



June 11, 2010

Dear Market Participants and Interested Parties:

Re: Letter of Notice – Voltage and Reactive (“VAR”) Reliability Standards Proposed for Adoption as Alberta Reliability Standards:

- a) **New Definitions**
- b) **VAR-001-AB-1a Voltage and Reactive Control;**
- b) **VAR-002-AB-1.1b Generator Operation for Maintaining Network Voltages;**
- c) **VAR-002-WECC-AB-1 Automatic Voltage Regulators and Voltage Regulating Systems; and**
- d) **VAR-501-WECC-AB-1 Power System Stabilizer (collectively the “proposed Reliability Standards”)**

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

Accordingly, the AESO is providing notice and seeking feedback from market participants on the attached proposed Reliability Standards.

Following the AESO’s receipt of and reply to feedback from market participants regarding the proposed Reliability Standards, the AESO intends to finalize the proposed Reliability Standards and forward them to the AUC for review and approval as reliability standards that apply in Alberta.

VAR-001-AB-1a is applicable to market participants and the AESO. VAR-002-AB-1.1b, VAR-002-WECC-AB-1 and VAR-501-WECC-AB-1 are applicable only to market participants.

Implementation of Alberta Reliability Standards

The proposed Reliability Standards are based on the reliability standards and definitions developed 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*.

AESO Papers and Other Related Communications

The AESO has not issued any AESO papers or other related communications with respect to the proposed Reliability Standards.



Summary of Proposed Reliability Standards

The following summarizes each of the proposed Reliability Standards. Certain of these proposed Reliability Standards have been amended to contain specific “Alberta variances” from the NERC reliability standards. These variances have been included in order to ensure the proposed Reliability Standards properly align with the industry structure in Alberta and are capable of being applied in Alberta.

VAR-001-AB-1a Voltage and Reactive Control

The purpose of this proposed Reliability Standard is to ensure that transmission voltage levels, reactive flows, and reactive power resources are monitored, controlled, and maintained within limits in real-time to protect equipment and the reliable operation of the Alberta Interconnected Electric System (“AIES”).

Proposed VAR-001-AB-1a is based on the FERC approved NERC reliability standard titled VAR-001-1a Voltage and Reactive Control and includes the following Alberta variances:

- Requirement R4.1 expands the requirement to include wind power facilities;
- NERC requirement R5 was deleted as the AESO ensures the reactive power requirements are met in Alberta.

VAR-002-AB-1.1b Generator Operation for Maintaining Network Voltages

The purpose of this proposed Reliability Standard is to ensure generating units provide reactive and voltage control necessary to ensure voltage levels, reactive flows, and reactive resources are maintained within applicable facility ratings to protect equipment and the reliable operation of the AIES.

Proposed VAR-002-AB-1.1b is based on the FERC approved NERC reliability standard titled VAR-002-1.1b Generator Operation for Maintaining Network Voltage Schedules and include the following Alberta variances:

- in addition to the NERC applicability, VAR-002-AB-1.1b also applies to voltage regulating systems at wind aggregated generating facilities;
- Requirements R1 and R2 have requirements added that require consent from the AESO to operate without the automatic voltage regulator in service;
- Requirement R6 requires entities affected by Requirement R5 to notify the AESO within 30 minutes.
- Requirements R7.1 and R7.2 add the tolerance for reporting changes in reactive power capability;
- Requirement R7.3 requires that the AESO be notified of any change of the reactive power resource of an unknown value within 30 minutes.
- Requirement R10 adds a timeframe that requires changes to transformer tap positions as identified in Requirement R9 to be reported by the generating facility owner to the AESO within 30 days.



VAR-002-WECC-AB-1 Automatic Voltage Regulators and Voltage Regulating Systems

The purposes of this proposed Reliability Standard are to:

- ensure that automatic voltage regulators on synchronous generating units and condensers are in service and controlling voltage; and
- ensure that voltage regulating systems at wind aggregated generating facilities are in service and controlling voltage.

Proposed VAR-002-WECC-AB-1 is based on the NERC Board of Trustee approved Western Electricity Coordinating Council ("WECC") reliability standard titled VAR-002-WECC-1 Automatic Voltage Regulators and includes the following Alberta variance:

- in addition to the NERC identified entities, this standard also applies to voltage regulating systems at wind aggregated generating facilities.

VAR-501-WECC-AB-1 Power System Stabilizer

The purpose of this proposed Reliability Standard is to ensure that power system stabilizers on synchronous generators are kept in service.

Proposed VAR-501-WECC-AB-1 is based on the NERC Board of Trustee approved Western Electricity Coordinating Council ("WECC") reliability standard titled VAR-501-WECC-1 Power System Stabilizer (PSS) and includes the following Alberta variance:

- the applicability of the standard was modified to include generation facility owners.

New Definitions

VAR-001-AB-1a, VAR-002-AB-1.1b, and VAR-002-WECC-AB-1 require the addition of new definitions for use with these proposed Reliability Standards.

At the date of approval by the AUC of the proposed Reliability Standards the AESO will include the proposed new definitions in the AESO Consolidated Authoritative Documents Glossary.

Separate Consultation on Removal of Related ISO OPPs

In the AESO's opinion, all authoritative requirements represented in ISO OPP 702 are addressed in VAR-001-AB-1a and VAR-002-AB-1.1b, with the exception of one requirement to be transitioned into ISO rule 3.5.3.4. Once VAR-001-AB-1a and VAR-002-AB-1.1b become effective, OPP 702 Voltage Control will be removed from the ISO rules in its entirety.

The proposed removal of OPP 702 is being consulted on separately pursuant to AUC Rule 017 (click [here](#) to view the Letter of Notice dated June 11, 2010).



The removal of ISO OPP 702 is the result of a specific Transition of Authoritative Documents project (“TOAD”). Under TOAD, the AESO is endeavoring to eliminate duplication, to address conflicts and gaps and to improve clarity within its three authoritative document domains: the ISO rules, the ISO tariff and the Alberta Reliability Standards. Information on the TOAD project can be found on the AESO website at www.aeso.ca.

Information Document

An Information Document – “General Operating Practice - Voltage Control” – will be created to support Alberta Reliability Standards VAR-001-AB-1a and VAR-002-AB-1.1b. The Information Document will contain the non-binding and procedural content, which was previously set out in existing ISO OPP 702. This document is under development and will soon be posted on the AESO website at [http://www.aeso.ca/](http://www.aeso.ca) and follow the path Rules & Standards > Information Documents.

Request for Stakeholder Comments

Comments and suggestions on the proposed Reliability Standards are encouraged.

Please use the attached comment matrix when submitting comments to the AESO on the proposed Reliability Standards. The Alberta requirements have been provided within the comment matrix. Only written comments will be considered by the AESO in finalizing the proposed Reliability Standards.

Please provide written stakeholder comments or questions by **July 9, 2010** to Jerry Mossing at ars_comments@aeso.ca

The AESO will be publishing all stakeholder comments received for industry review shortly after the comment deadline. Stakeholder Comments received along with AESO replies to the comments will be published with the final proposed Reliability Standards being recommended for internal AESO approval in July, 2010.

Attachments to Letter of Notice

The following documents are attached to this Letter of Notice:

- a) [VAR-001-1a](#) (clean);
- b) [Comparison Document](#) between VAR-001-1 and VAR-001-AB-1a;
- c) Copy of the [comment-rationale matrix](#) for VAR-001-AB-1a;
- d) [VAR-002-1.1b](#) (clean);
- e) [Comparison Document](#) between VAR-002-1.1b and VAR-002-AB-1.1b;
- f) Copy of the [comment-rationale matrix](#) for VAR-002-AB-1.1b;
- g) [VAR-002-WECC-1](#) (clean);
- h) [Comparison Document](#) between VAR-002-WECC-1 and VAR-002-WECC-AB-1;
- i) Copy of the [comment-rationale matrix](#) for VAR-002-WECC-AB-1;



- j) [VAR-501-WECC-1](#) (clean);
- k) [Comparison Document](#) between VAR-501-WECC-1 and VAR-501-WECC-AB-1;
- l) Copy of the [comment-rationale matrix](#) for VAR-501-WECC-AB-1.

Proposed Effective Date

The proposed Reliability Standards are to become effective ninety (90) calendar days after the date of approval by the Commission.

Yours sincerely,

Original Signed By

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Attachments

