIS, then the AESO will notify adjacent reliability coordinators through alternate methods selected by the AESO. In addition, the minimum notification requirements when declaring EEA1, EEA2 and EEA3 only require the AESO to notify adjacent reliability coordinators and not all reliability coordinators; therefore it is reasonable and consistent to do the same when declaring an Alert 0.

Administrative amendments:

- Requirement R1 was amended to further clarify that it is only in the event of an operating emergency that the operating plan needs to be implemented;
- Requirement R1.2.2 deleted the reference to "cancellation or recall of generating unit outages;" as this is an AESO responsibility that is covered in Section 306.5 of the ISO rules, *Generation Outage Reporting and Coordination*;
- Requirements R1A.2.1, R2, R2.2.1, and R5 are requirements that would require the AESO to notify itself or review its own operating plans. Since the AESO had multiple roles in that it performs the function as the reliability coordinator and the balancing authority, these requirements were not included. Further, in the case where the requirement was a standalone requirement, it was left as intentionally left blank;
- Requirement R1A.2.4 was revised from re-dispatch of generation request to directing of generation level to align with terminology used in Alberta;
- the AESO deleted the reference in Requirement R1A.2.5 to issue directives "that are capable of being implemented in a timeframe adequate" for mitigating the emergency. This language is redundant in the context of how the AESO structures reliability directives to facility operators;

- the AESO deleted the reference in Requirement R1A.2.5 relative to the coordination required to minimize the overlap with automatic load shedding as it is the responsibility of the operator of a transmission facility. This requirement is covered in R1.2.5;
- the AESO is the balancing authority and performs the function of a reliability coordinator in Alberta and as such there is no need for the AESO to be mandated to review its own operating plan as required in NERC requirement R2. Consequently, the AESO removed a portion of Requirement R2;
- the AESO is the balancing authority and performs the function of a reliability coordinator in Alberta and as such there is no need for the AESO to notify itself of conditions associated with a capacity emergency or an energy emergency as required in NERC requirement R2.2.1. Consequently these provisions were deleted from requirement R2.2.1 and it was left as intentionally left blank;
- in Requirement R2.2.8, the AESO directs the manual shedding of load and does not physically control the manual shedding of load that minimizes the overlap with automatic load shedding. Consequently these provisions were deleted from requirement R2.2.8 and it was left as intentionally left blank; and
- the AESO deleted the reference in Requirement R2.2.8 to issue directives “that are capable of being implemented in a timeframe adequate” for mitigating the emergency. This language is redundant in the context of how the AESO structures reliability directives to facility operators.

PRC-006-AB-3

Alberta variances:

- the NERC PRC-006-3 "Applicability" section has been redrafted to ensure the proposed new reliability standards are capable of application in Alberta
- the AESO amended requirement RD.B.3 to reflect that the AESO does not control the development of the WECC underfrequency load shedding program; and to allow for modification of the underfrequency load shedding program which addresses Alberta's unique islanding characteristics;
- the AESO amended requirement RD.B.4 to reflect that the AESO does not control the simulation and documentation for the WECC underfrequency load shedding program, but will participate in a coordinated underfrequency load shedding design assessment;
- Requirement R7 was intentionally left blank as data required from other planning coordinators in the WECC that is necessary for modeling an underfrequency load shedding program is available through the WECC coordinated underfrequency load shedding program process;
- Requirement R14 is intentionally left blank as there is no obligation on the AESO to consult on the underfrequency load shedding program; therefore there should not be any obligation to respond to entities' comments. Additionally, the AESO's underfrequency load shedding program is adopted from the WECC regional program with modifications for implementation in Alberta; and
- Requirement R15 is intentionally left blank as the NERC requirements R3, R4, R5 and R12 referenced in R15 have been replaced by WECC regional variances since the underfrequency load shedding design assessment in WECC is conducted by WECC underfrequency load shedding Review Group. Therefore this requirement is not applicable for the AESO.

Administrative amendments:

- Requirement R1, R2, R3, R4, R5, R11, R12 and R13, were left intentionally left blank as they are covered by a regional variance for the WECC;
- clarification on the specific WECC group that the AESO will participate in to meet its obligation in requirement RD.B.1; and

- In Requirement RD.B.2, the AESO is using “protection system” in place of “relay scheme” for clarity. The AESO has defined “protection system” in the [Consolidated Authoritative Document Glossary](#) (“CADG”) which is better aligned with the term relay scheme.

PRC-010-AB-2

Alberta variances:

- the NERC PRC-010-2 "Applicability" section has been redrafted to ensure the proposed new reliability standards are capable of application in Alberta;
- Requirement R1(b) was amended to allow the AESO to use its discretion when determining what factors to consider when performing the initial studies and analysis to assess the under voltage load shed program. The AESO will consider on a case-by-case basis any of the items listed as it determines necessary for the effectiveness of the under voltage load shed program; and
- Requirement R3(b) was amended to allow the AESO to use its discretion when determining what factors to consider when performing the periodic studies and analysis to assess the under voltage load shed program. The AESO will consider on a case-by-case basis any of the items listed as it determines necessary for the effectiveness of the under voltage load shed program.

Administrative Changes

In addition to the above noted changes, the AESO made amendments to the proposed new reliability standards to ensure consistent use of defined terms as included in the AESO’s “CADG”. The AESO has also made administrative changes, such as formatting and grammatical corrections. .

Defined Terms

When reviewing the attached proposed new reliability standards and retirement of existing reliability standards, Stakeholders should note that all defined terms appear **bolded**. Stakeholders are encouraged to refer to the AESO’s CADG when reviewing proposed Alberta reliability standards to ensure they have an accurate understanding of those defined terms.

Implementation of Alberta reliability standards

In accordance with Section 19 of the *Transmission Regulation*, the reliability standards that apply in Alberta are those of the Electric Reliability Organization (“ERO”) or any other reliability standards, to the extent that such reliability standards are adopted by the AESO after consultation with Stakeholders and after receipt of Commission approval. The NERC was certified as the ERO for the United States by the Federal Energy Regulatory Commission under the US *Energy Policy Act* of 2005. Further, the NERC was recognized as the ERO by the Minister of Energy in Alberta.

Alberta reliability standards and definitions proposed for approval or rejection by the AESO are developed:

- (a) based on the reliability standards and definitions of the NERC; or
- (b) to amend, supplement or replace the NERC reliability standards or definitions.

For more information on the AESO’s reliability standards, visit the AESO website at www.aeso.ca and follow the path Rules, Standards and Tariff > Alberta reliability standards.

Related Letters of Notice

On February 27, 2020, the AESO issued two Letters of Notice to Stakeholders requesting comments on the related removal of OPP 804 and proposed amendments to existing Section 305.1. This Stakeholder consultation will be running in conjunction with the two Letters of Notice as it relates to the recommended adoption and retirement of the proposed new and existing reliability standards within this letter.

Request for Comment

Please use the attached *Stakeholder Comment Matrix* when submitting comments to the AESO. Only written comments will be considered in finalizing proposed new reliability standards and retirement of existing reliability standards. Stakeholders should ensure that comments provided represent all interests within their organization. Please respond to the questions in the attached *Stakeholder Comment Matrix*

and provide your specific comments, proposed revisions, and reasons for your position. Providing general comments does not give the AESO any specific issue to consider and address, and results in a general response. The scope of comments is limited to proposed new reliability standards and retirement of existing reliability standards. Any comments received that are outside of this scope will not be considered by the AESO.

Stakeholders are asked to provide comments no later than **March 25, 2020** to ars_comments@aes0.ca. Adherence to deadlines is essential to the integrity of the comment process, and as such, the AESO may choose not to consider any Stakeholder comments received after the deadline.

The AESO will be publishing all comments received for industry review in March. The AESO expects to publish replies to the comments with the final proposed new reliability standards and retirement of existing reliability standards in April 2020.

If the AESO does not receive comments regarding proposed new reliability standards and retirement of existing reliability standards, the AESO expects to forward the proposed new reliability standards and retirement of existing reliability standards to the Commission in May 2020, along with its recommendation that the Commission approve the proposed new reliability standards and retirement of existing reliability standards, to become effective on January 1, 2022.

Attachments to Consultation Letter

The following documents are attached:

1. [August 8, 2019, Letter of Notice – Development of proposed amended Section 305.1 of the ISO rules, Energy Emergency Alerts \(“Section 305.1”\)](#);
2. [August 8, 2019, Letter of Notice – Development of proposed removal of existing Operating Policies and Procedures – OPP 804, Off-Nominal Frequency Load Shedding and Restoration \(“OPP 804”\)](#);
3. [Spider web project diagram](#);
4. [Stakeholder Comment Matrix for proposed new EOP-011-AB-1](#);
5. [Copy of proposed new EOP-011-AB-1](#);
6. [Stakeholder Comment Matrix for proposed new PRC-006-AB-3](#);
7. [Copy of proposed new PRC-006-AB-3](#);
8. [Stakeholder Comment Matrix for proposed new PRC-010-AB-2](#);
9. [Copy of proposed new PRC-010-AB-2](#);
10. [Stakeholder Comment Matrix for proposed retirement of existing EOP-001-AB1-2.1b](#);
11. [Copy of proposed retirement of existing EOP-001-AB1-2.1b](#);
12. [Stakeholder Comment Matrix for proposed retirement of existing EOP-002-AB1-2](#);
13. [Copy of proposed retirement of existing EOP-002-AB1-2](#);
14. [Stakeholder Comment Matrix for proposed retirement of existing EOP-003-AB1-1](#);
15. [Copy of proposed retirement of existing EOP-003-AB1-1](#);
16. [Stakeholder Comment Matrix for proposed retirement of existing PRC-009-AB-0](#);
17. [Copy of proposed retirement of existing PRC-009-AB-0](#);
18. [Stakeholder Comment Matrix for proposed retirement of existing PRC-010-AB-0](#);
19. [Copy of proposed retirement of existing PRC-010-AB-0](#);
20. [Stakeholder Comment Matrix for proposed retirement of existing PRC-021-AB1-1](#);
21. [Copy of proposed retirement of existing PRC-021-AB1-1](#);

22. [Stakeholder Comment Matrix for proposed retirement of existing PRC-022-AB-1](#);
23. [Copy of proposed retirement of existing PRC-022-AB-1](#);
24. [Stakeholder Comment Matrix for proposed to not adopt and assess as not applicable NERC PRC-024-2](#);
25. [Copy of NERC PRC-024-2](#).

Sincerely,

“Melissa Mitchell-Moisson”

Melissa Mitchell-Moisson
Regulatory Administrator
Phone: 403-539-2948
Email: ars_comments@aeso.ca
Attachments