

Introduction

This plan provides an updated overview of the market-related initiatives that the AESO intends to progress in the remainder of 2020 as well as current plans for 2021, which will be confirmed following the upcoming AESO 2021 BRP process. This plan will provide stakeholders with a consolidated view of the AESO's market-related initiative activities for their information and planning purposes. This plan covers only market-related initiatives and does not include other AESO initiatives such as those related to the Tariff, technical rules and non-market aspects of the Distributed Energy Resources (DER) Roadmap¹ and the Energy Storage Roadmap².

Currently, the electricity system is undergoing significant changes driven by the integration of an increased number of DER, new technologies such as energy storage and coal-to-gas conversions, as well as increased amounts of variable generation. As such, the AESO has determined it will progress these market-related initiatives as they are important to the long-term sustainability of the energy-only market structure, to maintaining system reliability, and in ensuring the AESO is facilitating a fair, efficient and openly competitive (FEOC) market for an evolving electrical system while also providing certainty and stability to the market structure.

As a result of the significant economic impact of the COVID-19 pandemic and recent collapse in oil prices, the AESO recognizes the increased vigilance that is required to balance the need for evolution and change with the need for stability and certainty in the market. The AESO is committed to supporting Alberta's economic recovery, with additional focus on cost management across the industry value chain, facilitating business in Alberta, and creating a simpler and more agile approach to our own business processes while also ensuring sustainability of the market in the long-term. In light of that, the evaluation of the initiatives may result in some of them being deferred or advanced at a slower pace than previously identified or removed from the list. Similar to the recent pricing framework recommendation, these decisions will be communicated as part of the engagement regarding each initiative.

For each initiative, the AESO plans to engage stakeholders during the design process in alignment with the AESO *Stakeholder Engagement Framework*³. The plan below outlines the timing for the market-related initiatives including market design phases and anticipated stakeholder engagement, recognizing timelines may change as initiatives progress and more information becomes available. Additional information including detailed timelines and engagement opportunities will be communicated as each initiative progresses.

The AESO continues to work cross-functionally across the organization to ensure all AESO initiatives which are connected or interrelated remain coordinated at a corporate level. Further, while the listed market-related initiatives will be the focus of the market design efforts in the near term, ongoing market monitoring and analysis will continue internally. Unanticipated findings or learnings could impact the *Market-Related Initiatives Plan* resulting in changes to this schedule or the initiatives themselves. The AESO will endeavor to keep stakeholders informed of any such changes.

¹ <https://www.aeso.ca/grid/distributed-energy-resources/>

² <https://www.aeso.ca/grid/energy-storage/>

³ <https://www.aeso.ca/stakeholder-engagement/framework/>

2020-2021 Market-Related Initiatives

Market design process

The following provides a description of the typical market design process phases:

Analysis (A)

In the Analysis phase the AESO identifies market issues resulting from stakeholder feedback, market participant proposal, AESO identified issue, government policy, Market Surveillance Administrator (MSA) originated work or investigation, or market design review. The Analysis phase is an internal work phase for the AESO. There may be initiatives that the AESO has not yet progressed internally to the point of determining the requirement for stakeholder input. Such initiatives may not appear on the plan and may be added once initial analysis has been completed or an engagement decision has been reached. While in this phase the AESO will research and define the issue, analyze other markets, perform analytics, and/or seek out external expert opinions to ultimately make a decision on whether to move forward to the next phase.

Conception (C)

During the Conception phase the AESO will identify the issue and may conduct an options analysis. Input for the options analysis may be gathered through stakeholder engagement and/or third-party studies. From that effort the AESO may develop recommendations, a draft market design, and/or determine the stakeholder engagement approach.

Development (D)

During the Development phase the AESO works with stakeholders to formalize the issues, review any recommendations, develop requirements, and create proposed draft ISO rules.

Regulatory (R)

The Regulatory phase begins with the filing of an application for approval of a proposed ISO rule with the Commission, and typically concludes with the issuance of a Commission decision on the application, but may extend beyond a Commission decision if compliance filings or review and variance applications need to be addressed.

Implementation (I)

The Implementation phase includes changes to information technology, business processes, and training.

*Of note, for all phases other than the Implementation phase, the AESO may terminate the progression of the initiative based on market developments, stakeholder input, a Commission decision, or its own determination that there is little value for the initiative to continue. The approaches taken and extent of activity for each phase will be uniquely dependent on the market-related initiative.

2020-2021 Market-Related Initiatives Schedule

Classification	Market-Related Initiatives	2020 Q3			2020 Q4			2021 Q1			2021 Q2			2021 Q3			2021 Q4			
		J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	
Technology Integration	Distributed Energy Resources (DER) Markets Participation Review of DER participation in the energy and ancillary services markets considering must offer, must comply (MOMC), minimum asset size and aggregation	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	
	Energy Storage Long-Term Markets Participation Further integrate energy storage in the energy market and AS market through required AD revisions	Progress will be aligned with the Energy Storage Roadmap																		
System Reliability	Dispatch Tolerance Investigate implementing tighter dispatch tolerance threshold in Section 203.4 of the ISO rules	A	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	
	Ramp Table Submissions Investigate a ramp table submission requirement in Section 203.1 of the ISO rules	A	A	D	D	D	D	D	D	D	D	D	D	D	D	R	R	R	R	
Market Efficiency	Mothball Rule Review Conduct a review of Section 306.7 of the ISO rules	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	R	
	Sub-hourly Settlement Determine if sub-hourly settlement will improve price fidelity and incent flexibility	C																		
	Price Cap, Price Floor and Shortage Pricing Evaluate the sustainability of the existing pricing structure in maintaining resource adequacy and efficiency in both the short and long term. A review of the price cap, offer cap and floor levels, and a determination if shortage pricing is required.	C																		
	OR Review Review competitiveness in the operating reserve market with a focus on regulating reserve	A	A	A	A	A	A	C	C	C	C	C	C	C	C	D	D	D	D	

Legend: Analysis (A), Conception (C), Development (D), Regulatory (R)

Note: The AESO will typically conduct stakeholder engagement during the Conception and the Development phases of all initiatives. Stakeholder engagement may include a range of approaches from “inform” to “collaborate” depending on the topic and issue being considered and the outcomes being sought. Stakeholder engagement sessions will generally not be held during the months of July, August or December.

Market-Related Initiatives

Distributed Energy Resources (DER) Markets Participation

As noted in the Distributed Energy Resources (DER) Roadmap⁴, the electric industry is in the early stages of transformational change. Technology advancements, new business models, increased digitization, and changing consumer preferences will begin to have a profound impact on the way electricity is produced, consumed and exchanged. Growing volumes of DERs (approx. 625 MW) connecting to the distribution systems is one of those advancements. DER growth and its integration with the AIES will drive significant changes for the AESO, distribution facility owners (“DFOs”), industry participants and consumers in Alberta.

The DER Market Participation initiative is part of the Distributed Energy Resources (DER) Roadmap, and is designed to facilitate DER integration and access to AESO electricity markets by removing unnecessary market limitations while ensuring a FEOC market. The AESO intends to review and update any ISO rule changes (if recommended) to foster investor understanding of market expectations to aid them when making future decisions.

Energy Storage Long-Term Markets Participation

The long-term energy storage initiative builds upon the work completed in for short-term storage integration, and is part of the Energy Storage Roadmap⁵.

The longer-term implementation of energy storage integration is expected to include revisions and development of AESO authoritative documents and associated stakeholder engagements, and longer-term AESO grid and market systems changes for integrating energy storage.

The integration of energy storage will continue beyond 2022.

Dispatch Tolerance

The dispatch tolerance requirements under the current Section 203.4 *Delivery Requirements for Energy* may not be sufficient to ensure future dispatch response will be adequate as net demand variability increases with the increasing development of intermittent generation technologies.

Following the work of the 2020 System Flexibility Assessment, this initiative will investigate whether additional dispatch response certainty is required for system controllers to effectively manage the system in future years. The project was identified as part of the Flexibility Roadmap.

Ramp Table Submissions

At the present time, real-time supply forecasts are calculated using a single ramp rate for assets. However, an asset’s ramp rate is not always a simple linear function and a single value does not accurately reflect different operating states of an asset. This initiative will provide for the submission of ramping information in a manner that allows operators to describe how their asset’s ramp rate changes at various levels of output and as ramp rates change through differing operating configurations.

⁴ <https://www.aeso.ca/grid/distributed-energy-resources/>

⁵ <https://www.aeso.ca/grid/energy-storage/>

The ramp table submissions solution will improve system operator analysis and responsiveness by providing more accurate ramp rate information for assets participating in the market. The AESO is of the view that having the ability to rely on more accurate ramp characteristics will allow the system controller to dispatch with more certainty and accuracy. The project was identified as part of the Flexibility Roadmap.

For this initiative, the AESO will engage with stakeholders in conjunction with the dispatch tolerance initiative.

Mothball Rule Review

In June 2016 the AESO filed Section 306.7 *Mothball Outage Reporting* (“mothball rule”) with the AUC on an expedited basis. Following the expedited filing, the AESO committed to a comprehensive review of the mothball outage reporting requirements and held stakeholder consultation sessions throughout 2016 and 2017. The review of mothball outage reporting requirements was put on hold during the capacity market consultation. The AESO is re-initiating its review of the mothball rule to address stakeholder concerns raised in past consultations. The AESO believes this engagement will proceed directly into the development phase rather than starting in the conception phase of our engagement process.

Sub-hourly Settlement

The intended outcome of this initiative is make an informed decision on whether shortening the settlement interval from one hour to sub-hourly (15 minutes) would improve price fidelity and incent flexibility, and to identify implementation considerations and costs and benefits.

This initiative was identified for further discussion during the capacity market engagement and continues to be of importance as it is expected to help incent efficient energy supply and consumption flexibility and improve price fidelity.

Priced Interties

Currently, intertie transactions are required to buy and sell in Alberta’s electricity market as a price taker, meaning all offers to sell must be at \$0/MWh and all bids to purchase must be \$999.99/MWh. During the conceptualization of the capacity market, the AESO conducted stakeholder engagement on the design and development of ISO rules for the integration of priced interties. As part of the AESO’s review of this initiative in 2020, the AESO identified that the value of proceeding with priced interties, in an energy-only market, needs to be reviewed prior to initiating further work.

As noted, this initiative was originally included on the AESO’s 2020 market initiatives plan, but has been removed as the initiatives included in the current plan have been identified as higher priority. Should this priority assessment change and the AESO determines to re-initiate work on this initiative the AESO will update the plan accordingly.

Price Cap, Price Floor and Shortage Pricing

The objective of this initiative is to evaluate the economic sustainability of the existing energy-only market pricing structure in maintaining resource adequacy and efficiency in both the short and long term. This initiative entails a review of the price cap, offer cap and floor levels, and a determination if a change to any of these pricing elements is required.

This initiative will be concluded at the end of July, when the AESO submits a recommendation to the Minister of Energy. Work on this initiative has supported the existing market design and as such no change to the pricing framework will be recommended.

OR Review

This initiative will review competitiveness in the operating reserve market. Potential changes will be identified that could enhance competition in the OR market with changes including but not limited to the design of the market, methods to improve OR market participation and a review of technical and operating requirements.