ISO Rule Proposal

Purpose of the Form

Section 20.81 of the *Electric Utilities Act* requires the AESO to establish a process for market participants and interested parties to propose ISO rules for the AESO's consideration. To propose a new ISO rule, an amendment to an existing ISO rule or a removal of an existing ISO rule, please complete and submit this form.

Completed proposal forms will be posted to the AESO website with Individual Name, Title and Contact Details removed. Please ensure that any confidential or commercially sensitive information submitted with your proposal has been clearly identified.

ISO Rule Proposal Description

1. Proposal Date: 5/27/2022

2. Proposal Type:

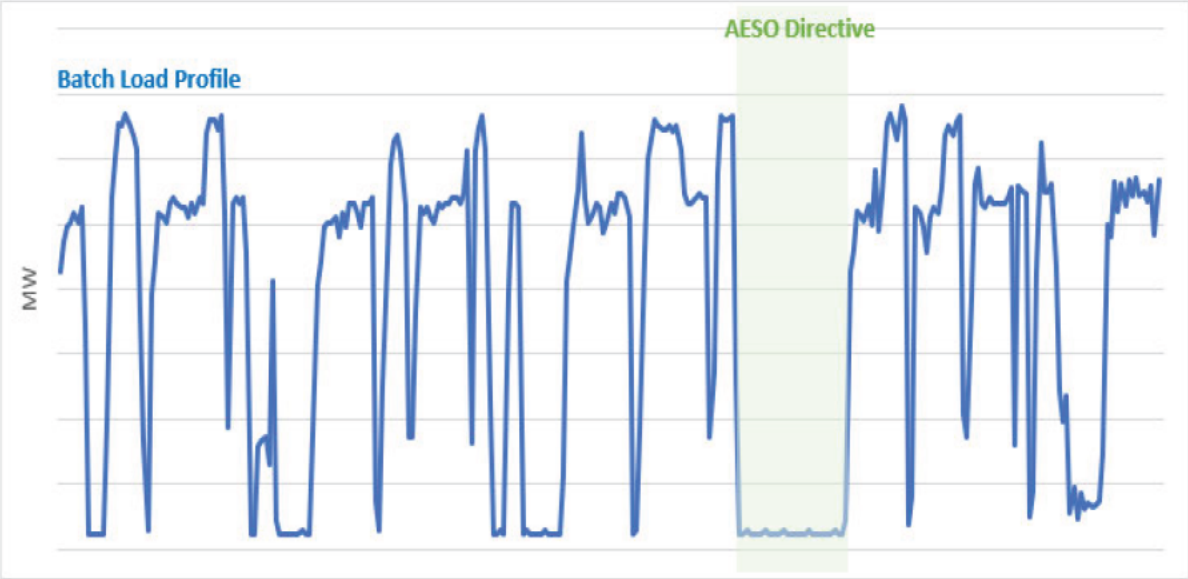
☐New ISO rule(s)	☒Amend existing ISO rule(s)	☐Removal of existing ISO rule(s)

3. Provide a concise description of the issue that the proposed rule is intended to address, the level of urgency, and any industry impacts. Please provide a list of any relevant supporting data, analysis, or materials and include these documents as attachments to this form.

The Measurement and Verification (M&V) methodology included in ISO Rules Section 205.6 does not accurately recognize the grid reliability value provided by "batch load" demand resources involved in providing the Supplemental Reserve product.[1] The current methodology simply compares an asset's load at the time a directive is called to that asset's load 10 minutes later (i.e., it employs a Meter Before/Meter After, or MBMA baseline). The MBMA baseline methodology does not capture the value that a batch load asset can provide even if called at a low point in its cycle, simply by not ramping up again when under directive to provide Operating Reserve.

The figure below shows an illustrative example of a batch load demand resource that, when directed by the AESO, did not ramp up again until after the directive had ended. Although the load profile is somewhat variable, the response during the directive is clearly a divergence from typical operations, which provides relief to the grid.

[1] Per PJM, "Batch Load Demand Resource" shall mean a Demand Resource that has a cyclical production process such that at most times during the process it is consuming energy, but at consistent regular intervals, ordinarily for periods of less than ten minutes, it reduces its consumption of energy for its production processes to minimal or zero megawatts. Amended and Restated Operating Agreement of PJM Interconnection, L.L.C., effective date 7/14/2011 – Docket : ER11-4040-000.



Assets that include batch loads are being undervalued due to the mismatch between their load profile and the MBMA baseline methodology applied and therefore risk being unable to provide value to the grid in the form of Operating Reserve. Other markets have recognized the value of including batch loads and have adopted a methodology to accommodate these types of resources, such as that proposed in Section 4.

If batch load assets are not allowed to participate in Operating Reserves—simply because of a mismatch between M&V methodology and asset load characteristics—the AESO will lose the ability to control these loads at times of contingencies on the grid. The AESO may call a directive, e.g. for SUPL assets to reduce their load, but a batch load not allowed to participate as SUPL could concurrently increase its load and negate the expected impact of calling SUPL assets. For example, take a batch load asset providing Supplemental Operating Reserve and that consumes 10 MW during a downcycle and up to 50 MW on an upcycle. With the current interpretation of the M&V methodology, that asset could not be compensated for remaining at 10 MW if directed while on a downcycle, meanwhile its consumption could surge to 50 MW at a time when grid stability requires less load relative to generation. Alternatively, if the M&V methodology were revised (as proposed in Section 4) to include a secondary methodology that would compensate the batch load for remaining at 10 MW, this would enable the AESO to control this load during a directive, thereby enhancing reliability.

It is important therefore to allow batch load resources to participate in Operating Reserves if they are willing and able.

SUPL resources provide a low-cost source of Operating Reserves. Introducing a baseline methodology that will allow batch loads to be properly valued and participate in Operating Reserves will contribute to keeping electricity costs in the province down. Broadening the scope of resources that are allowed to participate in Operating Reserves also increases the competitive operation of the Alberta electricity market. In addition, as electricity is a major cost component for large batch load customers, the ability to participate in Operating Reserves will allow these customers to reduce their operating costs, remain in business, and keep people employed.

4. **Provide a description of your proposal to address the issue described in #3. Include the purpose or objective of the proposed new or amended ISO rule. Note that it is not necessary to provide draft rule language.**

Voltus proposes that the AESO introduce a batch load baseline methodology that can be selectively applied to batch load assets providing Supplemental Reserve.

A batch load baseline considers both 1) the difference between pre-event load and load at the 10-minute mark, and 2) the difference between load at event end and post-event load. Performance is measured using the larger of the two: #1 applies when the batch load is directed during an upcycle, and #2 applies when it is directed during a downcycle.

Both PJM and MISO have introduced batch load baselines of this nature.

- PJM has a batch load baseline option for Synchronized Reserves: "For Demand Resources that are considered "batch load" resources, a second method of verification will be used for instances where a Synchronized Reserve Event is initiated and the resource is operating at the minimum consumption level of its duty cycle. In this case, the magnitude of the response will be measured as the difference between (a) the resource's consumption at the end of the event and (b) the maximum consumption within a ten (10) minute period following the event provided that all subsequent minutes following that minute are no less than 50% of the consumption in that minute."[2]

- MISO has also introduced an option for batch load demand response (BLDR) resources, and recognized that: "Nonetheless, by remaining at the bottom of its cycle, the BLDR resource helps MISO in meeting the BAL standard by not exacerbating the ACE deviation, which it would do if it resumed operations of its batch load process. This latter effect must be weighed when evaluating the resource that, most of the time, could release significant amounts of energy to assist MISO in responding to a contingency event."[3]

5. **Provide a list of related ISO rules, Information Documents, and any other relevant AESO documents.**

- ISO Rules – Part 200 Markets – Division 205 Ancillary Services – Section 205.6 Supplemental Reserve Technical Requirements and Performance Standards, 6(1)

The above-mentioned section states:

> "*A pool participant must, within ten (10) minutes following receipt of a directive to provide supplemental reserve, ensure that its pool asset is providing a quantity of real power equal to the instantaneous amount of real power of the pool asset at the time of the directive and the amount of real power set out in the directive.*"

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[2] PJM Manual 11, section 4.2.11.

[3] MISO Business Practices Manual-026-r7, p.82.

Voltus requests that this language be amended to include something along the lines of the PJM language cited above. For example:

> *"For pool assets that are considered to be "batch load" resources, a second method of verification will be used for instances where a directive is issued and the asset is operating at the minimum consumption level of its duty cycle. In this case, the pool participant must ensure that its pool asset remains at the minimum consumption level of its duty cycle for the duration of the directive. The magnitude of the response will be measured as the difference between (a) the instantaneous amount of real power of the pool asset at the end of the directive and (b) the maximum real power of the pool asset within a ten (10) minute period following the directive."*

Proponent Information

List at least one contact. For additional contacts, copy the table below and include all the requested details for each person. If more than one contact is provided, please identify the main contact.

Individual Name:	[redacted]
Title:	[redacted]
Company Name:	Voltus Energy Canada, Ltd.
Contact details:	[redacted]

Individual Name:	[redacted]
Title:	[redacted]
Company Name:	Voltus Energy Canada, Ltd.
Contact details:	[redacted]

Note that personal information collected on this form will be used to contact you to administer the ISO rule proposal process. This information is collected in accordance with section 33(c) of the *Freedom of Information and Protection of Privacy Act*. Questions related to the handling of personal information can be directed to privacy@aeso.ca.

Submit form to: ruleproposals@aeso.ca