

September 28, 2011

Dear Market Participants and Interested Parties:

**Re: Second Consultation on Proposed Alberta Reliability Standard:  
Protection and Control *Transmission Relay Loadability* PRC-023-AB-1  
("PRC-023-AB-1 Draft 2.1")**

Section 19 of the *Transmission Regulation* requires the Alberta Electric System Operator ("AESO") to consult with market participants likely to be directly affected by the AESO's adoption or making of reliability standards, and also requires the AESO to forward the proposed reliability standard 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 further comments from market participants on attached proposed PRC-023-AB-1 Draft 2.1.

Please be advised the AESO is aware that NERC has approved PRC-023-2 *Transmission Relay Loadability* earlier this year. The AESO will conduct a review of NERC reliability standard PRC-023-2 for adoption in Alberta at a future date.

Following the AESO's receipt of and reply to comments from market participants regarding proposed PRC-023-AB-1 Draft 2.1, the AESO intends to finalize proposed PRC-023-AB-1 Draft 2.1 and forward it to the Commission for approval as a reliability standard that applies in Alberta.

**Applicability of proposed PRC-023-AB-1 Draft 2.1**

Proposed PRC-023-AB-1 Draft 2.1 is applicable to:

- (a) the legal owner of a transmission facility,
- (b) legal owner of a generating unit;
- (c) legal owner of an aggregated generating facility with load-responsive phase protection systems, as described in Appendix 1 applied to any one of the facilities defined below:
  - (i) transmission lines operated at 200 kV and above;
  - (ii) transmission lines operated at 100 kV to 200 kV as identified by the ISO as critical to the reliability of the bulk electric system as required in requirement R3;
  - (iii) transformers with low voltage terminals connected at 200 kV and above; or
  - (iv) transformers with low voltage terminals connected at 100 kV to 200 kV as designated by the ISO as critical to the reliability of the bulk electric system as required in requirement R3; and
- (d) the AESO.

**Previous Stakeholder Consultation**

On July 15, 2010, the AESO posted a [Letter of Notice](#) and commenced consultation on proposed PRC-023-AB-1 and a new definition for incorporation into the AESO's Consolidated Authoritative Documents Glossary and requested stakeholder comments on the same.

The AESO received and considered stakeholder comments in response to its July 15, 2010 Letter of Notice, made further amendments to proposed PRC-023-AB-1 as a result of written comments received, and is of the view that the additional amendments now warrant re-consultation.

Accordingly, the AESO is now re-consulting on proposed PRC-023-AB-1 Draft 2.1. [Click here](#) to view the AESO replies to written comments received by the AESO regarding PRC-023-AB-1 and new definition attached to its July 15, 2010 Letter of Notice.

### **Summary of proposed PRC-023-AB-1 Draft 2.1**

The purpose of proposed PRC-023-AB-1 Draft 2.1 is to ensure the protective relay settings do not limit transmission loadability, do not interfere with an operator's ability to take remedial action to protect the reliability of the system, and are set to reliably detect all fault conditions and protect the electrical network from these faults.

### **Summary of Amendments to NERC Standard PRC-023-1**

Proposed PRC-023-AB-1 Draft 2.1 has been amended as follows:

1. The applicability section has been amended to correctly identify the applicable entities in Alberta and to align with the defined terms included in the AESO's *Consolidated Authoritative Documents Glossary*;
2. The legal owner of an electric distribution system was not included as all facilities in Alberta that apply to proposed PRC-023-AB-1 Draft 2.1 are managed by a legal owner of a transmission facility, the legal owner of a generating unit, or legal owner of an aggregated generating facility;
3. The proposed effective date has been amended to October 1, 2012 in proposed PRC-023-AB-1 Draft 2.1 to allow a reasonable amount of time for Alberta entities to implement proposed PRC-023-AB-1 Draft 2.1;
4. NERC requirement R1 has been amended in proposed PRC-023-AB-1 Draft 2.1 for clarity and consistency and to identify the responsible entities in Alberta. As well, sub-requirements R1.3.1 and R1.3.2 have been amended in proposed PRC-023-AB-1 Draft 2.1 to reflect their inter-relationship.
5. The typographical error made in Alberta requirement R1.10 of the previously proposed PRC-023-AB-1 Draft 2 has been corrected in proposed PRC-023-AB-1 Draft 2.1 to reflect "150%" of the applicable maximum transformer nameplate rating which was incorrectly stated as "115%";
6. NERC requirement R2 has been amended in proposed PRC-023-AB-1 Draft 2.1 to identify requirements of the responsible entities in Alberta;
7. NERC requirement R3 has been amended in proposed PRC-023-AB-1 Draft 2.1 for clarity, consistency and to identify requirements of the responsible entities in Alberta. As well, deleted redundant NERC requirement in R3 that states, "These identified facilities must meet requirement R1" from Alberta requirement in proposed PRC-023-AB-1 Draft 2.1;
8. New Alberta requirement R4 added to proposed PRC-023-AB-1 Draft 2.1 to address timelines for responsible entities to meet requirement R1 for new facilities added to the AESO list. This is consistent with the timelines in the effective date section of the NERC reliability standard.
9. Passive terms such as "shall" have been changed to "must", a consistent writing style has been applied, requirements have been clarified, and measures have been appropriately aligned with requirements. In addition, defined terms now appear in bold font rather than italics; and the use of acronyms is limited to the 'ISO' and the 'WECC' with all other defined terms being written out in full;

10. Proposed PRC-023-AB-1 Draft 2.1 has also been amended to include certain “Alberta variances”<sup>1</sup> from the NERC standard. These variances have been included to ensure that proposed PRC-023-AB-1 Draft 2.1 properly aligns with the industry structure in Alberta and is capable of being applied in Alberta. A summary of these variances are as follows:
- a) The WECC Reliability Coordinator is not included in Alberta requirement R2. NERC requirement R2 states that agreement shall be obtained from the Planning Coordinator, Transmission Operator, and Reliability Coordinator. The AESO is the authority from which legal owners of transmission facilities, generating units and aggregated generating units will obtain agreement for the calculated circuit capability and the AESO will consult with the WECC Reliability Coordinator at its discretion.

### Implementation of Alberta Reliability Standards

All reliability standards proposed for approval or rejection by the AESO are based on the reliability standards and definitions developed, or approved, and enforced by the North American Electric Reliability Corporation (“NERC”). NERC was certified as the Electric Reliability Organization (“ERO”) for the United States by the Federal Energy Regulatory Commission (“FERC”) under the US *Energy Policy Act of 2005*. NERC has been granted recognition as the ERO by the Minister of Energy in Alberta pursuant to Section 20 of the *Transmission Regulation*.

In accordance with Section 19 of the *Transmission Regulation*, the reliability standards that apply in Alberta are those of the ERO or any other reliability standards to the extent that such reliability standards are adopted by the AESO after consultation with market participants and after receipt of Commission approval.

Further information regarding the AESO’s adoption of reliability standards is available on the AESO website at <http://www.aeso.ca/rulesprocedures/17004.html>.

### Request for Stakeholder Comments

Comments and suggestions on proposed PRC-023-AB-1 Draft 2.1 are encouraged.

The attached Stakeholder Comparison Comment Rationale Matrix sets out the following:

- a) the complete text of NERC PRC-023-1, with the exception of the compliance section D. The Alberta reliability standards do not contain a compliance section. Compliance with all Alberta reliability standards is completed in accordance with the Alberta Reliability Standards Compliance Monitoring Program, available on the AESO website at: <http://www.aeso.ca/loadsettlement/17189.html>. For information, a link is provided to NERC compliance section D in the Stakeholder Comparison Comment Rationale Matrix;
- b) the text of proposed PRC-023-AB-1 that was previously consulted on July 15, 2010, and provided as reference only;
- c) the proposed Alberta requirements and measures of proposed PRC-023-AB-1 Draft 2.1;
- d) the text of proposed Appendix 1 to PRC-023-AB-1 that was previously consulted on July 15, 2010, and provided as reference only;
- e) the proposed Appendix 1 of proposed PRC-023-AB-1 Draft 2.1;
- f) the AESO’s rationale with regard to any Alberta variance or other modifications to the NERC wording;
- g) a ‘stakeholder comments’ section to be used by market participants when providing written comments to the AESO; and

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<sup>1</sup> An Alberta variance is a change from the US Reliability Standard that the AESO has determined is material.

- h) an 'AESO replies' section that will be used by the AESO to respond to comments received from market participants, if any.

Please use the attached Stakeholder Comparison Comment Rationale Matrix when submitting comments to the AESO on proposed PRC-023-AB-1 Draft 2.1. Only written comments will be considered by the AESO in finalizing proposed PRC-023-AB-1 Draft 2.1.

Please provide written stakeholder comments or questions no later than **October 21, 2011** to Dan Shield at [ars\\_comments@ieso.ca](mailto:ars_comments@ieso.ca).

### **AESO Replies to Stakeholder Comments**

The AESO will be publishing all stakeholder comments received shortly after the comment deadline. Stakeholder comments received along with AESO replies to the comments will be published in November, 2011.

Please ensure that comments provided represent all interests within each stakeholder organization with respect to proposed PRC-023-AB-1 Draft 2.1.

In the event that the AESO does not receive comments from stakeholders regarding proposed PRC-023-AB-1 Draft 2.1, the AESO is expecting to forward along with its recommendation to approve proposed PRC-023-AB-1 Draft 2.1 to the Commission in December, 2011.

### **Attachments**

The following documents are attached:

- a) [Stakeholder Comparison Comment Rationale Matrix](#) for proposed PRC-023-AB-1 Draft 2.1; and

The full text of all NERC reliability standards is available on the NERC website:  
<http://www.nerc.com/page.php?cid=2|20>

### **Proposed Effective Date**

The AESO proposes that proposed PRC-023-AB-1 Draft 2.1 becomes effective as follows:

1. Alberta requirements R1 and R2 for transmission lines operated at 200kV and above and transformers with low voltage terminals connected at 200kV and above, except for switch-on-to-fault schemes, on October 1, 2012.
2. Alberta requirements R1 and R2 for transmission lines operated at 100 kV to 200 kV as identified by the ISO as critical to the reliability of the bulk electric system and transformers with low voltage terminals connected at 100 kV to 200 kV as designated by the ISO as critical to the reliability of the bulk electric system, including switch-on-to-fault schemes, on July 1, 2015.
3. Alberta requirement R3, on January 1, 2014.

Yours sincerely,

*Original Signed By*

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Attachments