

Date: Thursday, July 4, 2019
Location: BP Centre, 240 4th Ave, Calgary

Time: 9:00am to 1:30pm

Discussion Materials

Prior to the session, the following discussion materials were provided by email to TDAG members:

- Meeting agenda
- Draft TDAG Meeting Notes May 9, 2019
- AESO response to TransAlta letter regarding cost allocation to exports
- Proposed amendment to the TDAG Terms of Reference for the Implementation Working Group
- Presentations shared at the beginning of the meeting: Capacity Cost Allocation Analysis (CCAA) WG Recommendations and Transmission Tariff (TT) WG Update

Attendees

| Representative | Company or Organization | Present? | Alternate | Present? |
|--|----------------------------|----------------|--------------------|----------------|
| Demand rate payer representation | | | | |
| Residential, farm and commercial consumers | | | | |
| Richard Stout | UCA | Yes | Megan Gill | Teleconference |
| Mark McGillivray | ENMAX | Yes | David Lenz | No |
| Raj Retnanandan | CCA | Teleconference | Dustin Madsen | No |
| Dan Levson | AFREA | Teleconference | Dave Butler | No |
| Industrial Consumers | | | | |
| Vittoria Bellissimo | IPCAA | Yes | Richard Penn | No |
| Grant Pellegrin | Cenovus | Yes | Horst Klinkenborg | No |
| Demand Response | | | | |
| Colette Chekerda | ADC | Yes | Christian Lenci | No |
| Surendra Singh | Alberta News Print | Yes | Christian Lenci | No |
| Combined Load and Generation | | | | |
| Dale Hildebrand | Dual Use Customers | Teleconference | Myles Fox | No |
| Kris Aksomitis | Cogeneration Working Group | Yes | Travis Tuchscherer | No |
| Distribution Facility Owners | | | | |
| Janene Taylor | ENMAX Corporation | No | Tony Martino | Teleconference |
| Leland Jernberg | FortisAlberta | Yes | Gerald Zurek | Teleconference |
| Representatives-at-large | | | | |
| Ed de Palezieux | Devon Energy | Yes | Rick Cowburn | Yes |
| Bryan Krawchyshyn | TransCanada Pipelines | Yes | Mark Thompson | No |
| Other interested parties | | | | |
| Transmission Facility Owners | | | | |
| Hao Liu | AltaLink | Yes | Rob Senko | Teleconference |
| Generators (includes renewables) | | | | |
| Colin Robb | Capital Power | Teleconference | Akira Yamamoto | Yes |
| Energy Storage | | | | |
| Patricia Phillips | Energy Storage Canada | No | Steven Oldale | No |

| Representative | Company or Organization | Present? | Alternate | Present? |
|-------------------------|--------------------------------------|----------------|---------------|----------|
| Representative-at-large | | | | |
| Tory Whiteside | Distributed Generation Working Group | Teleconference | Leonard Olien | No |
| AESO | | | | |
| Doyle Sullivan | AESO | Yes | | |
| LaRhonda Papworth | AESO | Yes | | |
| John Martin | AESO | Yes | | |
| Trushal Umrana | AESO | Yes | | |
| Facilitator | | | | |
| Matt Gray | AESO | Yes | | |
| Karla Reesor | Moving Forward | Yes | | |

Guests: None

Agenda

| Time | # min | Agenda Items | Presenter |
|-------------------|--------|--|---------------------------|
| 9:00 am – 9:15 am | 15 min | Introduction <ul style="list-style-type: none"> Welcome Session overview Review and approval of meeting notes from May 9 session Update on action items | Karla Reesor, Facilitator |
| 9:15 am – 9:20 am | 5 min | Discussion item: Cost allocation to exports <ul style="list-style-type: none"> TransAlta letter and AESO response Desired outcome: Determine TDAG direction on matter | Doyle Sullivan |
| 9:20 am – 9:35 am | 15 min | Discussion item: Implementation Working Group (IWG) <ul style="list-style-type: none"> Proposed amendment to TDAG Terms of Reference to establish IWG Desired outcome: Determine TDAG direction on matter | Doyle Sullivan |
| 9:35 am – 9:45 am | 10 min | Information Item: Update from Transmission Tariff Working Group <ul style="list-style-type: none"> Q & A | LaRhonda Papworth |

| Time | # min | Agenda Items | Presenter |
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| 9:45 am – 12:00 pm | 135 min | <p>Information Item: Capacity Cost Allocation Filing Overview. Topics include:</p> <ul style="list-style-type: none"> • Time blocks • Weightings • Rate Sheet <ul style="list-style-type: none"> - Terms and applicability • Economic efficiency analysis • Customer impact analysis • Q & A <p><i>Mid-morning break to be determined during session</i></p> | John Martin |
| 12:00 pm – 12:30 pm | 30 min | LUNCH | |
| 12:30 pm – 1:15 pm | 45 min | <p>Discussion Item: Capacity Cost Allocation Filing</p> <ul style="list-style-type: none"> • Time blocks <p>Desired outcome: Determine TDAG direction regarding a recommendation on this matter.</p> | Roundtable |
| 1:15 pm – 2:00 pm | 45 min | <p>Discussion Item: Capacity Cost Allocation Filing</p> <ul style="list-style-type: none"> • Weights <ul style="list-style-type: none"> - Utilize sum of EUE to directly set weighting vs applying a multiplier <p>Desired Outcome: Determine TDAG direction regarding a recommendation on this matter.</p> | Roundtable |
| 2:00 pm – 2:15 pm | 15 min | BREAK | |
| 2:15 pm – 3:15 pm | 60 min | <p>Discussion Item: Capacity Cost Allocation Filing – Other Issues</p> <p>Desired Outcome: Determine TDAG direction regarding recommendations concerning other issues arising from discussion.</p> | Roundtable |
| 3:15 pm – 3:30 pm | 15 min | Review of conclusions, action items and next steps | Karla Reesor |
| 3:30 pm | | Meeting adjourned | |

Meeting Notes

| Time | Item |
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| 9:00 am | <p>1. Introduction</p> <ul style="list-style-type: none"> Meeting notes from May 9, 2019 were approved with minor editorial revisions Updates on Action Items are noted below |
| 9:15 am | <p>2. Discussion Item: Cost allocation to exports</p> <p>Doyle Sullivan provided an overview of the AESO's response to the TransAlta letter regarding cost allocation to exports. No further discussion from the TDAG.</p> |
| 9:25 am | <p>3. Discussion Item: Implementation Working Group (IWG)</p> <p>Doyle Sullivan reviewed the proposed amendment to the TDAG Terms of Reference to establish the IWG. It was noted that the WG will consider the design aspects of the tariff as well as the implementation.</p> <p>AESO is working with DFO representatives to finalize the TOR.</p> <p>Action - All are invited to provide input on revised TOR related to IWG. Send comments by July 25, 2019 to tariffdesign@aeso.ca</p> <p>Comments included:</p> <ul style="list-style-type: none"> It might be helpful to note that the AESO will not be directing the DFOs and REAs on what should be done for tariff design There are concerns about time of use and want to make sure that TOR deals with the issue; concern is that it should remain a choice for the DFOs and REAs AESO noted that it intended to keep the TOR general to avoid precluding certain outcomes or actions Would like analysis showing that capacity is a reasonable cost for customers; might connect to communications Re: billing – how will the costs be recovered in rates? Will need to be considered by IWG <p>The size of the IWG will be larger than other WGs. There may be some variability of participants depending on the topic being discussed.</p> <p>Confirmed participants for the IWG include:</p> <ul style="list-style-type: none"> Leland Jernberg - FortisAlberta Janene Taylor - ENMAX Vittoria Bellissimo - IPCAA Mark McGillivray – ENMAX Corp Rick Cowburn - CWSAA Richard Stout - UCA Dan Levson - AFREA <p>Action – Any other nominations for the IWG should be sent to tariffdesign@aeso.ca by July 25, 2019. The AESO will name a Chair.</p> |
| 9:40 am | <p>4. Information Item: Transmission Tariff WG Update</p> <p>LaRhonda Papworth (Chair) provided an update regarding work completed. AESO indicated that there are several qualified consultants who have expressed interest in performing the studies.</p> |

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| | <p>Depending on availability of WG members, there may be one or two meetings over the summer. Other priorities have prevented the TTWG from making as much progress as initially anticipated.</p> |
| <p>9:55 am</p> | <p>5. Information Item: Capacity Cost Allocation Filing Overview</p> <p>John Martin (Chair) provided an overview of the AESO’s proposed application filing and addressed the following topics:</p> <ul style="list-style-type: none"> • Time blocks • Weights • Economic efficiency analysis • Rate sheet applicability and time block volumes <p>The AESO is still working on customer impact analysis and it will be shared along with deferral account approach at the industry session on July 16, 2019. The AESO is planning to file the application on July 26, 2019.</p> <p>Time Blocks:</p> <ul style="list-style-type: none"> • WG continues to recommend “Option K” time blocks from April 15 • WG examined rates with shorter weekend time block: shorter weekend (light-weight) time block affected rates in multiple time blocks (weekday, weekend and overnight); shorter weekend time block did not improve hours having “reasonably similar” expected unserved energy in time blocks <p>Weights:</p> <ul style="list-style-type: none"> • WG recommends weights be based on net-CONE procurement volume • Unserved energy at net-CONE volume continues to support time blocks • Unserved energy at net-CONE volume results in higher high-weight rate <p>Multiplier:</p> <ul style="list-style-type: none"> • AESO plans to propose cost allocation with 1x multiplier for all time blocks • AESO’s view is that a 1x multiplier for all time blocks results in reasonable prices <ul style="list-style-type: none"> ○ Comments from participants included a concern that analysis conducted by AESO and WG mixes some historical data with broad future assumptions; alternative analysis may be needed with more narrow assumptions to provide a better stress test on the prices for different time blocks ○ It was also noted that the analysis should include the price volatility within the time periods; AESO does not plan to release the hourly mitigated pool price; another option may be to release the distribution of hours/pool prices • AESO’s view is that a high-weight multiplier greater than 1x is not necessary; the 1x multiplier provides a sufficiently high price for loads to be responsive <p>Rate Sheet (“Rate ACC” – Allocation of Capacity Market Costs)</p> <ul style="list-style-type: none"> • Rate ACC applies to system access service provided under DTS, FTS, DOS, XOS, XOM, as well as to the owner of an electric distribution system who pays charges to the ISO in accordance with the <i>Isolated Generating Units and Customer Choice Regulation</i> • ISO must determine the energy in each time block in a settlement period, for each system access service provided under Rate DTS, as metered energy for the Rate DTS system access service plus electric energy supplied by a generating unit or aggregated generating facility that: <ul style="list-style-type: none"> ○ Is not an isolated generating unit as defined in the <i>Isolated Generating Units and Customer Choice Regulation</i>; ○ Is connected to the electric distribution system at the Rate DTS point of delivery; |

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| | <p>and</p> <ul style="list-style-type: none"> o Has the electric energy it generates measured on an hourly basis through metering equipment approved for determining a charge under the <i>Electricity and Gas Inspection Act</i>. <p>Work remaining to be completed includes examination of impact on individual consumer bills, and estimate of deferral account magnitude arising from volume variances.</p> |
| 11:15 am | <p>6. Discussion Item: Time Blocks</p> <p><i>AESO Proposed Recommendation: “Option K” with 4 time blocks from April 15.</i></p> <p>TDAG members were invited to provide their views on the proposed time blocks.</p> <p>Comments included:</p> <ul style="list-style-type: none"> • Some parties prefer initial 3 time blocks rather than 4 if weights were adjusted within time blocks • Time blocks do not correlate with tight supply hours in which generating unit performance will be measured and may not maximize impact load load reduction could have during tight supply • A participant noted that to achieve consensus, AESO may need to hire expertise to create an integrated model with key assumptions; with current information, it is challenging for participants to assess impacts on their customers; AESO noted that consensus is typically more achievable when relying on historical data rather than forecasts <p>Conclusion: Some TDAG members are supportive of AESO’s recommendation for 4 time blocks and other members prefer 3 time blocks.</p> |
| 11:45 am | <p>7. Discussion Item: Weights</p> <p><i>AESO Proposed Recommendation: That weights be based on net-CONE procurement volume.</i></p> <p>TDAG members were invited to provide their views on weights.</p> <p>Comments included:</p> <ul style="list-style-type: none"> • Parties noted that they need additional time to consider implications • Net-CONE approach (combined with other AESO recommendations) will not create a strong enough price signal for loads to respond • There may be a large impact on certain customer classes <p>Conclusion: When comparing the two options presented, most parties but not all prefer that weights be based on net-CONE procurement volumes.</p> <p><i>AESO Proposed Recommendation: Cost allocation with 1x multiplier for all time blocks.</i></p> <p>Comments included:</p> <ul style="list-style-type: none"> • It is unknown how responsive load will be to fixed time blocks. • AESO should keep in mind that some customers may now build more behind-the-fence generation; price-responsive loads may be driven off the grid • Have muted the value of the price-responsive loads • There will be a need to explore opportunity services or other options for the transmission tariff • Some parties indicated that AESO is taking a very simplistic approach to analysis of a complex matter; has resulted in some sectors concluding that capacity market will not work • Some parties indicated that AESO has made the best of a challenging situation with the constraints of the regulations; some parties struggle with assumptions made on price- |

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| | <p>responsive load; would like to see more transparency on the assumptions in the hearing</p> <ul style="list-style-type: none"> • Re: losses and allocation of losses – the AESO has not developed that part of the application yet • There is some concern about unintended consequences; if customers end up leaving the system, it may be a bigger concern; the AESO may want to alert the AUC to that risk <p>Conclusion: Some TDAG members support the 1x multiplier and others are seeking a higher multiplier for the high-weight hours.</p> |
| 1:10pm | <p>8. Meeting wrap up</p> <p>Round table</p> <ul style="list-style-type: none"> • The AESO should consider providing rationale for July 26 filing date • AESO encouraged parties to extend July 16 invitation to others • Participants asked to have until July 18 to provide comments on the filing; AESO will confirm the deadline for comments when it circulates the comment matrix on July 5. <p>Karla Reesor reviewed the Action Items and the meeting adjourned at 1:20 pm.</p> |

Report on past action items

| # | AG Action Items | Action by | Due Date | Status |
|--------------------------|--|--|----------|--|
| Session 10 – May 9, 2019 | | | | |
| Action Item 1 | Share high level summaries of proposed studies with TDAG (TT WG) | LaRhonda Papworth | June 30 | Will be shared prior to next TDAG meeting |
| Action Item 2 | <p>Provide or confirm names of representatives for new DFO Working Group:</p> <ul style="list-style-type: none"> • REAs • DFOs (including Municipalities) • Consumers • Industrials • Retailers | <p>Dan Levson</p> <p>Leland Jernberg</p> <p>Janene Taylor</p> <p>Rick Cowburn</p> <p>Vittoria Bellissimo</p> <p>Mark McGillivray</p> | May 16 | Send proposed representative for each sector to tariffdesign@aeso.ca |
| Action Item 3 | Prepare scope for new DFO Working Group. Share scope and membership at TDAG meeting on June 5 if possible. | Trushal Umrana | May 31 | Work with AESO, DFO reps and others as appropriate to finalize the TOR after receiving any further comments from parties (See Action Item 2 from July 4) |

Action items assigned this session

| # | AG Action Items | Action by | Due Date | Status |
|---------------------------|---|--------------|----------|--|
| Session 11 – July 4, 2019 | | | | |
| Action Item 1 | Provide input on revised TOR related to IWG. | TDAG members | July 25 | Send comments to tariffdesign@aeso.com |
| Action Item 2 | Provide additional nominations for the IWG. The AESO will name a Chair. | TDAG members | July 25 | Send proposed representative to tariffdesign@aeso.ca |
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Report on Decision Items

| Session (S# + date) | (#) | AG Decision Items |
|-----------------------|------------------|--|
| 2018 | | |
| August 17 | | <i>Advisory Group established</i> |
| S1- August 23 | Decision Item 1 | <i>Advisory Group approved Terms of Reference with changes</i> |
| S2 – September 6 | Decision Item 2 | <i>Advisory Group approved work plans with changes</i> |
| | Decision Item 3 | <i>Data Requirements Working Group struck</i> |
| S3 – October 4 | Decision Item 4 | <i>Capacity Cost Allocation Analysis Working Group struck</i> |
| S4 – November 8 | Decision Item 5 | <i>Cost Causation Working Group work struck</i> |
| S5 – December 5 | Decision Item 6 | <i>Terms and Conditions Working Group struck</i> |
| | Decision Item 7 | <i>Data Requirements Working Group concluded</i> |
| | Decision Item 8 | <i>Transmission Tariff Design Working Group struck</i> |
| S7 – February 7, 2019 | Decision Item 9 | <i>Approved plan for studies and data collection proposed by Tariff Design Working Group</i> |
| S-9 - April 15, 2019 | Decision Item 10 | <i>CCAA WG recommendation of four time blocks accepted by TDAG</i> |
| S-9 April 15, 2019 | Decision Item 11 | <i>Chair duties for TTWG assumed by LaRhonda Papworth</i> |
| S-10 May 9, 2019 | Decision Item 12 | <i>DFO Rate Design and Implementation Working Group struck</i> |