Stakeholder Comment Matrix – May 28, 2020

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

Period of Comment:	May 28, 2020 through June 11, 2020	**Contact:**	[redacted]
Comments From:	The DCG Consortium is comprised of the following members: BluEarth Renewables Inc, Elemental Energy Renewables Inc, Innogy Renewables Canada Inc., Irricana Power Generation, and Siemens Energy Canada Limited. This submission represents the consensus view of the group and is submitted on behalf of the group by Power Advisory LLC. Individual member companies may also make independent submissions.	**Phone:**	[redacted]
Date:	2020-06-11	**Email**:	[redacted]

Instructions:

1. Please fill out the section above as indicated.
2. Please respond to the questions below and provide your specific comments.
3. **Please submit one completed evaluation per organization.**
4. Email your completed comment matrix to tariffdesign@aeso.ca by **June 11, 2020**.

The AESO is seeking comments from Stakeholders with regard to the following matters:

	Questions	Stakeholder Comments
1.	Please comment on the Technical Session 2B facilitated by the AESO on May 28, 2020. Was the session valuable? Was there something we could have done to make the session more helpful? Please advise and be as specific as possible.	
		<u>Preliminary Comments</u> Before making any comments on the AESO proposal, the DCG Consortium would like to note that it does not necessarily agree with the need for DCGs to pay any contribution towards the costs of shared facilities. As noted on slide 5-6 of the Power Advisory proposal, the DCG Consortium has recognized and acknowledged a number of constraints that it does not agree with, *i.e.* that the Transmission Regulation allows the AESO to define local interconnection costs and that the AESO has implied that definition to include both incremental costs to connect and a contribution to shared facilities costs. As noted in Session 2A, in the long-term, the DCG Consortium would like to have an in-depth conversation about these two points at a later date. For now, the DCG Consortium accepts those constraints and offers the following comments.
2.	The following five questions are seeking comments on the Technical Session 2B discussion regarding the outstanding design details identified on Slide 27. Please comment if (1) your organization does have or does not have agreement in principle and (2) any additional clarity or consideration to provide on the **following outstanding design details:** • Substation fraction = 1 for DFOs	<u>Slide 32 – High priority – Substation fraction = 1 for DFOs</u> The DCG Consortium agrees that the substation fraction at all DFO substations should be 1. This will prevent any substation upgrade costs from being allocated to STS and, accordingly, to DCGs. This is vital to preventing the unmitigable future risk associated with substation upgrades and ensuring investor certainty in Alberta in accordance with AESO Principle 3. Where a DCG causes additional costs through the need of additional transmission facilities, these costs should be considered “incremental connection costs” and invoiced directly to the DCG. No DCGs in attendance at these stakeholder sessions dispute the need to pay for 100% of their incremental connection costs.

3.	Please comment if (1) your organization does have or does not have agreement in principle and (2) any additional clarity or consideration to provide on the **following outstanding design details:** • Determining a $/MW charge for DCG	<u>Slide 34 – High priority – determine appropriate costs comparison</u> Under the AESO's proposal for determining "local interconnection costs," DCGs are expected to contribute to shared facilities in a manner similar to Transmission-Connected Generation (TCG). However, we note that DFO substations are initially designed, developed, constructed and operated for load customers at a higher standard of reliability and resiliency compared to facilities for generation customers. For example, load substations are typically designed to a minimum of N-1 redundancy and include complex protection and control schemes to manage system outages and abnormal operating conditions. DFO substations must be adaptive to future electricity demand requirements as well as supply capability for distribution network operation and maintenance (e.g., multiple buses and feeders that can support backfeed needs). Further, DCGs will fully fund some of the cost components as part of their incremental connection costs (e.g., protection and control systems and costs associated with the AESO process for connection). In short, generation substations are fairly simple facilities with lower overall costs than substations that are purpose built for multiple load customers on a DFO network. The difference in design objectives and associated higher costs for load substations to meet load customer requirements must be reflected in shared facility costs for DCG. On slide 34, the AESO provided the following list of possible transmission facilities. The DCG Consortium notes which costs should and should not be included in the shared facilities costs as well as the rationale for this view, using selection criteria that includes avoiding double counting of costs, simplicity, and understandability. (1) **Transmission (supply/radial) line** – Excluded. A TCG is able to site in a manner that controls supply line costs. A DCG sites near load and connects to existing transmission infrastructure. Load stations are sited in locations that are optimal for the load customers, DCG connection is not considered in the siting decision. A DCG cannot control the length of the supply line and should not pay increased connection costs for longer supply lines. Adding a $/MW/km charge for the supply line will send a locational incentive with no associated benefit, i.e. a locational incentive to connect to substations with shorter supply lines to save on connection costs. This locational incentive does not provide any value added as the length of the supply line is determined prior to the connection of the DCG and the DCG cannot influence this. There is also a potential that some supply lines were built as shared infrastructure (i.e., developed as part of broader bulk and regional system planning optimization) and therefore the existing line may not have been funded solely for the load customers supplied by the substation. (2) **Substation materials, labour, installation** – Included. The DCG Consortium suggests that the AESO should focus on the core components (transformer and high voltage breaker) and that costs of both materials and installation of those components should be shared. The DCG Consortium suggests that low voltage breaker costs should be excluded from the calculation. There are cases where the DCG includes the full costs of the low voltage breaker in their incremental costs. In these cases, the DCG should not also be required to pay a shared facility cost associated with this component as such a fee would result in double counting. Fortis proposes to check against double counting and exclude costs where the DCG contributed towards the low voltage breaker. For simplicity, the DCG Consortium suggest that those costs should be excluded for all DCGs.

(3) **Telecommunications** – Excluded

Telecommunication requirements are primarily derived from operational activities to serve load customers (e.g., outage management and abnormal operating conditions). DCG is expected to fund telecommunication systems for interaction with the DFO substation as part of their incremental connection costs. The DCG is also required to provide, at their own cost, telecommunication to the AESO in order to provide various live data points.

(4) **Pre-SP cost, service proposal** – Excluded.

Development costs of the substation are determined by load customer needs. Further, for simplicity, the costs should be excluded from DCG shared facility costs. Further, the DCG incurs complete development costs for its own project. It would be double counting to incur costs related to these items for the same of the original DFO customer and then again for its own project.

(5) **Facility applications, regulatory and compliance** – Excluded

These costs will be duplicative of a DCGs own costs. The DCG will pay costs associated with their own facilities application for the generator and also for the facilities application of the DFO/TFO transmission facilities upgrades that are required for their generator. The DCG should not also be required to pay for the facilities application and regulatory costs associated with the original load-built substation.

A DCG is also required to perform its own studies prior to developing and connecting its project. These studies are holistic and can be very expensive. The studies commissioned by the DFO for the load substation should not be allocated to the DCGs as that would result in double counting with DCG's own studies.

(6) **Land costs** – Excluded.

The location and size of a DFO substation is selected for the needs of both existing and future load customers. Determining differences in land costs for a generation only sited substations versus a load customer substation are complex due to a variety of factors (e.g., land value, access to transmission system, load customer density, existing distribution network topography, etc.). To maintain simplicity and avoid undue burden on DCGs for load specific needs, land costs should be excluded.

DCGs typically build their own project substation, or integrated inverter-transformer units that transform power generated to the connection voltage. When a TCG builds its own project substation, it would not be required to pay for costs associated with a second substation. Similarly, the DCG will lease land for its own project substation, but should not be required to share in the costs of the DFO substation land lease.

(7) **Procurement management, project management, construction management, contingency, escalation, AFUDC, E&S Overhead** – Excluded.

The requirement of project oversight is associated with the design objectives and scope of the DFO substation project. As discussed, DFO substations for load customers are designed to a higher degree of reliability and resilience compared to generation-only substations. The DCG Consortium recommends excluding project oversight costs to focus on large component costs that are simple to estimate and allocate. In addition, the costs of project oversight for incremental connection costs are the responsibility of DCGs and therefore the DCG will pay costs associated with their own facility and the costs of DFO substation upgrades for interconnection.

(8) **Salvage** – Excluded.

TCGs do not get charged substation salvage costs, accordingly Principle 1 would require that this line item be excluded.

The DCG Consortium understanding of salvage costs is the salvage costs for the removal of end-of-life DFO substation equipment. Logically, a DCG should not be expected to fund the removal of DFO substation equipment during the connection to an existing DFO substation. Accordingly, this cost should be excluded.

DCGs and TCGs will have their own project substation/transformation equipment that have decommissioning costs. To charge DCGs for the decommissioning of the load substation would result in double counting. The DCG Consortium further understands that TCGs do not pay in advance for salvage costs.

In paragraph 474-487 of Decision 2010-606, the Commission denied the AESO's proposal for a prepaid O&M charge. The DCG Consortium suggests that this rationale should continue to apply and that a DCG should not be allocated a charge associated with transmission O&M or salvage. Further, it should be noted that DCG already pay an upfront distribution O&M charge.

Slide 34 of the AESO's presentation is one of the most important parts of design detail. It was not allotted sufficient time in Session 2B for a thorough discussion. A significant portion of the Session 3 agenda needs to be dedicated to this topic and in ensuring the $/MW charge accords with AESO Principles 1 and 2.

<u>Slide 36 – Medium priority – timing of charge certainty</u>

As noted in our initial proposal, the DCG Consortium considers the ideal timing for finalization of the shared facilities costs to be with the delivery of the interconnection quote package in accordance with AESO Principle 3. In discussions with Fortis, they indicated that the DFO would be able to provide an estimate of these charges much earlier in the process by reviewing expected power flows to determine the correct number of MWs that would be charged the costs or to do a preliminary version of the full ASIC calculation, in the case of Fortis' proposal.

An early estimate combined with finalization at the time of the incremental connection costs quote letter is adequate for the DCG Consortium members. The DCG Consortium members have no concerns if the AESO were to finalize the shared facilities costs earlier than the issuance of the quote letter. However, the AESO should not finalize share facilities costs at a date that is later than the issuance of the quote letter.

4.	Please comment if (1) your organization does have or does not have agreement in principle and (2) any additional clarity or consideration to provide on the **following outstanding design details:** • Determining the applicability of the DCG charge	Slide 38 – High priority – Use of Rate STS The DCG Consortium disagrees with the use of the STS contract capacity. By way of example, consider the cost of the transformer. A DCG should only pay a share of that piece of infrastructure for the MWs that make use of that infrastructure. Accordingly, to charge the $/MW transformer costs, the AESO should totalize power flows at the transformer. The STS contract capacity is totalized at the feeder. Accordingly, charging the full STS contract capacity number of MWs for usage of the transformer will over charge DCGs. If the low voltage breaker(s) and bus were to be included in the calculation, then it would be fair to use the STS contract capacity to charge this amount. In this case, the AESO should create a rate schedule as follows: • $/MW (low voltage breaker costs) x MW of STS contract capacity • $/MW (high voltage breaker and transformer costs) x MW totalized at the transformer Slide 39 – High priority – efficiency/simplicity tradeoff The DCG Consortium sees the costs and benefits with both sides of this approach and is largely neutral. A $/MW charge that is determined in advance in the tariff and charged to MWs based on power flow analysis provides transparency and certainty. This makes it easier for DCGs to estimate their own charges before engaging with the DFO. This also does not require extensive calculations by the DFO as a DCG attempts to determine the best location to connect. However, Fortis' more complex method can also provide adequate investor certainty if the DFO is able to give a connection cost quote in stage 1 of the connection process, as currently suggested by Fortis.

5.	Please comment if (1) your organization does have or does not have agreement in principle and (2) any additional clarity or consideration to provide on the **following outstanding design details:** • Determining the administration of the DCG charge	In addition to creation of a $/MW charge, the AESO should look to create a "not to exceed" amount in terms of total cost, such that the connection costs do not become prohibitive to DCGs in Alberta and to ensure compliance with AESO Principle 1. The DCG Consortium submits that this needs to be discussed in Session 3. The members of the DCG Consortium submit that a charge above $20k/MW would be prohibitive to the development of DCG in Alberta.
6.	Please comment if (1) your organization does have or does not have agreement in principle and (2) any additional clarity or consideration to provide on the **following outstanding design details:** • Looking towards implementation	<u>Slide 43 – High priority – efficient regulatory process</u> The DCG Consortium is strongly supportive of an application for interim relief on the proposal that the substation fraction equal 1 for all DFO substations. This will allow the AESO to immediately recalculate all outstanding CCDs, Fortis to rescind all issued invoices, and the R&V applications (Proceedings 25101 and 25102) to be closed, in accordance with AESO Principle 3. This will also provide some level of investor certainty to projects currently in development, as there will be certainty that the unmitigable future liability risk will be eliminated. However, to fully ensure investor certainty, further discussion on the transition period (noted on AESO slide 25 from Session 2B) is required in Session 3. In addition to allowing paused projects to move forward, removing this unmitigable future liability will also have the benefit of providing much needed clarity of future costs for companies that may be looking to sell projects or enter into PPAs.

7.	Additional comments	<u>Existing CCDs and Invoices</u> Slide 25 states “Previously issued DFO CCDs for supply-related amounts greater than zero would be revised back to a certain date.” The DCG Consortium suggests that all CCDs should be revised where an invoice has either not been issued by the DFO or not been paid by the DCG. This is not retroactive ratemaking, regardless of when these substation upgrades where completed, as the amounts have not yet been collected/allocated for rate-making purposes. Further, in keeping with Principle 3, the DCG Consortium submits that any projects that have paid their DFO/TFO incremental connection cost invoice could not be assessed the new $/MW shared facilities charge. <u>Session 3 Agenda</u> Large portions of Session 2B were spent discussing non-crucial items. In Session 3, it is vital that the AESO organize the agenda so that it ensures a large amount of time to discuss the high priority, high impact components of the AESO proposal. These are: (1) Determining the $/MW charge Part 1 – What cost line items are in and out of the shared costs equation? (2) Determining the $/MW charge Part 2 – What is the actual dollar cost of each of those line items? (3) What MWs are charged this cost? Rate STS or a different amount based on estimated power flows? (4) Transitional treatment – Confirm how existing CCDs and invoices will be treated and discuss the criteria to determine which projects will be required to pay the new $/MW charge. If Session 3 is only able to be 4 hours, similar to the prior sessions, then the DCG Consortium suggests that the AESO allocate 1 hour to each of topics 1-3 and 1 hour for anything else that the AESO considers needs to be discussed which should also include item 4. The discussion on Item #2, listed above, will require the DFOs and the AESO to do some work in advance of the Session. <u>Session 4</u> The DCG Consortium suggests that the AESO likely needs to hold Session 4 in order to have a more complete and fulsome discussion regarding the items listed above. It is unlikely to reach resolution in only one more session and it is the preference of the DCG Consortium to hold an additional session to get to one common proposal rather than multiple proposals. The DCG Consortium suggests that Session 4 be held within a month of Session 3.