Bulk and Regional Tariff Design Technical Information Session hosted on Oct. 14, 2020

I. Purpose and objectives of the session

The purpose of this technical information session is to help ratepayers understand the impacts of the rate design bookends presented by the AESO on September 24, 2020 (the “rate bookends”) on their invoices. The AESO will provide technical information and answer questions to enable continued dialogue regarding the rate bookends at future stakeholder sessions.

The objectives of this session include:

- Ensure stakeholders understand the mechanics of the rate bookends
- Enable stakeholders to evaluate the impacts of the rate bookends on their sites
- Assist stakeholders in assessing the materiality of changes to their invoices
- Ensure stakeholders are equipped to present and/or understand rate design options at the October 22, 2020 stakeholder session

II. Session agenda

Time	Agenda Item	Presenter
2:00 – 2:15	Welcome, Introduction, Purpose and Session Objectives	AESO
2:15 – 4:30	Group Question and Discussion Period • Re-present technical details of the rate bookends • Present further rate information on sample load shapes, including the calculation of an invoice under the rate bookends • Walk through rate impact tool with varying load shape	AESO

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III. Attendees

Company
Alberta Direct Connect Consumers Association (“ADC”)
Alberta Electric System Operator (“AESO”)
Alberta Newsprint Company (“ANC”)
AltaLink Management Ltd.
Arcus Power
BECL and Associates Ltd.
Best Consulting Solutions Inc.
BluEarth Renewables Inc.
Boost Energy Ventures
Brubaker and Associates, Inc., on behalf of ADC
Canada West Ski Areas Association (“CWSAA”)
Canadian Renewable Energy Association (“CanREA”)
Capital Power
Cenovus Energy
Chapman Ventures Inc.
Chymko Consulting
City of Lethbridge
City of Medicine Hat
CNRL
Consumers Coalition of Alberta (“CCA”)
Customized Energy Solutions
DePal Consulting Limited
Department of Energy
Enbridge
ENMAX Corporation
EPCOR
FortisAlberta Inc.
Heartland Generation Ltd.
Imperial Oil/ExxonMobil Canada/XTOC
Industrial Power Consumers Association of Alberta (“IPCAA”)
Kalina Power
Kanin Energy

Company
Lionstooth Energy Inc.
Millar Western Forest Products
NextEra Insights
Palezieux Regulatory Solutions Inc.
Power Advisory LLC
RMP Energy Storage
Rodan Energy
Signalta Resources Limited
Solas Energy Consulting Inc.
Suncor Energy Inc.
The City of Red Deer
The Office of the Utilities Consumer Advocate (“UCA”)
TransAlta Corporation
URICA Asset Optimization
Whitecourt Power
Wolf Midstream Inc.
Stack’d Consulting, Inc.
Attendees by phone
E. Yee
14033901368
17806419577
17802185387
13617399738
Suncor
B. Krawchyshyn
14036896377
14036302720
14036137624

IV. Overall outcomes from the day

The main objective of the session was to provide technical clarification for the stakeholders regarding the bookends. Overall, most participants felt that the session was useful in providing a clearer understanding of the impacts of the AESO’s bookends and an explanation of the model tool. Most stakeholders were

aligned on adjusting the schedule to allow for more time before Session 3, initially scheduled for October 22, 2020. Session 3 has now been moved to Thursday, November 5, 2020.

V. Discussion summary

When discussing technical clarity for the AESO's bookends, the following conclusions were reached.

Five Case Studies

Most participants agreed that the case studies were useful in gaining a better understanding of the impact of bookends A and B on different stakeholder groups. There was discussion about the use of an interruptible tariff and the impacts of this option. Some participants expressed continued concern about bookends A and B driving grid defection and agreed that there needs to be further discussion on design modifications and mitigations.

The AESO's Model Tool

Many participants agreed that the explanation of the model tool provided clarity on the AESO's development of the bookends. There was discussion about the regional data that was used to develop the model and whether the two years of historical data used was appropriate. It was encouraged that stakeholders test out the tool to find their own billing impacts and use the tool in the development of their proposals for Session 3.

Session Schedule

There was general agreement that more time was needed before Session 3, initially scheduled for October 22, 2020. Many participants felt too rushed by the proposed deadline of Friday, October 16, 2020 for submission of their proposals and requested more time to develop their alternative rate design proposals. The AESO has considered these requests and has moved Session 3 to Thursday, November 5, 2020.

VI. Session highlights

Captured below are the highlights of the questions and discussion on a topic-by-topic basis. For a detailed review of the session, please refer to the session recording, posted at www.aeso.ca.

Topic 1: Current ISO Tariff – Bulk and Regional Monthly Coincident Peak (12-CP)

i. Stakeholder Commentary

- *Solas Energy:* How does energy storage fit currently?

ii. AESO Clarification

- Currently energy storage customers get exactly the bill shown on slides 19-21 of the session presentation and the AESO would calculate it in the .csv file exactly like any other customer.

Topic 2: Five B Case Studies

i. Stakeholder Commentary

- *UCA:* In bookend B there were 120 hours – were those the top 120 hours or one top hour per day?
- *Solas Energy*: What industries are the 12-CP?
- *Alberta Newsprint:* What are the three winter and three summer months?
- *IPCAA:* Are these top 100 set in advance?
- *Lionstooth Energy:* Inter-regional or provincial demands?

ii. AESO Clarification

- There are approximately 120 CP hours in a seasonal year and one peak hour per *weekday.*
- Heavy and medium 12-CP responders include industrial site designations (ISDs), distribution-connected generation (DCGs), and price-responsive loads; low 12-CP responders include residential, commercial, and small industrial customers (Slide 26).
- The three winter months are December, January, and February; the three summer months are June, July, and August.
- The daily regional peaks are *regional* not *interregional.*

Topic 3: Case Studies Using the Model Tool

i. Stakeholder Commentary

- Clarifying questions regarding the tool:
  - *Solas Energy:* How does load predict costs over time in the future? Is this method historical only?
  - *Solas Energy:* Where does the information for the regional load come from? Is the regional data available live*?*
  - *Chapman Ventures:* Does the tool allow for all of the five case study projects to be modelled in each of the six AESO Regions?
  - *NextEra Energy:* Does option A come with a one-time contract capacity reset without any cost? If yes, then does the AESO expect many customers to reduce contract capacity, thereby reducing billing volumes and increasing rate and charge for others?
- There was some concern around the tool's applicability to some regions, specifically the northwest region:
  - *Solas Energy:* Do we have large loads between the regions where gerrymandering could happen? Would this affect the load of each region?
  - *Solas Energy:* It would be interesting to see the sensitivity of how a big load is shared between two regions.
  - *Alberta Newsprint:* If a large load were to influence the CP greatly, how could that customer manage it? When the large load is there, there is a peak, if not, then there is no

peak. Do they have any way to manage this load? (Reference to Column N on hourly data tab).

- *ADC:* Northwest Region – found there are four price responsive loads that take up 25 per cent of the load capacity – no ability to manage these transmission loads in the bookend B option. Cannot see a connection between billing determinants and the bulk system within the tariff design.
- *Chapman Ventures:* Can the AESO please reiterate the rationale for aggregating the load at the regional level rather than the system level?

ii. AESO Clarification

- Response to clarifying questions regarding the tool:
  - This tool is just for assessing a snapshot in time of bill impact. The tool provided in March 2020 shows a bill impact based on coincident factors over time. The AESO is currently working on updating that tool to make it ready for use.
  - The AESO pulled all metered load information by region and by hour and has put it into the spreadsheet file already. This historical information is not publicly available on the website outside of the tool spreadsheet.
- Response to regional concerns:
  - A large load moving between regions could change the hour of peak depending on which side of the boundary it is on. The northwest boundary between Edmonton and Fort Saskatchewan can sometimes be unclear.
  - Modifications of bookend B would have impacts on the objective evaluation or outcomes. The AESO recognizes that there are both pros and cons of using a regional peak.
  - The interregional transmission infrastructure is developed to serve loads in regions at times when those systems are peaking. There are limitations as generation plays a big role in the flow, as well as regional loads.
  - In the northwest region, there is a very large load that swings the regional peak. If there is a response from this load to reduce that consumption, there would be the benefit of reduced reinforcement of that region.
  - Another modification in the rate design could be another rate class for interruptible rates for those consumers who are responding. This could allow the grid to defer future development of transmission.

Topic 4: Illustrative Example of Bookends A and B Modification

i. Participants generally agree that the bookends still present limitations:

- Some participants feel that the tool brought more clarity to the impact of the bookends but also brought more worries.
- Some participants are concerned with a lack of understanding of how serious the impacts of these proposals are, especially the impacts they will have on large companies and increasing the risk of grid defection.

- Many participants agree that the AESO's tool shows that there are largely impacted customers and are keen to understand how to incorporate modifications to the bookends that still achieve the objectives but have a smaller detrimental impact on customers.
- Many participants agree that an interruptible design should be considered in the tariff design.

ii. Stakeholder Commentary

- Some stakeholders expressed continued concern with the AESO's bookends:
  - *Alberta Newsprint:* There is value in the interruptible to avoid future transmission facilities cost, but there is also a point where it becomes uneconomical to continue with an interruptible service. Does the AESO know what percentage of the time we could use the interruptible option?
  - *Lionstooth Energy:* Do these bookends help us meet a goal? Give substantial thought to how the individual customer is then going to respond because the price responsive industrial customer in Case 1 will just defect because they already have their own generation. We need to decide whether it's worth driving mass exodus from the grid by just saving $29 for residential customers.
  - *ADC*: A $20M increase in cost from bookend B puts large companies in a position where they run to failure. Do not see how interruptible tariff works in this situation.
  - *ADC*: Unless the AESO is willing to create a special tariff for these customers to incent them to stay in Alberta, this is going to fail. This cannot be a transition; it needs to be permanent.
  - *Solas Energy*: If we're designing a system to incentivize people not to use the coincident peak, are we trying to get people to pay but not use the system? Where does this drive because as soon as people leave the system, there are fewer and fewer people to pay. How do we win this game? Are we going in circles?
  - *Solas Energy*: How are we recouping the cost? We had a good system going and now we're redistributing it. Concerned that the new design will shift people's behaviours in a way that is not advantageous for Alberta.
  - *RMP Energy Storage*: Can we easily add to the hourly data set? If so, historical pool price, import/export/ACT and generation mix would be useful.
  - *TransAlta:* The bookends didn't incorporate energy charge, is there a reason for that or is the AESO not focused on energy flow?

iii. AESO Clarification

- In response to participant's concerns regarding the bookends:
  - The AESO's intent is not to create a longer detrimental effect of having parties leave and will propose modifications and mitigations to the bookends in future sessions to be reviewed and evaluated by stakeholders.
  - For presenters at Session 3, please think about what it looks like to come up with modifications that make this design amenable to the companies that will be the most impacted.

- The tool allows easy addition of hourly values. Stakeholders can make these changes independently if they choose.
- In terms of energy charge, in the AESO's view, the energy charge per MW hour is not really achieving the objectives that the AESO set out for the rate design. Stakeholders can certainly recommend energy charge at Session 3.