

Participant-Related Costs for DFOs (Substation Fraction) and DFO Cost Flow-Through Technical Session 3

June 25, 2020

In accordance with its mandate to operate in the public interest, the AESO will be audio recording this session and making the recording available to the general public at www.aeso.ca. The accessibility of these discussions is important to ensure the openness and transparency of this AESO process, and to facilitate the participation of stakeholders. Participation in this session is completely voluntary and subject to the terms of this notice.

The collection of personal information by the AESO for this session will be used for the purpose of capturing stakeholder input for the Participant-Related Costs for DFOs (Substation Fraction) and DFO Cost Flow-Through Technical Sessions. This information is collected in accordance with Section 33(c) of the *Freedom of Information and Protection of Privacy Act*. If you have any questions or concerns regarding how your information will be handled, please contact the Director, Information and Governance Services at 2500, 330 – 5th Avenue S.W., Calgary, Alberta, T2P 0L4 or by telephone at 403-539-2528.

Welcome and Introductions

- The AESO's top priorities are the health and well-being of our employees and stakeholders and continuing to meet the electricity needs of all Albertans
- All business meetings with external stakeholders will be via phone or webinar indefinitely (this includes stakeholder engagement sessions)
- Based on stakeholder feedback, the AESO's own security assessment and the use of Zoom for governments, post-secondary institutions and other companies, the AESO has decided for now to continue using Zoom for our stakeholder engagements until such time that face-to-face engagements are allowed
- The AESO will continue to monitor developments and provide updates to our stakeholders as necessary
- For additional information, please visit the AESO website at www.aeso.ca and follow the path Stakeholder engagement > Covid-19

- Purpose
 - Present and discuss the AESO proposal details; and
 - Share process for preparation of report for the AUC.

Time	Agenda Item	Presenter
9:00 – 9:15	Welcome, Introduction and Session Objectives	Stack'd / AESO
9:15 – 11:00	<p>Learnings and emerging conclusions</p> <ul style="list-style-type: none">• What we learned through the engagement• How we are using those learnings (i.e., emerging conclusions)• Clarifying questions	AESO
11:00 – 11:20	Next steps	AESO
11:20 – 11:30	Session close out	Stack'd / AESO

Registration (as of June 22, 2020)

- Acestes Power
- Alberta Newsprint (ANC)
- Alberta Utilities Commission (AUC)
- AltaLink Management Ltd.
- ATCO Electric Ltd.
- Best Consulting Solutions Inc.
- BluEarth Renewables
- Candor Engineering Ltd.
- Capital Power
- Carlotta Energy
- CCA
- Chymko Consulting Ltd.
- City of Edmonton
- Denis Forest Consulting Inc.
- DePal Consulting Limited
- Dizrupt Energy
- ENMAX Power Corporation
- EPCOR Distribution and Transmission
- FortisAlberta Inc.
- Government of Alberta
- Green Cat Renewables
- IPCAA
- Irricana Power Generation
- Kalina Distributed Power
- Lionstooth Energy Inc.
- Longspur Developments
- Northstone Power Corp.
- Osler, Hoskin & Harcourt LLP
- Peters Energy Solutions
- Siemens Energy
- Signalta Resources Limited
- Solar Krafte
- Suncor Energy Inc.
- TC Energy
- URICA Asset Optimization
- Utilities Consumer Advocate
- Wolf Midstream

Overview of Engagement Process

OUR ENGAGEMENT PRINCIPLES

Inclusive and Accessible

Strategic and Coordinated

Transparent and Timely

Customized and Meaningful

- The AESO intends to:
 - engage with stakeholders regarding the issues to be examined and the action items to be undertaken, as identified in the technical session(s); and
 - work towards the development of a joint proposal with distribution facility owners (DFOs) and distribution connected generation (DCGs) regarding a path forward based on the feedback gathered at the technical session(s).
- A joint proposal, if achieved, or individual proposals regarding the attribution and flow-through of transmission costs to DCGs would then be filed in the consolidated proceeding for consideration and determination by the Commission

- Objectives of the technical sessions(s) include facilitation of:
 - i. a common understanding of the purpose and application of the substation fraction formula;
 - ii. agreement on high-level principles applicable to the substation fraction formula including, for instance, cost certainty for DCGs, parity between transmission connected generation (TCGs) and DCGs regarding local interconnection costs, and certainty for DFOs regarding the flow-through of costs to be attributed to DCGs; and
 - iii. a common understanding of the financial impacts associated with the substation fraction and any associated flow-through of local interconnection costs to different stakeholder groups, including DCGs, TCGs, DFOs, and ratepayer.

Alberta Utilities Commission (AUC) Participation in Working Sessions

Overview of process schedule

Session 1 <i>Feb. 27, 2020</i>	Session 2A <i>May 14, 2020</i>	Session 2B <i>May 28, 2020</i>	Session 3 <i>June 25, 2020</i>	Session 4 <i>If required</i>
<p>Session objectives:</p> <ul style="list-style-type: none"> • Clarify intent and understanding of participant-related costs for DFOs (Substation Fraction) and DFO cost flow-through • Review and collect input on high-level principles 	<p>Session objectives:</p> <ul style="list-style-type: none"> • Review high-level principles • Summarize learnings from Feb 27 session • Presentations of stakeholder proposals for participant-related costs for DFOs (Substation Fraction) and DFO cost flow-through 	<p>Session objectives:</p> <ul style="list-style-type: none"> • Summarize learnings from May 14 session • Group discussion on evaluation of proposals for participant-related costs for DFOs (Substation Fraction) and DFO cost flow-through 	<p>Session objectives:</p> <ul style="list-style-type: none"> • Presentation and discussion of the AESO proposal details • Share process for preparation of report for the AUC 	<p><i>Session objectives to be shared if additional session required</i></p> <p><i>This session would be held via webinar if required.</i></p>

The participation of everyone here is critical to the engagement process. To ensure everyone has the opportunity to participate, we ask you to:

- Listen to understand others' perspectives
- Disagree respectfully
- Balance airtime fairly
- Keep an open mind

- All attendees will join the webinar in listen-only mode and the host will have attendee cameras disabled and microphones muted
- When asking or typing in a question, **please state your first and last name and the organization you work for**
- Two ways to ask questions during the Q&A portion if you are accessing the webinar using your computer or smartphone
 - If you would like to ask a question during the Q&A portion, click the icon to raise your hand and the host will see that you have raised your hand. The host will unmute your microphone, you in turn will need to unmute your microphone and then you can ask your question. Your name will appear on the screen but your camera will remain turned off.
 - You can also ask questions by typing them into the Q&A window. Click the “Q&A” button next to “Raise Hand.” You’re able to up-vote questions that have been already asked.

- Using a 2-in-1/PC/MAC Computer
 - Hover your cursor over the bottom area of the Zoom app and the Controls will appear.
 - Click “Raise Hand” and the host will be notified that you would like to ask a question.
 - Click “Lower Hand” to lower it if needed.
 - You can also ask questions by tapping the “Q&A” button and typing them in. You’re able to up-vote questions that have been already asked.
- Using Smartphone
 - Tap “Raise Hand.” The host will be notified that you’ve raised your hand.
 - Tap “Lower Hand” to lower it if needed.
 - You can also ask questions by tapping the “Q&A” button and typing them in. You’re able to up-vote questions that have been already asked.

- If you are accessing the webinar via conference call
 - If you would like to ask a question during the Q&A portion, on your phone's dial pad, hit *9 and the host will see that you have raised your hand. The host will unmute your microphone, you in turn will need to unmute your microphone by hitting *6 and then you can ask your question. Your number will appear on the screen.
- Phone controls for attendees
 - To raise your hand, on your phone's dial pad, hit *9. The host will be notified that you've raised your hand.
 - To toggle between mute and unmute, on your phone's dial pad, hit *6.

AESO's Reflections

- The May 28, 2020 Technical Session 2B offered the opportunity to discuss as a group the proposals and the AESO's current thinking
- The discussion was moderated, and to facilitate the discussion the AESO broke the outstanding design details into the following five groupings:
 1. Substation fraction = 1 for DFOs
 2. Determining the \$/MW charge
 3. Determining the applicability of the DCG charge
 4. Determining the administration of the DCG charge
 5. Looking towards implementation
- The discussion left some unanswered questions

- The Alberta electric industry is in the early stages of transformational change
 - Technology advancements, new business models, increased digitization and changing consumer preferences will have a profound impact on the way electricity is produced, consumed and exchanged
 - Growing volumes of Distributed Energy Resources (DER) connecting to the distribution systems is one of those advancements
- DER growth and its integration with the Alberta Interconnected Electric System (AIES) will drive significant changes for the AESO, distribution facility owners (DFOs), industry participants and consumers in Alberta

- Change related to DER growth is progressing through various industry initiatives, all of which are inter-related:
 - AUC Electric Distribution System Inquiry (24116)
 - Cross subsidization issues
 - Non-wires alternatives
 - AESO Bulk and Regional Tariff Design/12 CP
 - Bulk and regional system costs recovery
 - Efficient use of existing infrastructure
 - AESO Transmission & Distribution Coordinated Planning Framework
- As well as this engagement – the Participant-Related Costs for DFOs (Substation Fraction) and DFO Cost Flow-Through engagement
- The outcomes of these initiatives will likely impact DCG treatment in the Alberta's electricity framework's markets and tariffs

- ISO tariff role in preparing for transformation
 - Is pursuing an new ISO tariff charge to DCG the most effective solution? At this time? Does it bring value for load?
 - Where is value, and costs, of DCG most appropriately determined?
 - Would a DCG charge set the ISO tariff up for future success as the industry and grid undergoes significant transformation? Will it align with future potential changes?
- The AESO is focused on:
 - addressing the foundational cost allocation issues in the ISO tariff impacting the rates load pay and setting effective long-term price signals
 - modernizing the ISO tariff by finding ways to simplify and streamline it so that it is more agile to respond to change

- AESO stress tested the following issues and trade offs:
 - Trade off between new ISO tariff mechanics (DCG charge) and opportunity to modernize the ISO tariff
 - AESO priority is to ensure appropriate price signals that:
 - *incent efficient decisions regarding electricity production and consumption; and*
 - *ensure efficient use of infrastructure.*

- Trade off between incorporating this aspect (DCG charge) in the ISO tariff versus DFO tariffs
- Potentially more informed determination of benefit and costs for distributed-connected generation within the DFO tariff
 - *DFOs have a greater understanding and access to cost and usage information*
 - *Ensure that the ISO tariff does not negatively impact the DFO in its determination of costs and benefit between its load and generation customers*
 - *Range of potential charge from \$17,000/MW to upwards of \$1,000,000/MW and then determining what the “right” amount should be reflective of the value that DCG provides to distribution load and considering related initiatives*

AESO Revised Proposal

AESO's assessment: Adjustment to AESO proposal

- Shifting away from portions of the proposal presented May 28th
- **Continue with:**
 - Incremental interconnection costs driven by DCG assigned to DCG
 - Set substation fraction = 1 for DFO substations where there is only D-connected load
 - Remove provisions in ISO tariff requiring the AESO to deem supply-related and demand-related amounts;
 - *As use of DFO connection points becomes more varied this will simplify the ISO tariff and CCDs to refer to local investment limited by Rate DTS contract capacity*
 - *Internal review to identify all implications to ISO tariff still being completed*
 - Revise substation fraction definition in *Consolidated Authoritative Definition Glossary* to reflect for legal owners of distribution facilities, substation fraction = 1

AESO's assessment: Adjustment to AESO proposal

- Shifting away from portions of the proposal presented May 28th
- **Adjustment to proposal:**
 - No DCG charge to be included in the ISO tariff
 - A mechanism may, however, be required to be implemented, as part of DFO tariffs to charge DCGs for the use of existing interconnection facilities

AESO maintains:

- Important to maintain the portion of the proposal (SSF = 1) that address the uncertain future liability to DCGs as it is currently inoperative

AESO proposal change:

- Reconsidered the suitability of determining and including a charge to DCG for use of existing interconnection facilities in the ISO tariff
 - Adds further complexity when looking to simplify and may not align with long-term changes
 - Reaching parity and determining appropriate cost is valuable in principle; however
 - Achieving a reflective charge to include in ISO tariff with a reasonable level of effort problematic
 - Relative to other ISO tariff incentives and costs being investigating within the industry at this time, this charge is of smaller importance to the overall system
 - DFO have better information and knowledge on use, cost and benefit that can be used to better determine appropriate charge

Additional Considerations:

- With the revision of the substation fraction methodology for DFOs (SSF = 1), the Alberta Utilities Commission (AUC) will need to validate:
 - Overall need and importance of DCG charge
 - Importance of adjusting investment level in PODs as DCG added
 - Could lead to a path where the SSF calculation is maintained, and DFO allocation of adjusted contribution still needs to be resolved

- To implement these potential changes to the ISO tariff the AESO would apply to the Commission for revisions, either following or jointly with the report on this engagement, to:
 - Remove provisions requiring the AESO to determine supply- or demand-related amounts;
 - Revise definition of substation fraction to ensure substation fraction for DFOs = 1;
 - Rate DTS bills (at affected substations) to DFOs would require rebilling to align:
 - Refund of the additional contribution paid to TFOs by DFOs; and
 - Monthly POD charges increase resulting from substation fraction = 1

- In regard to the CCDs relating to the Commission's direction to FortisAlberta to refrain from issuing CCD-related invoices to DCG customers:
 - AESO to revise and issue to reflect load substation fraction = 1;
 - Applicability of the substation fraction = 1 for DFOs to be made retroactive;
 - AESO initial review appears to roll back to effective date of Rate STS of December 1, 2015
 - Sum of impacted Rate STS MWs for this period is approximately 69.2 MW
 - Align the contributions to be refunded to the DFO with Rate DTS POD charges to minimize or remove impact to load rate payers

Evaluation of Revised Proposal Against Principles

- Not all principles completely met with revised proposal
- Principles 3, 4 and 5 achieved:
 - Addresses interconnection cost uncertain for DCGs
 - Provides DFOs with reasonable certainty regarding cost treatment/recovery certainty for DFOs
 - Is generally simple and easily understood
- Principles 1 and 2 partially achieved:
 - Similar certainty for interconnection costs for D & T connected generators
 - Both charged incremental interconnections costs
 - The appropriate share of the costs of transmission facilities that are required to provide them with access to the transmission system are unique
 - DCG may be providing incremental value to the DFO system
 - *DSI inquiry and other industry activities are looking to understand and address this*
 - Difficult to develop a charge that will enable effective price signals to ensure the optimal use of existing distribution and transmission facilities with other pieces in flux

- Parity between transmission interconnection costs calculation for transmission connected customers and distribution connected customers while enabling effective price signals to ensure the optimal use of existing distribution and transmission facilities
 - Fairness
 - Effective price signals

- **Tariff mechanism in the transmission tariff to ensure parity is likely ineffective**
- **For fair treatment, generators connecting to the distribution system, like those connecting to the transmission system, should pay for incremental costs as well as an appropriate contribution for the shared facilities from which they will derive benefit**
- **Any tariff mechanism to determine true sharing of costs between DFO load and DFO generation is more appropriately included in a DFO tariff where the DFO can achieve value for their customers**

- Market participants should be responsible for an appropriate share of the costs of transmission facilities that are required to provide them with access to the transmission system (may include paying a contribution towards facilities paid for by other customers and refund to the customer that paid)
 - Fairness
 - Cost causation

- **For fair treatment, generators connecting to the distribution system, like those connecting to the transmission system, should pay for incremental costs as well as an appropriate contribution for the shared facilities from which they will derive benefit**
- **Any tariff mechanism to determine true sharing of costs between DFO load and DFO generation is more appropriately included in a DFO tariff where the DFO can achieve value for their customers**

- Costs should not be allocated to a DCG customer after the DCG has energized, if the DCG is not directly causing those costs
 - Certainty of future costs
 - Stability
- **Addition:**
 - DCG participants should have cost certainty when making their final investment decision unless the DCG has caused those costs

• **AESO's revised proposal continues to ensure this principle**

- DFOs should be provided with reasonable certainty regarding cost treatment/recovery
 - Certainty of future costs
 - Stability
- **AESO's revised proposal continues to ensure this principle**

- Proposed tariff treatment and implementation should be easily understood
 - Simplicity
 - Stability

- **AESO's revised proposal continues to ensure this principle**
- **AESO continues to be focused on modernizing the ISO tariff, including simplification and increasing the ability to adapt to changes in technology and other industry shifts. Removing supply- and demand-related requirement provides additional simplicity and agility for future technology shifts.**

ISO Tariff Changes – Details

Current Section 8, Construction Contributions for Connection Projects

Implementing SSF = 1 for DFOs would require the following provisions from subsection 6 of Section 8 of the ISO tariff to be revised/replaced:

- (2) *The **ISO** must allocate the participant-related costs determined in subsection 6(1) above among **market participants** receiving **system access service** at a single substation, which services may be solely under Rate DTS, solely under Rate STS or under a combination of both.*
- (3) *The **ISO** must allocate the participant-related costs referred to in subsections 6(1) and 6(2) above to each **market participant** by multiplying those costs by the average **substation fraction** for the **market participant** determined in accordance with subsection 3(3) of section 9 of the **ISO tariff**, Changes to System Access Service After Energization.*
- (4) *The **ISO** must deem costs allocated to a **market participant** taking service under Rate DTS to be **demand**-related costs.*
- (5) *The **ISO** must deem costs allocated to a **market participant** taking service under Rate STS to be **supply**-related costs.*

Current Section 8, *Construction Contributions for Connection Projects*

- Original intent of these provisions was to ensure investment is limited to the “load portion” of the facilities
- With a changing grid, moving from large load substations and large generation substations to many substations with both load and generation, current determination of the demand-related and supply-related is resulting in complexity, and inadvertent outcomes, about how investment is calculated and applied to market participants
- Intent is to simplify allocation of costs between demand-related and supply-related in cases where the market participant is a distribution facility owner
 - Investment provided to ‘load portion’ of the facilities will remain unchanged as DCG is added
 - Further cost allocation could occur through the DFO tariff

- Revision to the definition of substation fraction in the *Consolidated Authoritative Document Glossary* would also need to occur:
 - **Substation fraction:**
 - *“means the share of a substation's capacity attributable to a market participant under Rate DTS or Rate STS, calculated by dividing the contract capacity of the individual system access service by the sum of all contract capacities of all system access services provided at the same substation under Rate DTS and Rate STS.”*
 - To ensure that, for legal owner's of distribution facilities (but not T-connected DFO customers), the substation fraction for load is equal to 1

Substation fraction definition in AESO's CADG (cont'd)

- Substation fraction would continued to be used to determine investment available for Rate DTS
- Substation fraction would be used to determine Rate DTS monthly POD charges
- DFOs add generation to their substations for different reasons that a non-DFO

What happens for DFO CCDs impacted by Commission direction

- To implement this proposal AESO would submit an application to Commission to remove provisions and adjust substation fraction definition
- Should the Commission issue a decision approving this proposal, the AESO would:
 - Re-execute current DFO/DCG CCDs that have “clawed back” investment amounts resulting in an additional contribution
 - Set substation fraction to 1.0 for DTS
 - No demand and supply-related costs
 - This will result in refunds from TFO to DFO
 - To be determined if and how DFO Rate DTS monthly bills to be recalculated with new substation fraction = 1

Session Close-out and Next Steps

- AESO to update the Commission summarizing the learnings, principles, proposals and stakeholder engagement in the two R&Vs regarding substation fraction and DFO discretion, potentially including:
 - Description of changes the AESO anticipates to propose to the ISO tariff;
 - Identify stakeholders who support the AESO's proposal; and
 - Identify anticipated information/proposals from stakeholders who do not support AESO's proposal.
- AESO will prepare an application with the Commission to revise tariff provisions
 - Additional consideration listed on slide 44 still being explored
- Upon Commission decision and if approved, re-issue CCDs to the DFOs
- **Timing to be determined but the AESO's objective is to seek resolution as soon as possible**

- We value stakeholder feedback and we invite all stakeholders to provide their feedback on this session via the **Technical Session 3 Stakeholder Comment Matrix on or before July 10, 2020**. Please submit one complete stakeholder comment matrix per organization.
- The matrix will be posted on June 25, 2020 on our website at www.aeso.ca.



- **Twitter:** @theAESO
- **Email:** tariffdesign@aeso.ca
- **Website:** www.aeso.ca
- Subscribe to our stakeholder newsletter

Thank you