Stakeholder Proposal Evaluation – May 4, 2020

Participant-Related Costs for DFOs (Substation Fraction) and DFO Cost Flow-Through Technical Session 2A

Period of Comment:	May 4, 2020 through May 20, 2020	**Contact:**	AESO
Comments From:	AESO	**Phone:**	
Date:	2020/05/20]	**Email**:	

Document purpose

The purpose of this document is to provide a structured and consistent guide to workshop participants to evaluate each of the proposals.

Instructions

1. Please fill out the section above as indicated.
2. Please complete an evaluation on each of the proposals using the tables below (Tables 2-7). Please provide your reason(s) as to why you think the proposal does/does not meet each of the evaluation criteria.
3. Once you have completed an evaluation on each of the proposals, please choose your preferred proposal with an explanation as to why in Table 1: Overall evaluation.
4. **Please submit one completed evaluation per organization.**
5. Email your completed evaluation to tariffdesign@aeso.ca by **May 20, 2020**.

Alberta Electric System Operator

Calgary Place, 2500, 330 - 5th Avenue SW Calgary, AB T2P 0L4

Phone: 403-539-2450 | Fax: 403-539-2949

www.aeso.ca

@theaeso

Table 1: Overall evaluation

Questions	Stakeholder Evaluation
1. Which proposal did you prefer? Please explain why.	As discussed during Technical Session 2A on May 14, 2020, at a high-level, the proposals received fell into two camps based on what costs should be included in participant-related costs as they relate to DCGs: (1) costs should be limited to the incremental cost of only those facilities required to interconnect to the bulk and regional transmission system; or (2) costs should include the incremental costs of facilities required to interconnect *and* a contribution towards a share of the existing facilities that are connected to the bulk and regional transmission system. The AESO's preference is a proposal that addresses the five principles agreed upon as a result of the discussions during Technical Session 1. The AESO's opinion is that, at a high-level, the proposals that best address all five principles were those in which a determination of participant-related costs were structured to include both the incremental costs of connection facilities *and* a contribution towards existing facilities paid for by other customers. The three proposals structured as such were put forth by FortisAlberta, the DCG Consortium, and URICA Energy Management. The AESO notes that though these three proposals are structurally similar in that they include both incremental costs and a contribution, the methodologies used to determine and collect and flow-through the costs are very different. These differences ultimately affect how well the AESO considers the proposal has achieved the principles as set out (further detailed in the challenges and unresolved questions response below). The AESO acknowledges that each stakeholder has its own unique perspective and will inherently advocate for a proposal, including methodologies/details, that achieve the principles in a manner that supports their own priorities. The AESO's perspective is that the methodologies and details of a proposal should work together to balance the achievement of the five principles considering the perspective of all stakeholders. Some of the discrete aspects of these proposals that the AESO prefers include: • URICA's determination of the contribution amount based on the Rate STS contract level to represent the MW flows onto the transmission system is straightforward and aligns with the adjusted metering practice which

Questions	Stakeholder Evaluation
	effectively establishes the levels of system access service that a market participant contracts for; • The simplicity of the cost collection and flow-through in the DCG Consortium's proposal; • The achievement of the investment certainty principle (generally, as a result of the proposed process) in all proposals; • The simplicity of using an average $/MW rate to determine contribution costs, and the transparency of communicating the rate to DCGs in advance of their investment decisions; and • The acknowledgement that the development of an average/postage stamp $/MW rate will require analysis and input from various stakeholders. The AESO considers that proposals structured to only include the incremental costs for facilities do not achieve all five of the principles as set out. The AESO's opinion is that these proposals generally prioritize principles 3 & 4 for DCG and DFO cost certainty over principles 1 & 2 regarding fairness across generators in the market and for consumers.
2. What are the challenges or unresolved questions with your preferred proposal?	With respect to the AESO's preference for the structure of proposals to include a contribution towards shared facilities, the AESO considers that the challenges and unresolved questions are generally around the methodologies and details used to determine and then collect and flow-through the costs to the appropriate party. Some of the specific challenges across the proposals from FortisAlberta, DCG Consortium, and URICA Energy Management include: • The support for the inclusion of transmission elements from the shared costs determination; and similarly, the rationale for why certain project costs should be excluded from that determination. That is, the construction of a substation requires a multitude of capital costs, which not only include the costs for materials and installation of physical assets but also include various costs to execute a project such as project/construction

Questions	Stakeholder Evaluation
	management, land acquisition, etc.; • Similarly, the AESO considers that the inclusion of the radial line (aka "supply line") costs as part of the contribution costs should further be explored as the transmission line is a physical facility required to connect a market participant substation to the bulk and regional transmission system; • The AESO's general concerns regarding what transmission costs to include/exclude in the determination of a contribution cost is to ensure that the magnitude of the resulting rate and contribution are representative of costs that appropriately achieve principles 1 and 2 so that the rate and contribution constitute an effective price signal; • The AESO notes that though it does appreciate the simplicity of developing an average or postage-stamp $/MW to determine the contribution costs, there may be a benefit to exploring the use of a POD-specific or location-specific $/MW rate. The AESO considers that a general advantage to exploring alternatives is that it can bolster and better test the rationale for a preferred alternative. In this case, a POD- or location-specific rate may determine a more accurate share of participant-related costs, but this benefit is offset by the drawbacks of a more onerous calculation/process; • Across these three proposals that include the contribution towards shared facilities, there are very differing options on how to determine both the $/MW rate and the MW amount that the rate should be applied to. The details regarding these challenges and questions are noted in the proposal-specific evaluations; • In examining and evaluating the methodologies within each proposal, what are the benefits and drawbacks of a simpler approach vs a complex approach, and what aspects of the proposals truly benefit from complexity. The AESO acknowledges that simpler approaches are generally easier to understand and quicker to execute, but sometimes complexity is required to achieve more effective and targeted price signals;

Questions	Stakeholder Evaluation
	• Though the FortisAlberta and DCG Consortium proposals discuss the flow of the contribution costs, the AESO believes that further consideration is required to determine who those costs should go to and the supporting rationale. As these contribution costs are a subset of participant-related costs that are meant to constitute a share towards existing facilities already paid for by a market participant, the AESO is inclined to believe that the contribution costs belong with the DFO and applicable load customers. • The AESO notes that the proposals advocate for the "decoupling" of the load (Rate DTS) and supply (Rate STS) aspects of the ISO tariff customer contribution policy, such that the determination of participant-related costs for a DCG would not affect/reduce the amount of AESO investment already provided for a DFO load substation. The AESO notes that even if the determination of contribution costs for a DCG is determined independent of any Rate DTS contract level, the consideration of who the contribution costs should go to may be complicated by the AESO investment.
3. What aspects from the other proposals would you like to see applied to your preferred proposal?	In its response to Question 1, the AESO noted its perspective that the methodologies and details should work together to balance the achievement of the five principles and discussed some of the aspects of certain proposals that the AESO found to achieve that balance. Holistically, the AESO generally prefers the structure and aspects of proposals which meet all principles in a simple and easy to understand manner (this is principle 5). The AESO considers that simplicity is important as it is more transparent to all participants and includes the benefit of being easier to implement and administer. For example, the AESO believes that it is unnecessary to create complicated cash flows where the AESO collects participant-related costs from the DFO to hand over to the TFO, and then effectively returns a portion back to the DFO via a monthly rider. The AESO is not opposed to complicated cash flows because they are an administrative burden, but because they are potentially ineffective, unnecessary (depending on where the contribution costs should ultimately be applied) and not transparent.

Questions	Stakeholder Evaluation
	Additionally, the AESO prefers the aspects of proposals that align the calculation of contribution costs to existing ISO tariff signals. For example, using the Rate STS contract level to establish the MW amount that the contribution costs are based on makes sense because both cases are essentially determining the same number – the flow of MW onto the transmission system. However, the AESO does acknowledge that the direct use of the Rate STS MW would not be appropriate/is more complicated if there are multiple DCGs that contribute to the Rate STS contract level; in this case, the AESO considers that the fundamental approach used to determine the Rate STS contract level could be an appropriate substitute. The AESO appreciates the consideration given to the historical treatment of participant-related costs for DCGs/DFOs that have already been issued in Construction Contribution Decisions based on the current "substation fraction" approach. The AESO agrees with FortisAlberta that there should be fair and consistent treatment of DCGs/DFOs for any costs previously determined to align with the new approach for the determination of participant-related costs.
4. Additional comments	The AESO considers that proposals in which participant-related costs are only based on incremental costs of connection facilities do not adequately satisfy all the principles established and agreed upon by the broad group of stakeholders. To provide a level playing field for all generation and maintain parity between a DCG and a TCG, it is the AESO's view that all generators should pay for their equivalent share of facilities required to connect to the bulk and regional transmission system, and not just the costs of incremental facilities. In the proposal specific tables below, the AESO used the following guidance for the ratings of the proposals: • 10 – Achieves and balances all principles and implementable as described. • 7 – Achieves and balances some of the principles but requires some work to implement. • 1 – Only achieves one or a few of the principles and does not provide.

Questions	Stakeholder Evaluation
	enough detail to implement.

Table 2: Evaluation of Proposal: Canadian Solar Solutions Inc.

Questions	Stakeholder Evaluation
1. Please rate your support of this proposal on a 1-10 basis, with 10 being completely supportive and 1 being not at all supportive. Please provide your rationale.	1 – This proposal narrowly relies on the *Transmission Development Policy* paper that guided the development of the *Transmission Regulation* without consideration to the evolution and development of the ISO tariff. The AESO's interpretations of legislation, including the *Transmission Regulation* and the *Electric Utilities Act*, as embodied by the ISO tariff is rigorously tested in and approved by AUC process. CSSI proposes that participant-related costs should only include the incremental costs of connection facilities. The AESO's opinion is that this proposal does not adequately satisfy all the principles established and agreed upon by the broad group of stakeholders. To provide a level playing field for all generation and maintain parity between a DCG and a TCG, it is the AESO's view that all generators should pay for their equivalent share of facilities required to connect to the bulk and regional transmission system, and not just the costs of incremental facilities.
2. Is the proposal an unbiased solution and evenly weighted in its analysis?	The AESO's opinion is that this proposal is weighted in favor of the DCG and relies heavily on interpretations of the *Transmission Development Policy* and not necessarily the resulting legislation and ISO tariffs, that reflect the history and developments following the initial *Transmission Development Policy*.
3. Is the proposal feasible?	The AESO believes that a proposal that determines participant-related costs based only on the incremental costs of connection facilities does not adequately satisfy all the principles established and agreed upon by the broad group of stakeholders and is therefore, not feasible.
4. Which stakeholders are best served by this proposal? Why?	The stakeholders best served by this proposal would be DCG proponents, who, unlike any other user of the transmission system would not pay a share of the transformation facilities that they require to connect to the regional and bulk system.
5. Which stakeholders are least served by this proposal?	There is an assumption in this proposal that load customers benefit if a maximum of costs is contained within rate base and costs are not "rolled out" of rate base.

Questions	Stakeholder Evaluation
Why?	No evidence is provided to support this assumption except for references to the *Transmission Development Policy*.
6. Do the objectives/principles outlined in the proposal seem fair and reasonable?	This proposal emphasizes effectiveness (benefits) based on the impact to rate base instead of the principles. This proposal advocates that the determination of participant-related costs based only on incremental costs is effective because costs are not "rolled-out" from rate base and therefore, the rate base as well as return on investment remains unharmed. The AESO disagrees with this as an objective/principle as a replacement of the 5 principles.
7. Does the proposal align with the consolidated principles (see Appendix A) presented in Technical Session 1 as well as the additional principle of "Ease of understanding and implementation (simplicity)"? This additional principle was added based on stakeholder feedback. If not, are you supportive of the principles that are used in the development of the proposal?	This proposal does not provide an assessment of its impact across all the principles outlined in the Appendix A. Most importantly, this proposal does not adequately address the parity between DCG and TCG in the requirement to pay for an appropriate share of the costs of transmission facilities required to provide access to the bulk and regional transmission system (principles 1 & 2).
8. What are the unresolved questions or challenges you would want to see answered in this proposal?	The AESO would require analysis to understand the cost savings (or lowest delivered cost of electricity) provided to load by only charging incremental costs to DCG. No analysis has been provided.
9. Additional comments	As discussed in the AESO's 2018 ISO tariff application, the increasing amount of DCG and the size of DCG is a change in our existing framework since 2015, which would not have been contemplated in previous policy. At the time that the *Transmission Development Policy* was developed, the Alberta transmission system was designed to transmit electrical energy from large centralized generation plants to homes, communities and businesses spread across great

Questions	Stakeholder Evaluation
	distances. The distribution system has traditionally operated with a one-way delivery of electrical energy from centrally-located generation plants to end-use customers.[1] By only referring back to a policy which pre-dates these significant changes in load and generation characteristics would likely result in inefficient outcomes that don't reflect today's Alberta interconnected electric system.

[1] Alberta Electric Distribution System-Connected Generation Inquiry, Alberta Utilities Commission Final Report issued December 29, 2017.

Table 3: Evaluation of Proposal: DCG Consortium

Questions	Stakeholder Evaluation
1. Please rate your support of this proposal on a 1-10 basis, with 10 being completely supportive and 1 being not at all supportive. Please provide your rationale.	7 – The AESO agrees with the structure of the proposal, being that participant-related costs should include both the incremental costs of connection facilities *and* a contribution towards existing facilities paid for by other customers. However, the AESO does not agree with the methodology proposed to calculate and apply the "$/MW postage stamp rate" as, in the AESO's view, it seems to understate the appropriate share of the existing facilities required to connect to the bulk and regional transmission system.
2. Is the proposal an unbiased solution and evenly weighted in its analysis?	As currently proposed, the methodology used to calculate and apply the $/MW postage stamp rate seems to understate the appropriate share of the existing facilities and ultimately leads to the determination of a contribution rate/cost that is potentially immaterial. The rationale that a DCG should only pay a contribution towards the costs of shared facilities for its "core competencies", being the materials and installation costs for a high voltage breaker and transformer, is a detail of the proposal that the AESO considers to be beneficial to DCGs and hinders the achievement of principles 1 & 2. As the AESO's perspective is to balance the achievement of all five principles while considering the perspective of all stakeholders, the AESO's opinion is that a $/MW rate based on the average costs for just the "core competencies" is too narrow and not reflective of the transmission facilities required for access to the transmission system. The AESO considers that the inclusion of the radial line ("supply line") in the $/MW rate warrants further consideration as it the inclusion of these costs may also be a means to better achieve principles 1 & 2. The AESO acknowledges the DCG Consortiums viewpoint that the exclusion of these costs is meant to avoid a locational signal via a $/MW/km rate, however, as discussed above, the AESO considers that there are benefits in exploring a potentially POD- or location-specific rate. Additionally, the supply line costs can be captured in an average $/MW rate that does not sends a locational signal.
3. Is the proposal feasible?	The AESO's opinion is that the structure of the proposal is feasible (i.e. that participant related costs should include incremental costs and a contribution

Questions	Stakeholder Evaluation
	towards existing facilities) but further work is required to develop the methodology used to determine and then collect and flow-through the contribution costs.
4. Which stakeholders are best served by this proposal? Why?	In establishing the structure of the proposal to include both incremental costs and a contribution towards existing facilities, this proposal does provide benefit to both load and generation: • The benefits to DCG include certainty of costs at the time of investment decision; and mitigated financial risks as there is certainty regarding (no) future costs. • Load customers benefit in this proposal as contribution costs will be directed to the TFO to offset their revenue requirement. • Generation Facility Owners as a whole and the market benefit from proposals that bridge the interconnection cost discrepancy for TCG vs DCG (i.e. this cost parity contributes to fairness in the market). However, the AESO considers that the methodology and details of the proposal drive the scale of the benefits to load and DCG: • The AESO believes that the methodology used to determine and apply the $/MW rate lead to understated contribution costs, which is a benefit to DCG. • The financial benefit to load customers is directly dependent on the contribution costs; if the costs understate the appropriate share of the existing facilities, then the amount of contribution that a DCG pays may be immaterial.
5. Which stakeholders are least served by this proposal? Why?	As noted in the response to Question 4, The AESO considers that the financial benefit to load customers is directly dependent on the methodology used to determine the contribution costs; if the costs understate the appropriate share of the existing facilities, then the amount of contribution that a DCG pays may be

Questions	Stakeholder Evaluation
	immaterial.
6. Do the objectives/principles outlined in the proposal seem fair and reasonable?	Though the structure of the proposal seems fair and reasonable (i.e. that participant related costs should include incremental costs and a contribution towards existing facilities), further work is required to develop the methodology used to determine and then collect and flow-through the contribution costs.
7. Does the proposal align with the consolidated principles (see Appendix A) presented in Technical Session 1 as well as the additional principle of "Ease of understanding and implementation (simplicity)"? This additional principle was added based on stakeholder feedback. If not, are you supportive of the principles that are used in the development of the proposal?	The proposal does attempt to align with all five principles, but the AESO's opinion is that it only truly addresses and achieves principles 3-5. In theory, a proposal based on incremental costs and a contribution towards existing facilities should address principles 1 & 2, but the AESO considers that further work is required to develop the methodology used to determine the contribution costs to better increase parity of transmission interconnection costs for DCG and TCG, and more accurately reflect an appropriate share of the costs of transmission facilities required to provide access to the bulk and regional system.
8. What are the unresolved questions or challenges you would want to see answered in this proposal?	The AESO outlined its unresolved questions and challenges, as applicable to this proposal, in Question 2 of Table 1: Overall Evaluation and in the above response specific to the DCG Consortium's proposal. The AESO's additional unresolved questions and challenges are that the AESO considers that the high-level estimate of the contribution rate ($17,232 /MW) to be understated, and that the method used to determine the applicable MW that the contribution rate applies to further understates the contribution costs. The DCG Consortium proposes to apply the $/MW rate to the MW expected to be exported to the transmission system based on the high side of the transformer. As described in Scenario 2 of the proposal, when a DCG supplies load on a different feeder, the resulting MW that the contribution rate would apply to is 0 MW. This is fundamentally at odds with Decision 22942-D02-2019, which found that the bus/feeder on the low side of the transformer is considered part of the transmission system, so flows across these feeders constitute flow on the transmission system. The AESO notes that it is not necessarily advocating to charge a contribution charge when a customer does not flow onto the transmission

Questions	Stakeholder Evaluation
	system, but clarifies that in this case, the “0 MW” resulting from the proposal that a DCG can offset load on a different feeder is not truly reflective of 0 MW of flow on the transmission system.
9. Additional comments	

Table 4: Evaluation of Proposal: FortisAlberta Inc.

Questions	Stakeholder Evaluation
1. Please rate your support of this proposal on a 1-10 basis, with 10 being completely supportive and 1 being not at all supportive. Please provide your rationale.	7 – The AESO agrees with the structure of the proposal, being that participant-related costs should include both the incremental costs of connection facilities *and* a contribution towards existing facilities paid for by other customers. However, the AESO does not agree with the methodology proposed to calculate the ASIC and subsequently collect and flow-through the collected costs. In the AESOs view, the determination of the ASIC is a complex process that may provide limited value to a DCG - a complicated and time-consuming process may not provide timely cost certainty to proponents needing to make a final investment decision. The AESO acknowledges that a detailed case-by-case technical cost analysis should generally lead to a more accurate determination but notes that this benefit should be balanced against the loss of simplicity and a consideration of whether this truly benefits from the complexity. FortisAlberta's proposes to create an ASIC rate schedule for the distribution voltage feeder (breaker and bus) and substation transformer (breakers and bus), but does not recommend the inclusion of the radial line. As discussed in the response to Question 2 in Table 1: Overall Evaluation, the AESO's general concerns regarding what transmission costs to include/exclude in the determination of a contribution cost is to ensure that the magnitude of the resulting rate and contribution are representative of costs that appropriately achieve principles 1 and 2. The use of a detailed cost analysis for the objective of determining a more accurate share of the costs of existing transmission facilities is directly offset by the exclusion of costs that may reflect a more appropriate share of existing transmission facilities. Additionally, the AESO notes the proposal to collect the ASIC costs from the DFO (which were paid by the DCG), then hand over to the TFO, and then effectively return back a portion to the DFO via a monthly rider may be an unnecessarily complicated process. The AESO is not opposed to complex cash flows because they are an administrative burden, but because they are potentially ineffective, unnecessary (depending on where the contribution costs should ultimately be applied) and not transparent. The AESO considers that the lack of transparency in

Questions	Stakeholder Evaluation
	the cash flow dilutes the (effective) price signals to the DCG and DFO.
2. Is the proposal an unbiased solution and evenly weighted in its analysis?	The AESO considers that this proposal is generally even weighted in its analysis, except it does not satisfy the principle of simplicity and ease of understanding.
3. Is the proposal feasible?	The AESO's opinion is that the structure of the proposal is feasible (i.e. that participant related costs should include incremental costs and a contribution towards existing facilities) but further work is required to develop the methodology used to determine and then collect and flow-through the contribution costs.
4. Which stakeholders are best served by this proposal? Why?	In establishing the structure of the proposal to include both incremental costs and a contribution towards existing facilities, this proposal does provide benefit to both load and generation: • The benefits to DCG include certainty of costs at the time of investment decision; and mitigated financial risks as there is certainty regarding (no) future costs. • Load customers benefit in this proposal as contribution costs will be directed to the TFO to offset their revenue requirement. • Generation Facility Owners as a whole and the market benefit from proposals that bridge the interconnection cost discrepancy for TCG vs DCG (i.e. this cost parity contributes to fairness in the market). However, the AESO considers that the methodology and details of the proposal drive the scale of the benefits to load and DCG: • The AESO believes that the methodology used to determine and apply the $/MW rate could lead to understated contribution costs, which is a benefit to DCG. The financial benefit to load customers is directly dependent on the contribution costs; if the costs understate the appropriate share of the existing facilities, then

Questions	Stakeholder Evaluation
	the amount of contribution that a DCG pays may be immaterial.
5. Which stakeholders are least served by this proposal? Why?	The complexity of this proposal would require significant additional resources for the AESO and DFOs to calculate the ASIC costs and monthly POD-specific credit riders.
6. Do the objectives/principles outlined in the proposal seem fair and reasonable?	The AESO's opinion is that the objectives outlined in this proposal seem fair and reasonable but may be outweighed by a complexity that may or may not be necessary for the desired outcome. As noted in its response to Question 1, the use of a detailed cost analysis for the objective of determining a more accurate share of the costs of existing transmission facilities is directly offset by the exclusion of costs that may constitute an "appropriate share" of existing transmission facilities.
7. Does the proposal align with the consolidated principles (see Appendix A) presented in Technical Session 1 as well as the additional principle of "Ease of understanding and implementation (simplicity)"? This additional principle was added based on stakeholder feedback. If not, are you supportive of the principles that are used in the development of the proposal?	The AESO's opinion is that this proposal addresses principles 1-4, and achieves the cost certainty principles 3 & 4. This proposal does not satisfy the principle of simplicity and ease of understanding. In theory, a proposal based on incremental costs and a contribution towards existing facilities should address principles 1 & 2, but the AESO considers that further work is required to develop the methodology used to determine the contribution costs.
8. What are the unresolved questions or challenges you would want to see answered in this proposal?	The AESO outlined its unresolved questions and challenges, as applicable to this proposal, in Question 2 of Table 1: Overall Evaluation and in the above response specific to the FortisAlberta proposal. FortisAlberta's proposed ASIC schedule for the cost of facilities used by DCGs includes the distribution voltage feeder breaker and bus; and the substation transformers, high voltage breakers and bus. In comparison to the two other proposals that also include a contribution cost towards existing facilities, FortisAlberta's proposal includes a greater extent of facilities that may reflect a more appropriate share of transmission facilities required to provide access to the bulk and regional transmission system. Though the AESO acknowledges that the

Questions	Stakeholder Evaluation
	extent of costs considered in FortisAlberta's proposal is so far, the most comprehensive, the AESO has unresolved concerns regarding the rationale for the exclusion of certain costs, such as the radial line and other costs as discussed in Question 2 of Table 1. The AESO is interested in understanding Fortis' estimates of the costs of implementing their proposal, including a discussion of the resourcing requirements and timing of how long each case-by-case technical analysis is expected to take. If a cost estimate is too early in this process, it should be acknowledged that to ensure cost effectiveness, a proposal that passes on a large amount of additional administrative and regulatory costs is a risk to load payers.
9. Additional comments	

Table 5: Evaluation of Proposal: Lionstooth Energy

Questions	Stakeholder Evaluation
1. Please rate your support of this proposal on a 1-10 basis, with 10 being completely supportive and 1 being not at all supportive. Please provide your rationale.	1 – This proposal narrowly relies on the *Transmission Development Policy* paper that guided the development of the *Transmission Regulation* without consideration to the evolution and development of the ISO tariff. The AESO's interpretations of legislation, including the *Transmission Regulation* and the *Electric Utilities Act*, as embodied by the ISO tariff is rigorously tested in and approved by AUC process. Lionstooth proposes that participant-related costs should only include the incremental costs of connection facilities. The AESO's opinion is that this proposal does not adequately satisfy all the principles established and agreed upon by the broad group of stakeholders. To provide a level playing field for all generation and maintain parity between a DCG and a TCG, it is the AESO's view that all generators should pay for their equivalent share of facilities required to connect to the bulk and regional transmission system, and not just the costs of incremental facilities.
2. Is the proposal an unbiased solution and evenly weighted in its analysis?	The AESO's opinion is that this proposal is weighted in favor of the DCG and relies heavily on interpretations of the *Transmission Development Policy* and not necessarily the resulting legislation and ISO tariffs, that reflect the history and developments following the initial *Transmission Development Policy*. Additionally, the AESO considers that Lionstooth's proposal to refund a DCG based on a load increase to be weighted in favor of the DCG as it does not follow from an equivalent application of the cost causation principle that proposed that a DCG should only pay for incremental costs for upgrades and nothing towards existing wires.
3. Is the proposal feasible?	The AESO believes that a proposal that determines participant-related costs based only on the incremental costs of connection facilities does not adequately satisfy all the principles established and agreed upon by the broad group of stakeholders and is therefore, not feasible.
4. Which stakeholders are best served by this proposal?	The stakeholders best served by this proposal would be DCG proponents, who,

Questions	Stakeholder Evaluation
Why?	unlike any other user of the transmission system would not pay a share of the transformation facilities that they require to connect to the regional and bulk system. Additionally, DCGs would also benefit by this proposal as they could be refunded their incremental costs to connect if the load at the substation increases.
5. Which stakeholders are least served by this proposal? Why?	There is an assumption in this proposal that load customers benefit if a maximum of costs is contained within rate base and costs are not removed from rate base (i.e. load customers should be "indifferent" if they don't pay more). No evidence is provided to support this assumption except for references to the *Transmission Development Policy*.
6. Do the objectives/principles outlined in the proposal seem fair and reasonable?	This proposal emphasizes effectiveness based on the impact to rate base, and the resulting indifference of load customers, instead of the principles. This proposal seems to equate fairness to load customers to be indifference or lack of an increase to rate base. The AESO disagrees with this as an objective/principle as a replacement of the 5 principles discussed below. Additionally, it is the AESO's opinion that the aspect of the proposal that allows for a DCG to be refunded costs based on a load increase arises from the incongruent an unfair treatment of the load customer.
7. Does the proposal align with the consolidated principles (see Appendix A) presented in Technical Session 1 as well as the additional principle of "Ease of understanding and implementation (simplicity)"? This additional principle was added based on stakeholder feedback. If not, are you supportive of the principles that are used in the development of the proposal?	This proposal does not provide an assessment of its impact across all the principles outlined in the Appendix A. Most importantly, this proposal does not adequately address the parity between DCG and TCG in the requirement to pay for an appropriate share of the costs of transmission facilities required to provide access to the bulk and regional transmission system (principles 1 & 2).
8. What are the unresolved questions or challenges you would want to see answered in this proposal?	The AESO would require analysis to understand the cost savings (or lowest delivered cost of electricity) provided to load by only charging incremental costs to DCG. No analysis has been provided.

Questions	Stakeholder Evaluation
9. Additional comments	As discussed in the AESO's 2018 ISO tariff application, the increasing amount of DCG and the size of DCG is a change in our existing framework since 2015, which would not have been contemplated in previous policy. At the time that the *Transmission Development Policy* was developed, the Alberta transmission system was designed to transmit electrical energy from large centralized generation plants to homes, communities and businesses spread across great distances. The distribution system has traditionally operated with a one-way delivery of electrical energy from centrally-located generation plants to end-use customers.[2] By only referring back to a policy which pre-dates these significant changes in load and generation characteristics would likely result in inefficient outcomes that don't reflect today's Alberta interconnected electric system .

[2] Alberta Electric Distribution System-Connected Generation Inquiry, Alberta Utilities Commission Final Report issued December 29, 2017.

Table 6: Evaluation of Proposal: Solar Krafte

Questions	Stakeholder Evaluation
1. Please rate your support of this proposal on a 1-10 basis, with 10 being completely supportive and 1 being not at all supportive. Please provide your rationale.	1 – The AESO notes that the intention of this series of Technical Sessions is to understand and ultimately propose changes to the ISO tariff provisions regarding participant-related costs for DFOs and DFO cost flow-through. The AESO is not supportive of a proposal that relies on the consistent use of discretion to deem costs as system-related instead of participant-related to avoid the applicability of tariff provisions relating to participant-related costs.
2. Is the proposal an unbiased solution and evenly weighted in its analysis?	This proposal is weighted in favor of the DCG as it is meant to minimize the transmission costs that reflect the appropriate share of the costs of transmission facilities required to connect to the bulk and regional transmission system. Additionally, this proposal puts risk onto AESO through its continued application of discretion, which may open the floodgate to other market participants seeing similar relief.
3. Is the proposal feasible?	This proposal only discusses the use of discretion as a mechanism to determine that participant-related costs be deemed system-related, and accordingly does not address the DFO flow through of participant-related costs. Other than the discussion regarding discretion, the AESO has no additional clarity on specifically how this proposal should be implemented. As such, the AESO could not further assess the feasibility of the proposal.
4. Which stakeholders are best served by this proposal? Why?	As discussed in Question 2, DCGs are best served by this proposal.
5. Which stakeholders are least served by this proposal? Why?	As the proposal relies on discretion to deem participant-related costs as system-related costs, load customers will not benefit from this proposal as load pays for system-related costs. The AESO also considers that it, and all market participants, will face additional risk as a result of this proposal as it would be continually utilizing its discretion. Additionally, the AESO notes that though DCGs are expected to be best served by this proposal, there is the risk that the AESO may inconsistently apply its

Questions	Stakeholder Evaluation
	discretion and/or another person make take issue with how discretion was applied. The use of discretion, rather than applicable ISO tariff provisions, to achieve a desired outcome inherently provides less certainty to the DCG.
6. Do the objectives/principles outlined in the proposal seem fair and reasonable?	The AESO understands that the objective of this proposal is that generally, the participant-related costs for a DCG can be deemed as system-related using the AESO's discretion. The AESO does not believe that this is fair or reasonable as system-related costs are paid for by load customers.
7. Does the proposal align with the consolidated principles (see Appendix A) presented in Technical Session 1 as well as the additional principle of "Ease of understanding and implementation (simplicity)"? This additional principle was added based on stakeholder feedback. If not, are you supportive of the principles that are used in the development of the proposal?	This proposal does not provide an assessment of its impact across all the principles outlined in the Appendix A. Most importantly, this proposal does not adequately address the parity between DCG and TCG in the requirement to pay for an appropriate share of the costs of transmission facilities required to provide access to the bulk and regional transmission system (principles 1 & 2). Notably, the AESO considers that the use of discretion is at odds with the objective of providing certainty as discussed in response to Question 5.
8. What are the unresolved questions or challenges you would want to see answered in this proposal?	It is not clear to the AESO if the participant-related costs determined for any DFO substation should be classified as system-related, or just the "supply-related" amounts that would be made system-related costs. The AESO also has an issue with a proposal that allows for the decision of a single market participant (being a DFO in respect of a DCG) to in-effect transfer costs that should be borne by that single market participant to all transmission ratepayers (i.e. as a result of moving all or a portion of participant-related costs to system-related).
9. Additional comments	

Table 7: Evaluation of Proposal: URICA

Questions	Stakeholder Evaluation
1. Please rate your support of this proposal on a 1-10 basis, with 10 being completely supportive and 1 being not at all supportive. Please provide your rationale.	7 – The AESO agrees with the structure of the proposal, being that participant-related costs should include both the incremental costs of connection facilities *and* a contribution towards existing facilities paid for by other customers. However, further work is required to develop the methodology used to determine and then collect and flow-through the contribution costs. The AESO notes that this proposal was silent on how the contribution costs would be collected and flowed-through. The AESO agrees with the proposal that the contribution costs should be assessed based on Rate STS contract levels.
2. Is the proposal an unbiased solution and evenly weighted in its analysis?	As currently proposed, the methodology used to calculate and apply the average $/MW rate seems to understate the appropriate share of the existing facilities and ultimately leads to the determination of a contribution rate/cost that is potentially immaterial. The rationale that a DCG should only pay a contribution towards the costs of the high voltage breaker and transformer, is a detail of the proposal that the AESO considers to be beneficial to DCGs and hinders the achievement of principles 1 & 2. As the AESO's perspective is to balance the achievement of all five principles while considering the perspective of all stakeholders, the AESO's opinion is that a $/MW rate based on the average costs for just the transformer and high voltage breaker is too narrow and not reflective of the transmission facilities required for access to the transmission system. The AESO considers that the inclusion of the radial line in the $/MW rate warrants further consideration as it the inclusion of these costs may also be a means to better achieve principles 1 & 2.
3. Is the proposal feasible?	The AESO's opinion is that the structure of the proposal is feasible (i.e. that participant related costs should include incremental costs and a contribution towards existing facilities) but further work is required to develop the methodology used to determine and then collect and flow-through the contribution costs.
4. Which stakeholders are best served by this proposal?	In establishing the structure of the proposal to include both incremental costs and a contribution towards existing facilities, this proposal does provide benefit to both

Questions	Stakeholder Evaluation
Why?	load and generation: • The benefits to DCG include certainty of costs at the time of investment decision; and mitigated financial risks as there is certainty regarding (no) future costs. • Load customers benefit in this proposal as contribution costs will be directed to the TFO to offset their revenue requirement. • Generation Facility Owners as a whole and the market benefit from proposals that bridge the interconnection cost discrepancy for TCG vs DCG (i.e. this cost parity contributes to fairness in the market). However, the AESO considers that the methodology and details of the proposal drive the scale of the benefits to load and DCG: • The AESO believes that the methodology used to determine and apply the $/MW rate lead to understated contribution costs, which is a benefit to DCG. The financial benefit to load customers is directly dependent on the contribution costs; if the costs understate the appropriate share of the existing facilities, then the amount of contribution that a DCG pays may be immaterial.
5. Which stakeholders are least served by this proposal? Why?	As noted in the response to Question 4, The AESO considers that the financial benefit to load customers is directly dependent on the methodology used to determine the contribution costs; if the costs understate the appropriate share of the existing facilities, then the amount of contribution that a DCG pays may be immaterial.
6. Do the objectives/principles outlined in the proposal seem fair and reasonable?	Though the structure of the proposal seems fair and reasonable (i.e. that participant related costs should include incremental costs and a contribution towards existing facilities), further work is required to develop the methodology used to determine and then collect and flow-through the contribution costs.

Questions	Stakeholder Evaluation
7. Does the proposal align with the consolidated principles (see Appendix A) presented in Technical Session 1 as well as the additional principle of "Ease of understanding and implementation (simplicity)"? This additional principle was added based on stakeholder feedback. If not, are you supportive of the principles that are used in the development of the proposal?	The proposal does attempt to align with all five principles, but the AESO's opinion is that it only truly addresses and achieves principles 3-5. In theory, a proposal based on incremental costs and a contribution towards existing facilities should address principles 1 & 2, but the AESO considers that further work is required to develop the methodology used to determine the contribution costs to better increase parity of transmission interconnection costs for DCG and TCG, and more accurately reflect an appropriate share of the costs of transmission facilities required to provide access to the bulk and regional system.
8. What are the unresolved questions or challenges you would want to see answered in this proposal?	The AESO outlined its unresolved questions and challenges, as applicable to this proposal, in Question 2 of Table 1: Overall Evaluation and in the above response specific to URICA's proposal.
9. Additional comments	AESO agrees with URICA on the point that the size of the generator connecting on the distribution-system does matter. The price signal to locate to optimize the transmission and distribution system may be ineffective or distorted if DCGs larger than a threshold amount (amount to be investigated) are seeking a distribution connection.

Appendix A

Principle	Description
Overarching	Tariff design and implementation facilities a fair, efficient and openly competitive market (FEOC) • Fosters competition and encourages new market entry • Efficiency • Avoidance of undue discrimination • Fairness
Principle 1	Parity between transmission interconnection costs calculation for transmission connected customers and distribution connected customers while enabling effective price signals to ensure to optimal use of existing distribution and transmission facilities • Fairness • Effective price signals
Principle 2	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
Principle 3	DCG participants should have cost certainty when making their final investment decision (FID) • Certainty of future costs • Stability
Principle 4	DFOs should be provided with reasonable certainty re: cost treatment/recovery • Certainty of future costs • Stability
Principle 5 (added)	Ease of understanding and implementation • Simplicity • Stability