



**Stakeholder Comment and Rationale Form**

**AESO AUTHORITATIVE DOCUMENT PROCESS**

**Stakeholder Consultation Draft  
2010-06-11**

**Alberta Reliability Standard – VAR-002-AB-1.1b Generator Operation for Maintaining Network Voltages**

*NOTE: The AESO is asking market participants to give an initial indication of their support for, or opposition to, the specific Alberta Reliability Standard variances to the NERC requirements referenced below. Such an initial indication assists in the AESO's practical understanding of the receptivity of the industry to the proposed changes, and in that regard the AESO thanks, in advance, all market participants who choose to respond. With regard to the specific standard changes and their implications, such responses are without prejudice to the rights of market participants under the Act, any regulations, or related decisions of the Commission.*

Date of Request for Comment [yyyy/mm/dd]: <u>2010-06-11</u> Period of Consultation [yyyy/mm/dd]: <u>2010-06-11</u> through <u>2010-07-09</u> Comments From: <u>Suncor Energy Inc.</u> Date [yyyy/mm/dd]: <u>2010/07/09</u>	Contact: <u>Jerry Mossing</u> Phone: <u>403-539-2496</u> E-mail: <u><a href="mailto:ars_comments@aes0.ca">ars_comments@aes0.ca</a></u>
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*Listed below is the summary of changes for the proposed new, removed or amended sections of the standard. Please refer back to the Letter of Notice under the "Attachments to Letter of Notice" section to view the proposed content changes to the standard. Please double-click on the check box for either "Support" or "Oppose" and/or place your comments / reasons for position underneath (if any).*

<b>1. Definitions</b>	<b>Comments</b>	<b>Rationale and/or Alternate Proposal</b>
<b>(a) New</b> <b>"aggregated generating facilities"</b> means an aggregation of generating units, including any reactive power resources, which are: (i) designated by the ISO; and (ii) situated in the same proximate location at one or more point of connections.	<input checked="" type="checkbox"/> X Support <input type="checkbox"/> Support with language suggestions <input type="checkbox"/> Oppose  <i>Insert Comments / Reason for Position (if any)</i>	



1. Definitions	Comments	Rationale and/or Alternate Proposal
<p><b>“voltage regulating system”</b> means the equipment that automatically controls the reactive power resources to regulate the voltage level at any collector bus.</p>	<input type="checkbox"/> Support <input type="checkbox"/> Support with language suggestions <input type="checkbox"/> Oppose  <i>Insert Comments / Reason for Position (if any)</i>	
<p><b>(b) Removals</b></p>	<input type="checkbox"/> Support <input type="checkbox"/> Support with language suggestions <input type="checkbox"/> Oppose  <i>Insert Comments / Reason for Position (if any)</i>	
<p><b>(c) Amendments</b></p>	<input type="checkbox"/> Support <input type="checkbox"/> Support with language suggestions <input type="checkbox"/> Oppose  <i>Insert Comments / Reason for Position (if any)</i>	
2. Alberta Reliability Standards	Comments	Rationale and/or Alternate Proposal
<p><b>(a) New Alberta Variances</b>            The provisions within the proposed Alberta Reliability Standard <i>VAR-002-AB-1.1b Generator Operation for Maintaining Network Voltages</i>, are derived from <i>NERC VAR-002-1.1b</i> with suitable revisions for the responsible entities within Alberta. An Alberta variance is a change from the NERC Reliability Standard that the AESO has determined is material. Specifically, the following provisions have are deemed as Alberta variances and have been added, replacing existing <i>NERC VAR-002-1.1b</i> requirements.</p>		<p>Upon doing a complete review of the following Reliability Standard, Suncor has noted that the ISO already has OPPs that address the monitoring and controlling of voltage levels and therefore has satisfied WECC and NERC requirements. Suncor is recommending that the AESO consider keeping the original OPPs in place and modifying them as required, and / or review the duplication of standards.</p>
<p><b>R1.</b> Each operator of a generating unit, subject to requirement R3 and the ISO’s consent to operate otherwise, must operate such generating unit with the automatic voltage regulator in service and in voltage control mode and must not operate in any other mode including without limitation,</p>	<input type="checkbox"/> Support <input type="checkbox"/> X Support with language suggestions <input type="checkbox"/> Oppose	<p>Suncor supports Capital Power’s comments per this requirement: that the requirement should not be split into three separate requirements, but should instead stay</p>



2. Alberta Reliability Standards	Comments	Rationale and/or Alternate Proposal
<ul style="list-style-type: none"> <li>• power factor control mode</li> <li>• VAR control mode</li> </ul>	<i>Insert Comments / Reason for Position (if any)</i>	combined under one requirement with three bullets.
<p><b>R2.</b> Each operator of a wind aggregated generating facility, subject to requirement R3 and the ISO's consent to operate otherwise, must operate such wind aggregated generating facility with the voltage regulating system in service and in voltage control mode and must not operate in any other mode including without limitation,</p> <ul style="list-style-type: none"> <li>• power factor control mode</li> <li>• VAR control mode</li> </ul>	<input type="checkbox"/> Support <input type="checkbox"/> X Support with language suggestions <input type="checkbox"/> Oppose  <i>Insert Comments / Reason for Position (if any)</i>	Please verify that Wind Farms that are not equipped with voltage regulating systems (those built prior to applicable standards being in place) can seek an exemption from this requirement
<p><b>R3.</b> Each operator of a generating unit or wind aggregated generating facility must notify the ISO as soon as practical when the automatic voltage regulator or voltage regulating system is out of service.</p>	<input type="checkbox"/> X Support <input type="checkbox"/> Support with language suggestions <input type="checkbox"/> Oppose  <i>Insert Comments / Reason for Position (if any)</i>	
<p><b>R4.</b> The operator of a generating unit or wind aggregated generating facility unless exempted by the ISO must comply with directives from the ISO that specify the following:</p> <ul style="list-style-type: none"> <li>a) voltage level on the high voltage side of the transformer(s) at the point of connection between each generating unit or wind aggregated generating facility and the TFO's facilities; or</li> <li>b) the reactive power to be achieved by the generating unit or wind aggregated generating facility.</li> </ul> <p><b>R4.1</b> Each operator of a generating unit or wind aggregated generating facility pursuant to requirement R4 must comply by adjusting the:</p> <ul style="list-style-type: none"> <li>a) set point of the automatic voltage regulator or voltage regulation system; or</li> <li>b) on-load tap changer.</li> </ul> <p><b>R4.2</b> The operator of a generating unit or wind aggregated generating facility, subsequent to complying pursuant to requirement R4, must not adjust either of the following:</p> <ul style="list-style-type: none"> <li>a) set point of the automatic voltage regulator or voltage regulating system; or</li> <li>b) on-load tap changer.</li> </ul>	<input type="checkbox"/> Support <input type="checkbox"/> X Support with language suggestions <input type="checkbox"/> Oppose  <i>Insert Comments / Reason for Position (if any)</i>	<p>Please verify the applicability of these standards to Industrial System Designations who have one point of interconnection to the Transmission grid and have aggregated load and generation facilities that operates behind the point of interconnection.</p> <p>Additionally, Suncor supports Capital Power's position on this requirement – to not create additional requirements above those stated in NERC.</p>



2. Alberta Reliability Standards	Comments	Rationale and/or Alternate Proposal
<p><b>R5</b> Each operator of a generating unit or wind aggregated generating facility must use an alternative method to control voltage and reactive power output to meet the voltage level directive, or reactive power level directive issued by the ISO when the automatic voltage regulator or voltage regulating system is out of service.</p>	<input type="checkbox"/> Support <input type="checkbox"/> X Support with language suggestions <input type="checkbox"/> Oppose  <i>Insert Comments / Reason for Position (if any)</i>	<p>Support if the Wind Farm is equipped with such equipment. Otherwise, see comment in R2.</p>
<p><b>R6.</b> Each operator of a generating unit or wind aggregated generating facilities who cannot comply with a directive pursuant to requirement R5 must notify the ISO with its explanation for not complying with a voltage level directive within 30 minutes.</p>	<input type="checkbox"/> Support <input type="checkbox"/> X Support with language suggestions <input type="checkbox"/> Oppose  <i>Insert Comments / Reason for Position (if any)</i>	<p>Please verify the applicability of these standards to Industrial System Designations who have one point of interconnection to the Transmission grid and have aggregated load and generation facilities that operates behind the point of interconnection.</p>
<p><b>R7.</b> Each operator of a generating unit or wind aggregated generating facility must notify the ISO as soon as practical, but within 30 minutes of any of the following:</p> <p><b>R7.1.</b> A status or capability change on any generating unit or wind aggregated generating facility reactive power resource in excess of 2.5 MVar or 1% (which ever is greater) of its reactive power obligation, including the status of each automatic voltage regulator, voltage regulating system and power system stabilizer, and the expected duration of the change in status or capability.</p> <p><b>R7.2</b> A status or capability change on any other reactive power resource in excess of 2.5 MVar or 1% (which ever is greater) of the reactive power obligation under the control of each operator of a generating unit or operator of a wind aggregated generating facility , and the expected duration of the change in status or capability.</p> <p><b>R7.3</b> A status or capability change of the reactive power resource of an unknown value. Once the value is known then operator of generating unit must report the value to the ISO as soon as practical, but within 30 minutes.</p>	<input type="checkbox"/> Support <input type="checkbox"/> X Support with language suggestions <input type="checkbox"/> Oppose  <i>Insert Comments / Reason for Position (if any)</i>	<p>See comment in R6: Clarity required on applicability to ISDs.</p> <p>Suncor also supports Capital Power's position: that sub requirement R7.3 should not be added in the Alberta version when the NERC version only has two sub-requirements.</p>
<p><b>R8.</b> Each GFO with generating unit step-up and auxiliary transformers with primary voltages equal to or greater than the generating unit terminal</p>	<input type="checkbox"/> Support <input type="checkbox"/> X Support with language suggestions	<p>Suncor supports the overall concept of this rule, but also supports Capital Power's</p>



2. Alberta Reliability Standards	Comments	Rationale and/or Alternate Proposal
voltage must provide the ISO any one or more of the following within 30 days of a request: <b>R8.1</b> Tap settings. <b>R8.2</b> Available fixed tap ranges. <b>R8.3</b> Impedance data. <b>R8.4</b> The +/- voltage range with step-change in % for on-load tap changing transformers.	<input type="checkbox"/> Oppose  <i>Insert Comments / Reason for Position (if any)</i>	position which questions whether proof of confirmation is required. Seems like an unnecessary measure.
<b>R9.</b> Each GFO with step-up transformer off-load taps, after reviewing with the ISO, must ensure that transformer tap positions are changed according to the specifications provided by the ISO.	<input type="checkbox"/> Support <input type="checkbox"/> XSupport with language suggestions <input type="checkbox"/> Oppose  <i>Insert Comments / Reason for Position (if any)</i>	See comment in R6: Clarity required on applicability to ISDs.
<b>R10.</b> Each GFO must notify the ISO within 30 days of the ISO providing the specifications pursuant to requirement R9 if the GFO cannot comply and must include the technical justification in such notice.	<input type="checkbox"/> Support <input type="checkbox"/> X Support with language suggestions <input type="checkbox"/> Oppose  <i>Insert Comments / Reason for Position (if any)</i>	See comment in R6: Clarity required on applicability to ISDs.
<b>(b) Removals (Alberta Variances)</b>	<input type="checkbox"/> Support <input type="checkbox"/> Support with language suggestions <input type="checkbox"/> Oppose  <i>Insert Comments / Reason for Position (if any)</i>	



2. Alberta Reliability Standards	Comments	Rationale and/or Alternate Proposal
<p><b>(c) Amendments (Alberta Variances)</b></p> <p>The following revisions have been made throughout this proposed reliability standard:</p> <ul style="list-style-type: none"> <li>- Identified the responsible entities in Alberta.</li> <li>- Applied a consistent writing style and added clarity.</li> <li>- Changed passive terms such as “shall” to “must”.</li> <li>- Developed measures specific to the requirements.</li> </ul>	<p> <input type="checkbox"/> Support  <input type="checkbox"/> Support with language suggestions  <input type="checkbox"/> X Oppose         </p> <p><i>Insert Comments / Reason for Position (if any)</i></p>	<p>See comment in R6: Clarity required on applicability to ISDs.</p> <p>Upon doing a complete review of the following Reliability Standard, Suncor has noted that the ISO already has OPPs that address the monitoring and controlling of voltage levels and therefore has satisfied WECC and NERC requirements. Suncor is recommending that the AESO consider keeping the original OPPs in place and modifying them as required, and / or review the duplication of standards.</p>
<p><b>(d) Other</b> (<i>Stakeholders wishing to comment on specific provisions are requested to copy the provision into this area and provide comments</i>)</p>		