



April 9, 2008

Dear Market Participants and Interested Parties:

**Re: Letter of Notice – Proposed Long Term Adequacy Rules**

Pursuant to Section 2(1) of the Alberta Utilities Commission (“AUC”) Rule 017, the Alberta Electric System Operator (AESO) is providing notice and seeking feedback on ISO Rule changes that are being considered for recommendation to the AESO Executive Rules Committee (“ERC”) in July 2008.

For your consideration, attached are the proposed ISO Rule changes. The following grid is hyperlinked to provide assistance in directing you to the proposed ISO Rule changes.

<b>Rule Number</b>	<b>Description</b>	<b>Level</b>	<b>Most relevant stakeholder interest</b>
Rule 13	<a href="#">Long Term Adequacy</a>	I	All Market Participants and Interested Parties

Please see the attached summary for more information on the proposed ISO Rule changes, including a brief explanation of the reason for the change.

Comments and suggestions on the ISO Rule changes being proposed are encouraged. Please use the comment matrix provided when submitting comments to the AESO on the proposed ISO Rule changes. Click [here](#) to access the comment matrix for the proposed ISO Rules change. Only written comments will be considered in finalizing the ISO Rule changes.

Please provide feedback or questions by **Thursday, April 24, 2008** to the **individual** specified within the ISO Rule change description below.

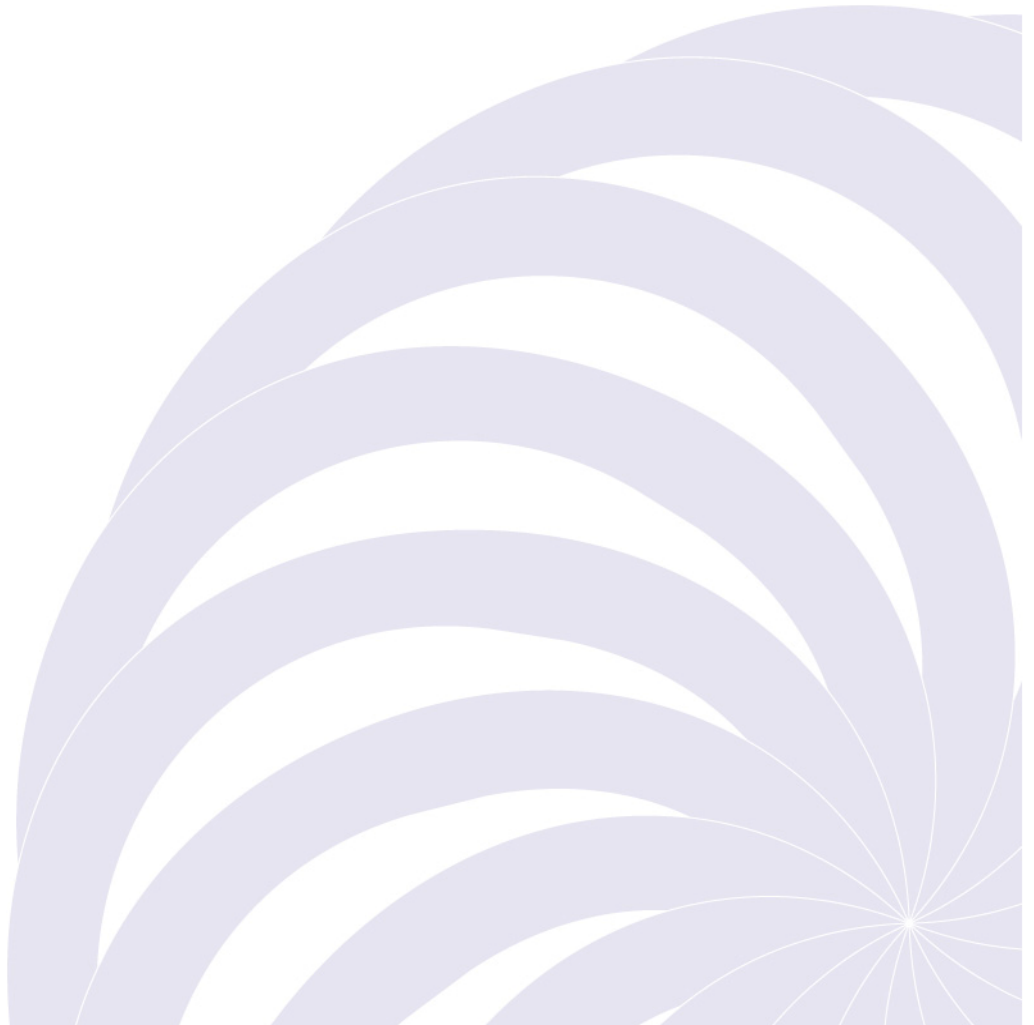


The AESO will be publishing all stakeholder comments received for industry review shortly after the comment deadline. Stakeholder comments received along with AESO responses will be published with the final proposed ISO Rule changes being submitted to the ERC for approval in July 2008.

Yours sincerely,

*Original Signed By*

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## Proposed LEVEL I ISO Rule Changes

Level I changes are changes that have a significant operational or financial impact on the industry or the AESO. These changes typically require working group input and/or extensive stakeholder consultation to implement an effective solution.

<b>ISO Rule 13 - Long Term Adequacy</b>	
Rule Section/Number	<ol style="list-style-type: none"> <li>1. G1 Definitions - long term adequacy (LTA), LTA metrics, LTA threshold, LTA threshold actions, supply shortfall</li> <li>2. 3.5.3.1 - Submitting Offers</li> <li>3. 13 - LONG TERM ADEQUACY</li> </ol>
Reason for Change	The Alberta Department of Energy recommends that the ISO develop key indicators to monitor long term adequacy (“LTA”) and to provide an early-warning of adequacy issues in Alberta. If a shortage is forecast, the ISO is to have the authorization to implement out-of-market solutions. A new section 13 of the ISO rules has been created which identifies the purpose of the rule, establishes LTA metrics to be published, creates a LTA threshold to be monitored based on one of the metrics and identifies threshold actions the ISO may take if the threshold is exceeded.
Confidential Provisions	None
Target Effective Date	The 10 <sup>th</sup> day after the day on which notice of the ISO rules is published by the Commission.
AESO Contact	Market Services, Gordon Nadeau, <a href="mailto:gordon.nadeau@aes0.ca">gordon.nadeau@aes0.ca</a> , (403) 539-2568
From (Current Rule)	To (Proposal)

**1. G1 Definitions**

No existing definitions

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“**long term adequacy (LTA)**” means the ability of future electric system energy supply to meet expected aggregate electrical demand requirements over several years.

“**LTA metrics**” means all **adequacy** information related items, including historical data and forecasts that the **ISO** will regularly capture, calculate and report on.

“**LTA threshold**” means the magnitude measured with respect to one of the **LTA metrics** that, if exceeded, would indicate a need for the consideration of preventative action.

“**LTA threshold actions**” means out-of-market measures the **ISO** may choose to implement to remedy an actual or impending **LTA** issue, where for the purpose of this definition, out-of market measures are actions that either create revenue or cost impacts outside the energy market for **market participants**. **LTA threshold actions** are intended to preserve **LTA** until new generation capacity is built or load decreases.

“**supply shortfall**” is a condition when there is insufficient energy offered in the energy market to meet the requirements of load in Alberta.

<p><b>2. 3.5.3.1 Submitting Offers</b></p> <p>a) A <b>pool participant</b> with a <b>source asset</b> that has a <b>maximum capability</b> of 5 MW or greater must submit an <b>offer</b> for such <b>asset</b>.</p>	<p><b>2. 3.5.3.1 Submitting Offers</b></p> <p>a) A <b>pool participant</b> with a <b>source asset</b> that has a <b>maximum capability</b> of 5 MW or greater must submit an <b>offer</b> for such <b>asset</b> <u>unless the <b>pool participant</b> has a <b>LTA threshold actions</b> contract in accordance with <b>rule 13</b>.</u></p>
<p><b>3. <u>No existing rules</u></b></p>	<p><b>3. <u>13 LONG TERM ADEQUACY</u></b></p> <p><b><u>13.1 Purpose of Rule</u></b></p> <p><u>The purpose of this <b>rule</b> is to describe the means by which the <b>ISO</b> will monitor and report on the <b>LTA</b> of the Alberta electric energy market and if the analysis indicates a potential <b>LTA</b> issue may develop, the <b>rules</b> will indicate what steps the <b>ISO</b> may take to address the issue and how any costs for <b>ISO</b> action will be recovered.</u></p> <p><b><u>13.2 Long Term Adequacy Metrics</u></b></p> <p><b><u>13.2.1 Purpose of Rule</u></b></p> <p><u>The purpose of this <b>rule</b> is to identify and describe the <b>LTA metrics</b> that will be created and published by the <b>ISO</b>. The <b>LTA metrics</b> are intended to provide information to stakeholders that will facilitate their assessments of <b>LTA</b>. The <b>LTA metrics</b> will also be used by the <b>ISO</b> to indicate if a potential <b>LTA</b> issue is developing.</u></p>

### 13.2.2 Long Term Adequacy Metrics and Reporting

- a) The **ISO** will establish, maintain and report on **LTA metrics** on a quarterly basis in accordance with this **rule** 13.2.2.
- b) The **ISO** will make publicly available the following information:
- i) A new Alberta electrical generation projects and retirements metric which is a non-confidential project list indicating such relevant information as the project name, the project proponents, the **MW** size of the project and the estimated year of project completion. The metric will be subdivided to identify the following:
- generation projects under active construction, as determined by the **ISO**;
  - generation projects which have received or have applied for government permits or approvals to proceed from the **EUB, AUC** or other Alberta agencies or which have an **interconnection** application before the **ISO**;
  - generation projects which have been publicly announced and have an ongoing commitment to proceed, as determined by the **ISO**; and
  - existing **generating assets** which are known to be retiring as indicated by the public announcements of the **owners** of such **assets** or by other publicly available sources of information.

The ISO may provide additional public project information as required regarding the magnitude of the impact of a project on LTA and may identify potential impediments to the timely completion and interconnection of the projects if appropriate.

ii) A forecast reserve margin metric. The reserve margin metric calculation methodology will:

- be a measure, expressed in percentage terms, representing the amount of generation capacity (at the time of system peak) that is in excess of the annual peak demand;
- utilize published ISO load forecasts;
- utilize existing generation **maximum capability** and the new generation metric forecast capacity outlined in rule 13.2.2 b) i);
- adjust for “behind the fence” demand and generation capacity;
- exclude wind and adjust for hydro available at the time of system peak; and
- incorporate **interconnection** capacity.

The reserve margin metric will have a minimum five year forecast period and may reflect more than a single supply and demand scenario for the system.

iii) A supply cushion metric which provides a two-year forecast of available daily generation capacity and peak demand both measured in MW. The supply cushion metric calculation methodology will:

- incorporate the **maximum capability of generating units**;
- incorporate daily average planned **outages** and derates as reported by **pool participants** in their **outage** scheduling submissions as well as a nominal average **forced outage** rate;
- adjust for “behind the fence” demand and generation capacity;
- exclude wind and adjust for hydro available at the time of daily system peak; and
- exclude **interconnection** capacity; and
- exclude existing generation that is contractually available but that does not participate in the energy market.

The supply cushion metric will illustrate the number, duration and magnitude of the forecast supply deficiencies on a deterministic basis. A deficiency of supply to demand does not mean a **supply shortfall** exists as there may be other resources such as wind or imports available to meet demand. Any confidential information used in the metric is only shown in aggregate form.

iv. A two year probability of supply adequacy shortfall (2YRPSAS) metric which provides a probabilistic assessment of an **AIES supply shortfall** over the next two years. The 2YRPSAS metric calculation methodology will:

- utilize published **ISO** load forecasts;

- utilize existing generation **maximum capability** and the new generation metric forecast capacity outlined in **rule 13.2.2 b) i)**;
- incorporate daily average planned **outages** and derates as reported by **pool participants** in their **outage** scheduling submissions,
- incorporate **interconnection** capacity estimates,
- utilize a distribution of outcomes for the following inputs:
  - intermittent or energy limited resources (such as wind and hydro power)
  - cogeneration **asset's** net to grid production
  - **forced outages**

The 2YRPSAS metric provides information on potential energy **supply shortfall** events during the two year period in terms of expected number of hours of involuntary curtailments, largest expected energy **supply shortfall** hour in **MW**, and expected total **MWh** not served.

c) The **ISO** may establish other metrics deemed appropriate for the assessment of **LTA** in Alberta. The other metrics will not necessarily be added to the list in **rule 13.2.2 b)** or published in the quarterly report but would be used to assist the **ISO** in fulfilling its duties under this **rule 13** and under the **EUA**.

d) The **ISO** will update the **LTA metric** methodology as appropriate. Without restricting the foregoing, the methodology will:

- (i) cover the key elements which directly or indirectly measure **LTA**;
- (ii) be relatively simple to understand and promote understanding of the energy market;
- (iii) to the extent possible, be based on publicly available and verifiable information; and
- (iv) provide an outlook on **LTA**.

### **13.3 Long Term Adequacy Threshold Determination and Use**

#### 13.3.1 Purpose of Rule

The purpose of the **rule** is to identify a **LTA threshold** based on the 2YRPSAS metric as per in **rule** 13.2.2 b) iv). The **LTA threshold** if exceeded will indicate that there is a potentially unacceptable likelihood of involuntary load curtailments in a subsequent two year period.

#### 13.3.2 Long Term Adequacy Threshold Determination and Use

a) The **ISO** will establish a **LTA threshold** appropriate for the 2YRPSAS model as per in **rule** 13.2.2 b) iv). Initially, the **LTA threshold** will be an expected total of 1600 MWh not served in a two year period. The expected total MWh not served represents the cumulative total of MW of demand not served during each hour of all **supply shortfall** events

modelled during the two year period.

- b) Using the 2YRPSAS metric, the **ISO** will estimate on a quarterly basis the expected total **MWh** not served in a subsequent two year period. If the estimated total **MWh** not served exceeds the **LTA threshold** established at the time, the **ISO** will undertake further studies to verify the likely cause, magnitude and timing of the potential **adequacy** issue. If the **ISO** deems that the potential **adequacy** issue requires preventative action, the **ISO** may proceed to design and procure the **LTA threshold actions** in accordance with **rule 13.4** or take other similar effective actions that may be available at that time.
- c) The **ISO** will ensure that the **LTA threshold** is reviewed and appropriately updated when there are significant changes to the 2YRPSAS model as per in **rule 13.2.2 b) iv)**. The **ISO** will also update the **LTA threshold** from time to time when there are significant changes to the system **MW** demand level, generation mix, **interconnection** capability or other major components of the system.

### **13.4 Long Term Adequacy Threshold Actions**

#### 13.4.1 Purpose of Rule

The purpose of the **rule** is to identify a set of **LTA** measures the **ISO** may choose to implement to remedy an actual or impending **LTA** issue, to provide criteria for the use of the **LTA** measures and to establish how any costs for **ISO**

action will be recovered.

#### 13.4.2 Long Term Adequacy Threshold Actions

In the event that the **LTA threshold** is exceeded as per **rule 13.3.2** or the **ISO** deems that a potential **adequacy** issue requires preventative action, the **ISO** may procure the following three **LTA threshold actions**:

- a) Load Shed Service - the **ISO** would contract with **pool participants** for the right to curtail load in certain circumstances and under specific terms and conditions.
- b) Self Supply and Back-Up Generation - the **ISO** would contract with the **owners** of self-supply and back-up **generating units** for the ability to call on such **generating units** to provide energy production to the system. The contracted **generating units** would normally only produce energy solely for use at the generation site, or would normally be available to provide back-up when there is an outage at the generation site and would not otherwise have been available to participate in the energy market.
- c) Emergency Portable Generation - the **ISO** would contract with the **owners** of emergency portable **generating units** for the ability to call on such **generating units** to provide energy production to the system. Emergency portable **generating units** are portable units that are not currently located in Alberta but which can be **interconnected** on short notice if a suitable site is available.

13.4.3 Procurement and Use of Long Term Adequacy Threshold Actions

- a) The **ISO** will design and procure the **LTA threshold actions** using established **ISO** procurement procedures.
- b) The **ISO** will use contracted **LTA threshold actions** service as part of **ISO Operating Policies and Procedures** to avoid involuntary curtailments.
- c) Where possible and practical, the **ISO** will design the **LTA threshold actions** in a manner that will encourage competition between such **LTA threshold actions** to provide the required level of service.
- d) **Generating unit** capacity that is under contract to provide **LTA threshold actions** service will not be eligible to offer energy into the energy market.

13.4.4 Recovery of Long Term Adequacy Threshold Actions Costs

- a) If **LTA threshold actions** are procured by the **ISO**, the **ISO** will establish a methodology and institute a charge to load that will result in the recovery of the costs of **LTA threshold actions**.
- b) The charge to load will be primarily directed to the **pool participants** who consume energy during higher priced hours as they are the ones who benefit from the **LTA threshold actions** being in place.