

Minutes from September Session 2

Location: Virtual (Microsoft Teams Meeting hosted by AESO)

Date: Monday, September 26, 2022

Time: 1:00 p.m. to 2:15 p.m.

Attendees:

| Organizations | |
|-------------------------------------|--|
| Alberta Energy | EPCOR Distribution & Transmission Inc. |
| Alberta Innovates | Government of Alberta |
| AltaLink | Heartland Generation Ltd. |
| ATCO | Hill + Knowlton Strategies |
| ATCO Electric | Hitachi Energy Canada Inc. |
| Aura Power Renewables Ltd. | Imperial Oil |
| BluEarth | IPCAA |
| Boost Energy Ventures | Lionstooth Energy |
| Capital Power | Madstone Energy |
| Customized Energy Solutions (“CES”) | Market Surveillance Administrator |
| DePal Consulting Limited | Powerex |
| Enbridge Pipeline Inc | Renewable Energy Systems |
| Enel North America | Solas Energy Consulting |
| Enerfin | Suncor |
| Energy Storage Canada | Suncor Energy Inc. |
| Enfinite | TC Energy |
| ENMAX | TransAlta |
| ENMAX Corporation | Voltus Energy Canada, Ltd |
| ENMAX Energy Corporation | Wolf Midstream |
| ENMAX Power | Zenith Power |

Agenda:

| Topic | Sub-topics |
|--|--|
| Welcome / Introduction / Housekeeping | <ul style="list-style-type: none"> N/A |
| Proposed Section 303.1 | <ul style="list-style-type: none"> AESO refresher on FFR Pilot objectives, timing and plans for external reporting <i>Questions/Group Discussion on ISO rule amendments related to Section 303.1</i> |
| Co-located Technologies | <ul style="list-style-type: none"> AESO refresher on market asset configurations and physical facility configurations <i>Questions/Group Discussion</i> |
| Open Q&A | <ul style="list-style-type: none"> N/A |

1. Consultation Session Overview, Introductions, and Housekeeping [slides 2 to 13]

- 1) NA – No questions or comments received

2. Proposed Section 303.1 [slides 14 to 18]

- 2) Discussion regarding participation in the AESO’s FFR Pilot program
 - a. AltaLink inquired how market participants participating in the AESO’s FFR Pilot program are switching their service offerings in the FFR Pilot from providing FFR service, such as providing reserve products and offering into energy market.
 - b. The AESO explained that details about the FFR remain confidential, and that the AESO will be reviewing the learnings from the FFR Pilot upon its conclusion in March 2023. Thereafter the AESO will issue a report summarizing the lessons learned regarding the key objectives of the FFR Pilot program, at which point the AESO expects to be in a position to address AltaLink’s question more fully.

3. Co-located Technologies [slides 19 to 28]

- 3) Discussion regarding charging of energy storage under specific asset configurations
 - a. TransAlta raised a hypothetical configuration involving a combined wind aggregated facility and battery energy storage resource behind a single metering point at the point of interconnection. TransAlta sought confirmation that the wind component of the asset would be required to bid out-of-merit to charge the battery.
 - b. The AESO confirmed that the asset would need to bid out-of-merit to charge the battery, and advised that the scenario in question would be addressed in greater detail in slide 26 of the stakeholder presentation.
- 4) Discussion regarding the provision of operating reserve in the ancillary services market
 - a. IPCAA inquired whether either or both configurations (single assets and separate assets) can be set up to provide operating reserve in the ancillary services market.

- b. The AESO explained that it is possible for both configuration types to be set up to provide operating reserve, but that the ability to do so is assessed on a case-by-case basis depending on the specific details of the facilities (e.g., with reference to a single-line diagram) and on the ability of the asset to meet the eligibility requirements for the provision of ancillary services (e.g., size of the asset).
- 5) Discussion regarding the requirement to provide state of charge data for energy storage resources
- a. IPCAA commented that the AESO requires energy storage resources to provide data regarding their state of charge. IPCAA sought confirmation that the AESO would not require the same information from generating units with respect to their fuel levels.
 - b. The AESO confirmed IPCAA's understanding.
 - c. IPCAA commented that the AESO would be requiring a higher standard of information from energy storage than for generating units.
 - d. The AESO explained that it requires state of charge information from energy storage resources to enable the AESO to assess dispatch compliance, as it is the only means by which the AESO can assess whether a restatement for an energy storage resources is based on a valid acceptable operational reason.
- 6) Discussion regarding terminology in Alberta and other jurisdictions
- a. CES raised concerns about the AESO's use of terminology involving "co-located" and commented that independent system operators in other jurisdictions typically differentiate between a "co-located" assets model and a "single integrated" resource model. CES suggested that the AESO remove "co-located" when describing assets that offer separately and to avoid its use in general vernacular. CES further commented that "hybrid" tends to refer to the single integrated resource model, but that it more specifically refers to wind or solar combined with energy storage.
 - b. The AESO explained that selecting the appropriate terminology has been challenging and recognizes that confusion may arise despite the AESO's efforts to make concepts as clear as possible. The AESO clarified that, for markets purposes, the essential concepts are "source asset" and "sink asset", and such assets—if large enough to be dispatched—are either "controllable", "non-controllable", or "partially controllable". By contrast, the concepts of "co-located" and "not co-located" are useful when discussing physical technologies and sites.
 - c. CES sought confirmation that the "VER block" concept relates specifically to the "single asset" configuration, as opposed to the "independent co-located assets" configuration
 - d. The AESO confirmed CES' comment and clarified that the VER block relates to the configuration shown in slide 26 of the stakeholder presentation.

4. Open Q&A [slides 29 to 30]

- 7) Discussion regarding implications of asset configurations for market participation
- a. Capital Power inquired whether acceptable operational reasons and must-offer, must-comply requirements for energy storage resources can be different depending on their configurations (referring to the single asset vs. independent co-located asset models in the preceding slides).

- b. The AESO clarified that these concepts were covered in greater detail in Session 1 on September 13, 2022 but provided a brief overview for purposes of answering Capital Power’s question. The AESO clarified that the must-offer, must-comply requirements for source assets remain the same, given that each source asset must submit offers up to the asset’s maximum capability. If an asset elects to bid, then it would also be required to bid its volume.
- 8) Discussion regarding energy storage resources used behind-the-fence
- a. Wolf Midstream raised a hypothetical scenario involving a battery energy storage resource that is located behind-the-fence in conjunction with a load and sought clarification about the treatment of such a site.
 - b. The AESO clarified that—assuming the battery is charged from the Alberta interconnected electric system and that the energy in the battery is used to offset a facility’s load—there would be no requirement for the battery energy resource to submit offers. The AESO confirmed that such a site would be treated as a large load, albeit with an internal ability to manage its load. The AESO further clarified that, if the market participant’s intent is to export energy from the battery onto the Alberta interconnected electric system, the site would be set up to recognize the battery as an independent source and sink asset, and the on-site load would be recognized as a sink asset, along with meters to measure imports and exports.
 - c. Wolf Midstream inquired about operating reserves and FFR and sought clarification whether it would the load could participate in the supplemental reserves market.
 - d. The AESO confirmed that, from an operating reserves perspective, the load could provide supplemental reserve, and that the configuration and technical assessment would dictate the amount of supplemental reserve that could be provided. From a FFR perspective, the same framework as LSSi would apply in terms of participation; however, the FFR Pilot program must first conclude.
 - e. Wolf Midstream inquired about the available opportunities that would allow such a site to participate in multiple markets simultaneously.
 - f. The AESO clarified that the available opportunities for market participation would depend on the asset’s ability to meet the eligibility requirements for the provision of specific products.
 - g. Wolf Midstream inquired whether LSSi requires a physical breaker at the site.
 - h. The AESO explained that it was not sure how sites would need to be configured to qualify, but it is likely a frequency-sensitive relay that trips load.
- 9) Discussion regarding FFR and LSSi procurement processes
- a. CES inquired whether the LSSi procurement process would be replaced by the FFR procurement process while retaining generally the same technical requirements.
 - b. The AESO explained that, at a high level, the purpose of the FFR-related Energy Storage ISO Rule Amendments are to make LSSi technology agnostic and that, once the FFR Pilot program is completed, “FFR” would replace “LSSi”. The AESO also referred Stakeholders to the *AESO Written Responses to Initial Stakeholder Comments*, which were published on September 2, 2022. The AESO explained that, currently, the only existing FFR products being offered are through the LSSi program and the FFR Pilot program, and that the intent is for subsequent procurement rounds to be technology agnostic while incorporating learnings from the FFR Pilot.

5. Next Steps and Closing Remarks [slides 31 to 35]

10) NA – No questions or comments received