FORTIS ALBERTA

AESO STAKEHOLDER ENGAGEMENT

PARTICIPANT-RELATED COSTS FOR DFOs (SUBSTATION FRACTION) AND DFO COST FLOW-THROUGH

SESSION 2A
PROPOSAL OF FORTISALBERTA INC.

APRIL 30, 2020

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1.0 OVERVIEW OF PROPOSAL

Background

1. FortisAlberta Inc. (FortisAlberta or the Company) first raised its concern with the AESO's recent practice of applying the substation fraction method to Points of Delivery (PODs), where the DFO is the market participant and where DCG is interconnecting, as being problematic, disruptive and potentially unworkable for the Company and its distribution-connected generation (DCG) customers early in the ISO tariff Proceeding 22942 (the Proceeding)[1]. That is, the AESO's existing tariff contracting processes, practices and construction contribution decisions (CCDs) which apply its substation fraction approach to determine and assess supply-related (STS) participant-related costs to DCG (for full distribution tariff flow-through by the DFO) was identified by the Company as problematic with respect to both timing/process and level/magnitude, and was anticipated to have the potential to create unintended, inefficient and unfair consequences for these customers.

2. Left unresolved by the Proceeding, this adverse outcome for DCG customers was anticipated as the existing substation fraction approach was originally approved for application to a single supply/demand market participant (dual-use customer) connected at the transmission level (or two-way power flow proposed from day one at a substation). With increasing amounts of DCG being developed in recent years, the AESO's practice of calculating and applying the substation fraction method to two-way power flow resulting from the subsequent addition of DCG at DFO- contracted substations has now been proven to be unworkable for application to the interconnection of DCG, as evidenced by the R&Vs of Decision 22942[2].

3. As such, FortisAlberta provides the following recommendations to the AESO as a starting point for consideration by the AESO, DCGs, the Commission and stakeholders to resolve this issue with respect to the application and administration of the ISO tariff for interconnection of DCG and remedy the corresponding adverse impact on DCG development.

[1] Exhibit 22942-X0206, September 5, 2018, pp. 5-7.
[2] Proceedings 24932, 25086, 25101, and 25102.

Overview

4. FortisAlberta proposes and makes the following recommendations to the AESO and stakeholders, for purposes of the AESO's determination of a DCG customer's supply-related contribution towards transmission participant-related costs under the ISO tariff:

Contribution Allocation Method for DFO-contracted PODs

- For all DFO-contracted PODs, the AESO should abandon its existing substation fraction method for application of its customer contribution policy and replace it with a more direct allocation method that allows the AESO to determine an "Average Supply-related Interconnection Contribution" ("ASIC") for a DCG that is requesting STS service and interconnection to local transmission facilities that already exist for the DFO to serve load (DTS).

- Abandoning application of the substation fraction for determination of the supply-related contribution for DCG requires decoupling of the load (DTS) and supply (STS) side of the ISO tariff's customer contribution policy. That is, the supply-related contribution triggered by a DCG requiring STS service, should be determined separately through FortisAlberta's proposed ASIC allocation method while the load side of the AESO's contribution policy (DTS local investment and contribution for TFO/DFOs) could carry on as is, but with a DTS substation fraction of 1.0 for all DFO-contracted PODs.

Contribution Timing, Process and Flow-through to DCG

- The AESO should alter its tariff on a prospective basis to only determine and assess the supply-related contribution towards ISO tariff participant-related costs (or ASIC) at the time of DCG grid entry (i.e., at the time of establishment, or any change to, the STS contract capacity at the interconnecting POD in excess of 1 MW).

- The ASIC amount, as determined by the AESO, would be provided to the DFO and DCG customer prior to the DCG project proceeding and would be flowed through in full by the DFO and invoiced to the DCG, along with any and preferably all, upfront supply-related contributions/price signals, once the DCG elects to proceed with its grid interconnection.

- The ASIC, as determined by the AESO at the time of DCG interconnection, should flow through the DFO's distribution tariff and be charged to the DCG in its entirety. The full flow-through of the ASIC retains the integrity of the transmission contribution price signal that the AESO wishes to send to supply generally and would be in accordance with the currently approved flow-through provisions in the DFO tariff's terms and conditions. The full flow-through of the ASIC to DCG also supports consistency and parity with treatment of transmission-connected generation (TCG) which must pay its local interconnection costs as required by Section 28 of the Transmission Regulation.

- ASIC amounts assessed to, and paid by, the DCG proponent would be returned to the TFO via the ISO and distribution tariffs, resulting in an offset to TFO rate base. The AESO/TFO would then have to calculate a corresponding DTS POD-specific credit rider for the respective POD to ensure that the DFO's load customers see a corresponding decrease in the DFO's DTS POD charges (which was previously addressed by the application of a DTS substation fraction < 1.0 to reduce DTS POD charges for the DFO and its load customers).

Determination of Magnitude/Level of Contribution to DCG

- The AESO should calculate ASIC to satisfy the AESO's objective of attaining parity between DCG and transmission-connected generation (TCG). To accomplish this, rather than the AESO determining the magnitude of supply-related contribution towards the ISO tariff participant-related costs based on the simple ratio of STS/DTS contract capacities and a 20-year consideration of POD costs/investments as is currently done, the AESO should determine the supply-related contribution or ASIC based on a case-by-case

technical cost analysis and allocation (direct assignment) at the time of DCG grid entry/STS contracting.

- The AESO should work with the TFOs and DFOs to develop an average province-wide supply-related contribution schedule ($/supply-related capacity (MW)), reflecting average participant-related interconnection costs, which will form part of the ISO tariff and could be reviewed/adjusted annually in the AESO's annual tariff update applications. This ASIC schedule, once established, will allow the AESO to determine the supply-related contribution amount for the interconnecting DCG at the time of interconnection of the DCG and STS contracting by the DFO.

- The ASIC schedule could be comprised of two or three local transmission cost component levels, based on supply's (DCG's) use of:

    1) the distribution voltage feeder breaker and bus;
    2) the POD substation stepdown transformer, breakers and bus; and
    3) the local transmission line that connects the POD substation to the AIES bulk and regional transmission system.

- In order to align with the AESO's objective of attaining parity between DCG and transmission-connected generation (TCG), it is FortisAlberta's view that the cost of existing local transmission line that connects the POD substation to the AIES bulk and regional transmission system should not be included as a cost component of ASIC. Therefore, FortisAlberta has not included this transmission line component as applicable to DCG in the Company's illustrative cost analysis within this proposal. However, FortisAlberta defers to the AESO's discretion as to whether this cost component should ultimately be included to achieve parity with TCG.

- The AESO will require support from the TFO and DFO to determine these average local interconnection costs by component and determine the forecast reverse power flows and supply's (DCG's) use of each of the POD components. The projected power flows for

supply and demand through each POD component (as used in the ASIC analysis) should consider the average load factors and supply capacity factors through each component and should be consistent with the levels used in the establishment of the STS contract capacity levels at the interconnecting POD as per the ISO tariff.

- The AESO should propose and gain AUC approval for alterations to the ISO tariff (terms and conditions, rates and riders), to affect the proposal for the different customer contribution treatment of DFO-contracted PODs. The Company also recommends that the AESO develop an Information Document to make its contribution policy, contracting, timing and queuing processes more clear, consistent and transparent for DFOs and DCG.

2.0 PRINCIPLES

2.1 What do the principles mean to you?

5. In the Company's view, the principles, as provided and discussed by stakeholders in Technical Session 1, are largely aligned and appear to be permutations of the generally-accepted ratemaking principles applied for tariff design throughout the regulated utility industry.

6. FortisAlberta's principles for purposes of the ISO tariff's STS contribution policy were to:

    - reflect cost causation;
    - provide effective and timely price signals to DCG;
    - have open, non-discriminatory system access for both transmission and distribution-connected generation; and
    - have clear, transparent and timely administration of tariff(s) to DCG.

7. However, the AESO provided an overarching principle that its tariff design and implementation should facilitate a fair, efficient and openly competitive market (FEOC) which leads to the principle that there should be parity between the transmission interconnection costs calculation for transmission-connected customers and distribution-connected customers, both in terms of

fairness and providing effective price signals (timing and magnitude). FortisAlberta agrees with this principle and as such, its proposal is designed to meet the objective of achieving parity between transmission and distribution-connected generation when assessing contributions for local transmission interconnection costs.

2.2 What are the objectives you are trying to achieve or the challenges you're looking to address with your proposal (i.e., what are you trying to achieve?)

8. FortisAlberta first raised its concern with the AESO's recent practice of applying the substation fraction method to Points of Delivery (PODs) where the DFO is the market participant as being problematic, disruptive and potentially unworkable for the Company's distribution-connected generation (DCG) customers early in the ISO tariff Proceeding 22942[3]. These concerns arose and become apparent to the Company contemporaneous with the AESO's introduction and within the context of its adjusted metering practice information document[4] for establishment of DTS and STS contract levels and metering of supply and demand related power flows and associated billing determinants. In its September 5, 2018 comments on the AESO's metering ID, FortisAlberta submitted its concern with the larger issue of the AESO's existing tariff contracting practices and construction contribution decisions (CCDs) which apply its substation fraction approach to determine and assess supply-related (STS) participant-related costs to DCG (for full flow-through by the DFO)[5]:

> *Impact of AESO Application of the Dual-Use (Substation Fraction) Formula to Distribution / DG*
>
> *The AESO response and ID provide further AESO views for continued implementation of the ID, based on a concern to establish the proper STS contract levels and substation fractions to ensure the proper allocation of transmission local interconnection costs:*
>
> > *Inaccurate contract capacity and metering levels for system access service under Rate DTS and Rate STS impact generating unit owner's contribution ("GUOC") payments, DTS billing determinants and substation fraction calculations.*

[3] Exhibit 22942-X0206, September 5, 2018, pp.5-7.
[4] AESO Information Document - ID #2018-019T, Determination of Rate STS, Rate DTS and Metering Levels for a DFO.
[5] Exhibit 22942-X0206, September 5, 2018, pp 5-7.

Substation fraction calculations are used in determining the allocation of connection costs as either demand or supply related, the appropriate DTS investment levels, and in calculating the monthly POD charge.[6] To the extent that these issues are engaged, the Company submits that the inextricable issue of the AESO applying its dual-use (substation fraction) formula within its approved tariff to distribution facility owners (DFOs) and DG must also be considered.

The dual-use formula has been a fixture in the ISO tariff since the mid-2000s. For example, in Decision 2005-096, the Commission's predecessor reaffirmed the use of the dual-use formula when both DTS and STS are requested at a substation:

> *…the Board considers that it is still necessary to maintain the dual-use formula to ensure that AESO customers that are primarily generators are not able to gain an effective exemption from the clear policy intent of the Government's Transmission Policy and the Transmission Regulation whereby generators are to pay for their local interconnection costs. Accordingly, the Board hereby directs the AESO, in its refiling, to re-instate the dual-use formula as described in Article 9.3 of T&Cs of the currently approved tariff. …[7]*

In the Company's view, the recent complaints from DG customers raises serious concerns around the workability and suitability of the AESO applying its dual-use (substation fraction) formula to a DFO and its DG customers, effectively treating the DFO as if it were a single transmission-connected dual-use customer. While FortisAlberta appreciates the AESO's objective to treat all generation in the province on a level playing field and send consistent price signals to generation irrespective of whether they are connected to transmission or distribution, the approach of treating a DFO and its DG customers the same as a single transmission-connected dual-use customer creates unintended and potentially unfair consequences for the DG customers. This is supported by recent complaints from DG proponents in the Company's service area, following recently intensified efforts by the AESO to administer the applicable portions of its tariff in accordance with the "dual-use" approach as approved in its tariff, and the AESO's implementation of its adjusted metering practice in the ID.

[6] Exhibit 22942-X0194
[7] 2005/2006 General Tariff Application Alberta Electric System Operator 62, EUB Decision 2005-096 (August 28, 2005), Section 6.1.6.1 Application of Contribution Policy to Dual-Use Sites, pages 60-62.

In any event, the Company observes that applying the dual-use formula in the Commission-approved ISO tariff to DFOs (and its DG customers) is problematic in two aspects:

(1) Potential for improper allocation of load-related costs to supply (STS):
The ISO tariff and customer contribution policy for dual-use customers does not separately identify and partition participant-related costs for a new or upgraded transmission interconnection into demand-related and supply related components. The ISO tariff's dual-use formula, as applied by the AESO in its CCD, simply splits a single bucket of participant-related costs into DTS and STS based on the STS and DTS contract

capacities established at the transmission interconnection. This simplified approach may work for a dual-use customer connected directly to the transmission system, as they are usually the same party for both the load and generation components, but when it is applied to a DFO and its DG customers, there is the potential that a disproportionate amount of the participant-related costs are being incurred as a result of the DFO carrying out its duty to ensure an adequate and reliable level of system access service for load customers. Notwithstanding this fact, the AESO's application of the dual-use formula to such connections simply and mechanically allocates a proportion of those total participant-related costs as supply-related DG based on the STS portion of the substation fraction. This supply-related allocation may be disproportionate when compared to the transmission local interconnection costs that are actually be driven by the DG.

(2) Timing – allocation (or reallocation) of transmission local interconnection costs to supply (STS) after the DG has interconnected:

Sections 8 and 9 of the ISO tariff set out the provisions for the AESO's application of the "dual-use formula" (or "substation fraction"), and there are numerous events that can trigger the AESO to reassess its Customer Contribution Decision (CCD) with respect to a project or substation. As a result, both the DGs and the respective DFO are at risk of the AESO reassessing its CCD for a particular project / substation and reallocating the transmission local interconnection costs amongst DTS and STS, creating an ongoing risk that additional charges or refunds may be directed by the AESO between the DFO, DGs and the AESO. In FortisAlberta's view, this creates an unmitigable risk to a DG customer in that they can be exposed to additional transmission interconnection charges, either late in the interconnection process or even after they have connected (in the case of other DFO/DG projects for which the AESO has recently reissued its CCD).

In summary, FortisAlberta anticipates that the approaches adopted by the AESO, and specifically those relating to new methods of calculating the substation fraction, have the potential to adversely impact both Distribution Facility Owners (DFOs) and their customers. The alterations proposed by the AESO in the ID constitute significant changes to practices previously established for the determination of Rate STS and Rate DTS contract components and DG policy, generally. These changes, which result from the AESO's adoption of its new approach to calculating overall substation fractions may result in the imposition of unforeseen and material costs for new and existing DG proponents, and has the potential to retroactively adjust prior DFO contributions to the construction of substation facilities. The likely effects on the economics of DG-related businesses were identified by the Company in its original submission[8].

In FortisAlberta's submission, the potential for harm to new and existing DG proponents, as well as the creation of new risks for DFOs, necessitates that these changes be subjected to the Commission's review within the context of the fully constituted ISO tariff proceeding. The Company further submits that the specific nature of the risks posed support the AESO being directed to refrain from proceeding with application of its new

approach pending the Commission's determination of whether the proposed changes align with the public interest.

9. During the proceeding, the AESO did not acknowledge these Company and DCG customer concerns as problematic, and the Commission subsequently approved the existing substation fraction approach for continued application to DFO-contracted substations and DCG. However, the existing substation fraction approach was originally approved for application to a single supply/demand market participant (dual-use customer) connected at the transmission level and has now been demonstrated to be unworkable for application to the interconnection of DCG as evidenced by the R&Vs of Decision 22942[6].

10. In consideration of the above and through its proposal recommendations, FortisAlberta is trying to achieve a resolution of these stated concerns with respect to the application and administration of the ISO tariff to distribution-connected supply, the current lack of harmonization between the ISO and distribution tariffs, and the resulting adverse impact on DCG development. Secondly, FortisAlberta's proposal provides a potential solution to achieve parity between transmission and distribution-connected supply, which FortisAlberta understands was the AESO's primary objective inherent in its adjusted metering practice document.

3.0 PROPOSAL OF FORTISALBERTA

11. FortisAlberta proposes and makes the following recommendations to the AESO and stakeholders, for purposes of the AESO's determination of a DCG customer's supply-related contribution towards transmission participant-related costs under the ISO tariff. The proposal makes recommendations on required process, timing and level of the provision of this ISO tariff price signal and on the determination and composition of the supply-related (STS) contribution to participant-related transmission costs, as well as how determination of demand-related (DTS) investment and contributions may need to be adjusted to accommodate the supply-related side of its proposal.

[6] Proceedings 24932, 25086, 25101, and 25102.

DFOs duty to arrange for SAS for Load, Irrespective of DCG

12. In order to arrange for system access service from the AIES for its load customers, DFOs require the distribution system to be connected to the bulk transmission system via local transmission system infrastructure (participant-related costs). The interconnection of a DCG project does not change and is independent of this requirement, as under the current industry framework, DFOs do not have the ability to consider DCG as a non-wires alternative and therefore, must plan and development its access to the transmission system for the projected gross load-related capacity requirement when making DTS-related system access service requests (SASRs) to the AESO.

13. In its Proposal Guidelines for Session 2, the AESO indicated that proposers must answer the question: "*Should the AESO or the ISO tariff make a distinction for distribution-connected generation as being different from a DFO or a transmission-connected generation or load?*"

14. FortisAlberta's proposal does not require that the AESO or the ISO tariff make a distinction for DCG, as a separate market participant, as being different from a DFO, or a large transmission-connected generator (TCG) or load. However, the AESO should recognize that at DFO-contracted PODs, there are two very distinctive development activities occurring: (1) DFOs are making SASR requests to the AESO in their duty to arrange for system access service at DFO-contracted substations for their projected load customers' capacity requirements; and (2) DCG proponents are making application to the DFO to interconnect to the AIES which requires the DFO to make request to the AESO for STS capacity (to interconnect and make use of those DFO requested transmission facilities). As such, these two activities are independent of each other, and a DCG cannot control whether a DFO is initiating a DTS connection project, or vice versa: the DFO cannot control when a DCG requests to initiate a DCG interconnection project (requiring an STS contract change). In recognition of this dynamic, FortisAlberta recommends that the AESO and ISO tariff make a distinction between a DFO-contracted POD versus a non-DFO-contracted POD to enable implementation of its proposal.

15. In its Proposal Guidelines for Session 2, the AESO also asked: "How should ISO tariff local investment be implemented given increasing amount of generation added to traditionally load-only point-of-deliveries?"

16. FortisAlberta submits that this is the issue with the AESO's application of the substation fraction method to DFO-contracted PODs, which effectively links the load and supply side of the AESO customer contribution policy through the ratio of STS and DTS contract levels. For the purpose of determining the TFO local investment reduction associated with the contracting of STS at a DFO-contracted POD, FortisAlberta proposes that the AESO's current substation fractioning method is inappropriate and should be abandoned for application to DFO-contracted PODs. Since the STS contract capacity is calculated using minimum load demand of the distribution system, STS does not necessarily coincide with the magnitude of peak DTS peak demand. STS should have little, if any, impact on the DFO DTS contract level and therefore there should be no local TFO investment reduction or increase associated with DFO DTS, until such time that the DFO applies for a DTS contract adjustment.

17. Again, this requires decoupling of the supply and load side (as currently linked by the substation fraction ratio) and local investment in the DFO-contracted POD for load (DTS) purposes should not be reduced or increased as a result of an STS contract change. FortisAlberta therefore proposes that the substation fraction at all DFO-contracted PODs be effectively eliminated by setting the DTS fraction to 1.0. That is, if there are multiple DTS contracts held at a POD (i.e., "split PODs"), the DTS substation fractions should sum to 1.0.

Substation Fraction misaligned with Physical Reality of DTS & STS Capacity Required

18. Further, the transmission power flows and capacity requirements by load and supply are directionally opposite which arithmetically misaligns with the substation fraction formula being calculated as additive of STS and DTS contract capacities in the denominator. While the use of the substation fraction based on DTS and STS contract capacity at the substation may be characterized as a simple and long-standing allocation mechanism for the AESO, it does not

accord with the physical realities of the capacity requirements and power flows of supply and load. Therefore, it does not accord with the principle of cost causation generally.

19. Therefore, FortisAlberta is not supportive of the AESO continuing to allocate additional supply-related costs to DFOs/DCG via the AESO's current substation fraction method. The substation fraction approach was originally approved for application to a single supply/demand market participant (dual-use customer) connected at the AESO transmission level and has proven to be unworkable for application to the interconnection of DCG. The AESO's current application of its substation fraction method at DFO-contracted PODs that effectively treats DFOs as a dual-use market participant should be abandoned. It should be replaced with a more direct allocation method that enables decoupling of the AESO's current contracting practices for STS and DTS at DFO-contracted PODs. FortisAlberta details its recommendations with respect to its proposed supply cost allocation method as follows:

ASIC Contribution Allocation Method for DFO-contracted PODs

20. The AESO should abandon its existing substation fraction method for application to DFO market participants and DFO-contracted substations and replace it with a more direct allocation method that allows the AESO to determine an "Average Supply-related Interconnection Contribution" ("ASIC") for a DCG that is being interconnected to local transmission facilities that already exist for the DFO to serve load (DTS), and where the DFO (on behalf of the DCG) is required to contract for STS for the connecting DCG with the AESO.

21. Abandoning application of the substation fraction for determination of the supply-related contribution for DCG (ASIC) requires decoupling of the load and supply side of the ISO tariff's customer contribution policy, where the supply-related contribution would be determined separately through FortisAlberta's proposed ASIC allocation method while the load side of the AESO's contribution policy (DTS local investment and contribution for TFO/DFOs) could carry on as is, but with a DTS substation fraction of 1.0 for all DFO-contracted PODs.

22. Payment of the ASIC to the TFO via the ISO tariff, which offsets TFO rate base at the POD, requires that the AESO/TFO provide a DTS credit rider to lower DTS charges for the DFO's load customers, which was previously provided by a DTS substation fraction of <1.0 being applied to POD billing determinants/charges.

ISO (and TFO) tariff treatment of ASIC amounts

23. ASIC would be like the AESO's GUOC mechanism for recovery of contributions towards transmission system-related costs from generating units, in that the DCG would have full upfront transparency of its STS contribution towards local transmission costs at time of interconnection. However, unlike GUOC, these STS contributions would be one-time contribution payments and would be non-refundable recognizing the customer-specific nature of local interconnection costs for which they relate. Again, the proposed non-refundable nature of ASIC is consistent and achieves parity with treatment of TCG, who pay for their local interconnection costs on a non-refundable basis at the time of interconnection.

24. ASIC amounts assessed to, and paid by, the DCG proponent would be returned to the TFO via the ISO and distribution tariffs, resulting in an offset to TFO rate base. To ensure that the DFO's load (DTS) customers see the benefit of DCGs' payment of its ASIC contribution reducing the TFO rate base, the AESO (and respective TFO) would then have to calculate a corresponding DTS POD-specific credit rider for the respective POD to ensure that the DFO's load customers see a corresponding decrease in the DFO's DTS POD charges (which was previously addressed by the application of a DTS substation fraction < 1.0 to reduce DTS POD charges for the DFO and its load customers).

ASIC Contribution Timing, Process and DFO Flow-through to DCG

25. FortisAlberta supports the concept of providing consistent, timely and transparent pricing signals to DCG customers. To accomplish this, the AESO should develop a transparent method to directly allocate supply- and participant-related costs (or ASIC) for full flow-through to the

DFO's DCG customers at the time of DCG interconnection (coincident with the DFO's requirement to arrange for STS contract capacity with the AESO).

26. The AESO should alter its tariff on a prospective basis to only determine and assess the supply-related contribution towards ISO tariff participant-related costs (or ASIC) at the time of DCG grid entry (i.e. at the time of establishment, or any change to, the STS contract capacity at the interconnecting POD in excess of 1 MW). This is the only time that the DCG customer can effectively respond to a contribution price signal. This timing also aligns with distribution tariff and customer contribution policy provisions of FortisAlberta and other DFOs to provide transparency and cost certainty to the DCG proponent at the time of interconnection (grid entry).

27. The ASIC, as determined by the AESO at the time of DCG interconnection, should flow through the DFO's distribution tariff and be charged to the DCG in its entirety. The full flow-through of the ASIC retains the integrity of the transmission contribution price signal that the AESO wishes to send to supply generally and would be in accordance with the currently approved flow-through provisions in the DFO tariff's terms and conditions. The full flow-through provision to DCG is also consistent and achieves parity with treatment of transmission-connected generation (TCG) who are required to pay their local interconnection costs as per Section 28 of the Transmission Regulation.

28. For the AESO to determine and assess a transmission contribution to a DCG supply customer after the supply has connected (which is what the existing substation fraction approach may cause) exposes DCG customers to an unmitigable financial risk for which they cannot effectively respond. That is, in the Company's view, the AESO's application of its current substation fraction approach for distribution-connected supply represents a significant barrier to entry for supply wishing to connect at the distribution level generally.

29. The ASIC amount as determined by the AESO would be provided to the DFO and DCG customer prior to the DCG project proceeding, and be flowed through in full by the DFO to the DCG, as the DCG accepts its quoted interconnection costs and elects to proceed with its grid interconnection. From a process perspective, by applying the ASIC at the time of DCG

interconnection would also allow the DFO the opportunity to align and harmonize this STS price signal with the other transmission supply-related price signals being sent to the DCG at the time of interconnection (i.e. GUOC, STS loss factor, and any other supply-related transmission interconnection costs). The proposed timing of the ASIC mechanism would also allow the DFO to align the DCG's distribution interconnection costs with the upfront supply-related transmission cost to create a quotation package for the DCG as contemplated by the DFO's distribution tariff, thus providing transparency and cost/investor certainty for the DCG proponent before proceeding with its project.

Determination of Magnitude / Level of ASIC Contribution to DCG

30. In its Proposal Guidelines for Session 2, the AESO asked: "What is the fair or appropriate methodology to determine minimum facilities required to allow distribution-connected generation access to the transmission grid? Is the fairness methodology an on average calculation across all distribution-connected generators in the province or should the fairness methodology account for differences throughout the province?"

31. FortisAlberta proposes that in addition to GUOC, STS losses factor and the direct interconnection costs of required modifications to the transmission and distribution systems to accommodate the connection of DCG to the AIES, an average supply-related cost assessed to DCG customers would send an appropriate price signal and provide parity with cost treatment of transmission-connected generation. This aligns with the present practice of DFOs requiring associated costs to be allocated to a DCG project that causes an upgrade to distribution system infrastructure.

32. As such, FortisAlberta proposes that the AESO calculate ASIC to satisfy the AESO's objective of attaining parity between DCG and transmission-connected generation's (TCG). In other words, TCG is required to incur "local interconnection costs" or costs that TCG must incur to build their own transmission substation/interconnection. Therefore, in the Company's view, DCG should be exposed to the same level of transmission costs upon interconnection to retain parity. To accomplish this, rather than the AESO determining the magnitude of supply-related

contribution towards ISO tariff participant-related costs based on the simple ratio of STS/DTS contract capacities and an ongoing 20-year consideration of DTS connection project costs/investments as is currently done, the AESO should determine the supply-related contribution or ASIC based on a case-by-case technical cost analysis and allocation (direct assignment) at the time of DCG grid entry, and these average costs should be in today's dollars. This would include the AESO applying its discretion with respect to the contribution allocation of transmission costs with collaborative input, reverse power flow analysis and costing support from the respective TFO/DFOs as required.

33. Supply-related costs should be determined via a technical assessment of the transmission facilities that are electrically utilized to interconnect DCG to the AIES bulk system. This assessment and allocation would be the responsibility of the AESO, as the party responsible for the Alberta transmission system planning function. Wires companies (the TFOs and DFOs) should also have a supporting role to play in collaboratively assisting the AESO in the assessment of appropriate supply-related cost allocation. TFOs would use discretion to identify the average installation costs related to the components of the transmission system infrastructure that are utilized to accommodate reverse power flow resulting from DCG exported power. Similarly, at the time of establishment of, or change to, an STS contract capacity at a particular POD (i.e., at time of DCG interconnection), DFOs would use their discretion to identify the forecast DCG reverse power flow (i.e., supply-related) peaks on the components of the transmission system infrastructure that are being utilized for reverse power flow.

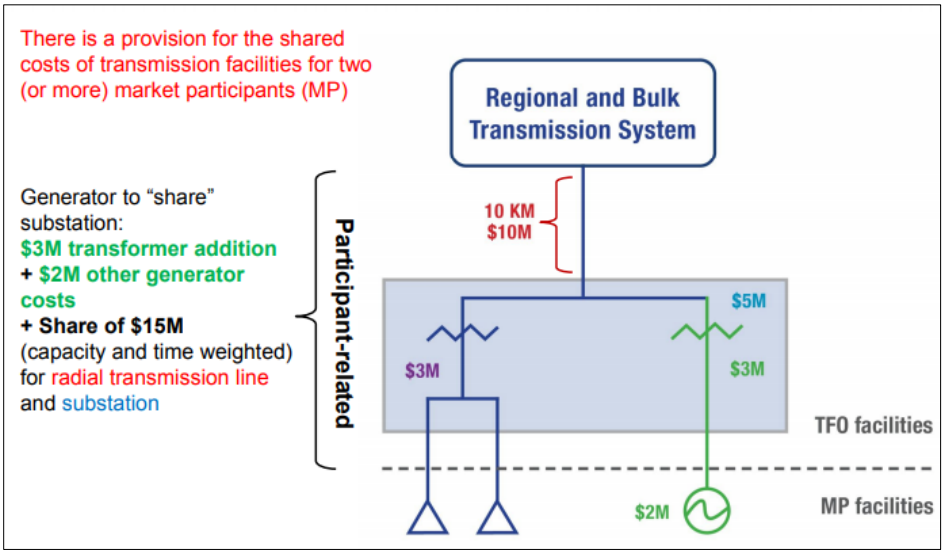
34. Pricing signals limited to average participant-related supply costs of only those transmission system components forecast to be utilized by the DCG's associated reverse power flow follows the principles of cost causation. This allows partial allocation of the installed costs of existing local transmission infrastructure components that are required for the connection of a DCG to be borne by the DCG customer. The supply-related price signals developed by the AESO would be flowed through to DCG customers via the DFO in accordance with the DFO's tariff.

35. In contrast to the current AESO substation fractioning method, the Company's proposed method provides a more representative allocation of costs based on actual projected usage of

transmission components by supply-related DCG customers. This proposal more closely aligns with treatment of transmission connected generation, where only costs of local transmission facilities that are utilized by the transmission connected generators are paid for, in part, by the generator. This concept was outlined by the AESO's Session 1 presentation, where the AESO demonstrated that subsequent market participants would only be allocated the portion of costs of shared local transmission system components that are utilized by them.

36. Figure 1 below is reproduced from the AESO's session presentation and illustrates the AESO's current allocation of costs for shared local transmission system components.

Figure 1 AESO' Current Method of shared local transmission infrastructure costs



FortisAlberta's proposal introduces a fair and appropriate method to determine the minimum facilities required to allow distribution-connected generation access to the transmission grid. The recommended method would be applicable across all distribution-connected generators and DFO-contracted substations in the province.

37. In the case of a DCG project where the proponent requires use of existing local transmission infrastructure previously constructed for DFO load customers (the most common default case), the AESO should work with the TFOs and DFOs to develop an average province-wide supply-related contribution schedule ($/supply-related capacity (MW)), which will form part of the ISO

tariff and could be reviewed/adjusted annually in the AESO's annual tariff update applications. This ASIC Schedule, once established, will allow the AESO to determine the supply-related contribution amount for the interconnecting DCG at the time of interconnection of the DCG and STS contracting between the DFO and the AESO.

38. In the Company's view, the ASIC Schedule should be comprised of two local transmission cost components: 1) the distribution voltage feeder breaker(s) and bus; and 2) the POD substation stepdown transformer, breaker(s) and bus. To align with the AESO's objective of attaining parity between DCG and transmission-connected generation (TCG), cost of existing local transmission line that connects the POD substation to the AIES bulk and regional transmission system should not be included as a cost component of ASIC. Development of the ASIC Schedule will require the AESO (with support from the respective TFO and DFO) to determine average local interconnection costs by component and to determine the forecast reverse power flows and supply's (DCG's) use of each of the POD components. The forecast power flows for supply and demand through each POD component, as used in the ASIC allocation analysis, should consider average load factors and supply capacity factors for each transmission element and should be consistent with the levels used in the establishment of the STS contract capacity levels at the interconnecting POD as per the ISO tariff.

Direct Assignment of any DCG Project Interconnection Costs

39. The ASIC would be assessed to the DCG in addition to any incremental supply-related interconnection costs associated with any new local transmission facilities that are expressly required to be constructed to serve the supply customer. That is, in the case of new incremental transmission infrastructure being required or costs incurred for a DCG project (for example, TFO protection and controls, interconnection studies, etc.), FortisAlberta recommends that this too will require identification and direct allocation to the DCG proponent of these costs by the AESO and respective TFO/DFO, as these direct interconnection costs of modifications to the transmission system are required to accommodate the interconnection of the DCG to the AIES. In assessing the direct assignment of any DCG Project Interconnection Costs, the AESO will

have to include provisions in its tariff that provide the AESO the discretion to ensure that these costs are not double counted when combined with the ASIC allocation.

3.1 Timing

40. DCG customers should be provided with a transparent preliminary supply-related POD cost allocation price signal during the initial project planning stages of their DCG projects. This enables the provision of upfront project cost certainty required by DCG customers for DCG project development. A subsequent final supply-related POD cost allocation price signal should be confirmed by the AESO as a deliverable of Stage 1 of the AESO Behind-the-Fence (BTF) or Connection Process via a document similar to the existing Stage 1 Construction Contribution Decision (CCD issued by the AESO).

41. Costs should not be, subsequently, added to the upfront supply-related price signals provided at the time of DCG connection. Similarly, additional costs should not be allocated to DCG customers as a result of local transmission system upgrades after the interconnection of the DCG. An exception would be in the case(s) of DCG modifications that result in the requirement of local transmission system upgrades. An example of this would be when a DCG proponent implements an increase in exported power onto the grid. In that example the DCG would be allocated the cost to complete local transmission upgrades required to accommodate the increase of power export by the DCG. In the Company's view, this is a fair approach to allocation of transmission component costs to the entity, demand or supply-related, causing the need for the upgrade.

42. Additionally, receipt of upfront transparent cost causation price signals informs DCG customers decisions in their DCG value proposition assessment in regard to siting and locational costs of the DCG projects.

3.2 Process Flow

43. This section describes the twelve-step process flow of FortisAlberta's proposal.

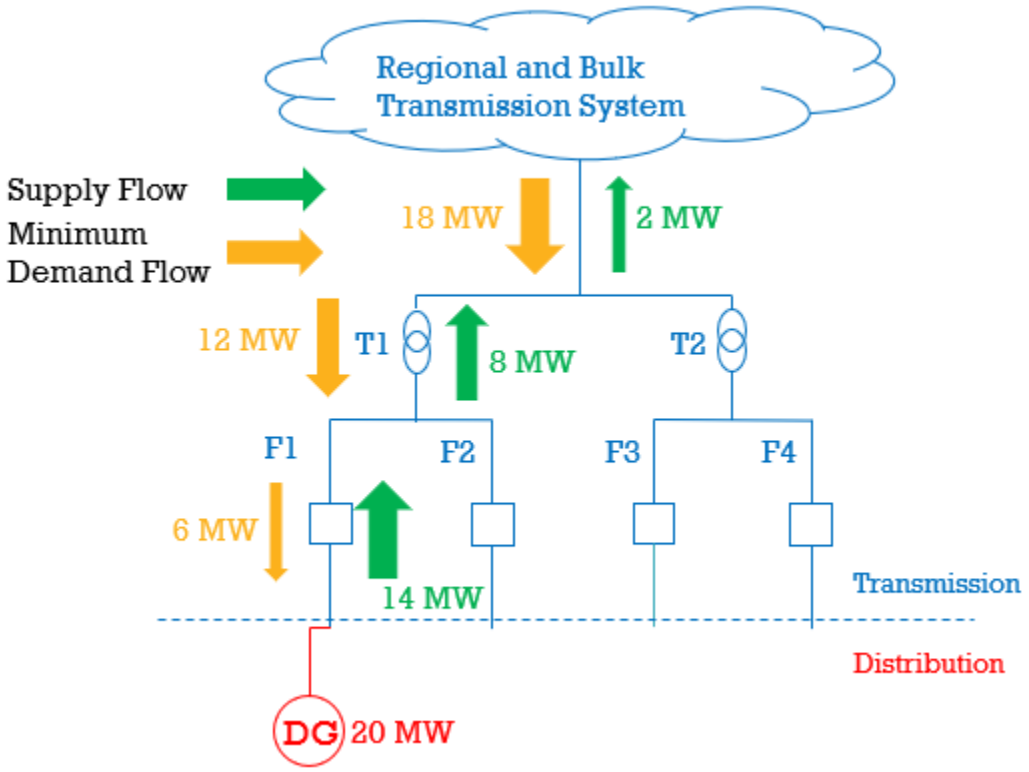
44. Application for a DCG connection to the distribution system would trigger both a technical assessment of the connection by the DFO and the associated assessment of supply-related costs. Assessment results related to maximum allowable DCG export, distribution interconnection costs, and supply-related cost estimates would then be communicated to the DCG customer. This enables provision of timely and transparent pricing signals. Supply-related price signals will be based on allocation of average project costs expended for common transmission components required to connect DFO load customers and DCG customers to the AIES bulk transmission system.

45. The Company's proposal consists of: (1) determination by the DFO of the forecast magnitude of reverse power flow that would occur on individual local transmission system infrastructure components; (2) determination by the DFO of historical load factors for individual local transmission system infrastructure components; (3) determination by the AESO of forecast capacity factor of the subject individual DCG; (4) determination by the AESO, in collaboration, with TFOs of average installed costs of the individual local transmission system infrastructure components; (5) determination by the AESO, in collaboration, with TFOs of the average reverse power flow capability of the individual local transmission system infrastructure components; and (6) calculation of a supply-related cost allocation per MW for individual local transmission system infrastructure components. FortisAlberta's proposal separates the individual local transmission system infrastructure components into two categories: 1) distribution voltage feeder breaker(s) and bus; and 2) the POD substation stepdown transformer, and transmission voltage breaker(s) and bus. FortisAlberta has not included the cost of existing local transmission line that connects the POD substation to the AIES bulk transmission system in the following process steps and examples of the Company's proposal. As stated above, it is the Company's view that non-inclusion of the existing local transmission line cost is consistent with the AESO's current treatment of these costs for TCG. If the AESO deems it necessary to include an ASIC cost component related to the existing local transmission line, the AESO could determine the associated average transmission line costs. These average costs could then be allocated to DCG projects similar to the process detailed below for the cost allocation for the distribution voltage

feeder breaker and the POD transformer.

46. **Process Step 1:** The DFO completes a power flow assessment of minimum load flow in order to determine peak reverse supply flow on the individual transmission components. Figure 2 illustrates a possible result of an example power flow assessment related to a 20 MW DCG connection request. The power flow assessment utilizes metered annual minimum load flows on the local transmission infrastructure components and the maximum allowable export of the DCG onto the distribution system. Reverse power flows are calculated based on subtracting the minimum load flows on the transmission components from the maximum allowable export of the DCG. Additionally, the reverse power flow analysis accounts for the existing DCG connected to the same POD substation and the additional DCG projects in the connection queue.

Figure 2: Example of a Resultant reverse power flow assessment



47. **Process Step 2**: The DFO determines historical load factors for the individual local transmission system infrastructure components. Load factor is calculated as the average metered load divided

by the peak load during the previous DFO planning year. Average load is the average of all interval meter reads with values within the range between the calculated minimum load used in Process Step 1 and peak load. The peak load is the maximum metered load on the related transmission system component during operation of the distribution system in its normal configuration.

48. **Process Step 3:** The AESO determines the forecast capacity factor of the subject individual DCG based on the AESO's historical local system averages associated with the generation design characteristics and fuel source.

49. **Process Step 4:** Using the respective local transmission system component load factor and the DCG capacity factor, the AESO determines the DCG Utilization Factor (UF), per transmission system component. The UF considers the percentage of time that the individual transmission components experience reverse power flow (supply-related usage) resultant from DCG output. The UF represents the forecasted reverse power flow as a percentage of the combined forecasted average forward (i.e. DCG output is less than the coincident load level) and reverse power flows (i.e. DCG output exceeds the coincident load level). This is calculated by dividing the average reverse power flow energy by the sum of average forward and reverse power flow energy magnitudes. The DCG UF, per component, is calculated using the following formulas:

$$UF_{breaker}=(CF_{DCG} \times MRP_{breaker})/[(CF_{DCG} \times MRP_{breaker})+(LF_{breaker} \times PL_{breaker})]$$

$$UF_{trans}=(CF_{DCG} \times MRP_{trans})/[(CF_{DCG} \times MRP_{trans})+(LF_{trans} \times PL_{trans})]$$

Where:

$UF_{breaker}$ = *Utilization factor of the distribution voltage breaker*

CF_{DCG} = *Capacity Factor of the DCG*

$MRP_{breaker}$ = *Maximum reverse power on the breaker*

$LF_{breaker}$ = *Load factor of the distribution voltage breaker*

$PL_{breaker}$ = *Peak load of the distribution voltage breaker*

MRP_{trans} = *Maximum reverse power on the stepdown transformer*

LF_{trans} = *Load factor of the stepdown transformer*

PL_{trans} = *Peak load of the stepdown transformer*

50. **Process Step 5:** The AESO, in collaboration with the TFOs, predetermines a system-wide average cost of the two individual transmission system components: distribution voltage feeder breaker and bus; and POD substation stepdown transformer, breakers and bus.

51. **Process Step 6:** The AESO, in collaboration with the TFOs, determines the maximum average reverse power flow capability of the two individual local transmission system components. Typically, the maximum reverse power flow capability at the distribution voltage feeder breaker and bus would be equal to the breaker terminal capacity. The maximum reverse power flow capability at the POD substation stepdown transformer, breakers and bus should, typically, be equal to the reverse power flow capability of the stepdown transformer.

52. **Process Step 7:** From the above calculated average installed cost and average reverse power flow capacity of the two transmission components, a supply-related cost allocation would be calculated by dividing the average cost of each component by the average reverse power flow capacity of each component.

53. **Process Step 8:** Supply-related costs are then allocated to a DCG project based on the following formula:

$$ASIC = ASIC_{breaker} + ASIC_{trans}$$

$$ASIC = [(RP_{breaker} \times \$/MW_{breaker}) \times UF_{breaker}] + [(RP_{trans} \times \$/MW_{trans}) \times UF_{trans}]$$

Where:

ASIC = Average Supply-related Interconnection Contribution

$ASIC_{breaker}$ = Average Supply-related Interconnection Contribution for the distribution voltage breaker = $[(RP_{breaker} \times \$/MW_{breaker}) \times UF_{breaker}]$

$ASIC_{trans}$ = Average Supply-related Interconnection Contribution for the POD stepdown transformer = $[(RP_{trans} \times \$/MW_{trans}) \times UF_{trans}]$

$RP_{breaker}$ = Reverse power flow on the distribution voltage breaker

$\$/MW_{breaker}$ = Average cost per MW of reverse power flow on the distribution voltage breaker

$UF_{breaker}$ = Utilization factor of the distribution voltage breaker

RP_{trans} = Reverse power flow on the stepdown transformer

$\$/MW_{trans}$ = Average cost per MW of reverse power flow on the stepdown transformer

UF_{trans} = Utilization factor of the POD stepdown transformer

54. **Process Step 9:** AESO provides a supply-related contribution document similar to a CCD that identifies the total required supply-related contribution.

55. **Process Step 10:** DFO invoices the DCG developer for all supply-related contributions prior to connection and energization of DCG.

56. **Process Step 11:** TFO invoices DFO, for any additional DCG customer contribution required.

57. **Process Step 12:** No future cost allocation of transmission components would be allocated as supply-related unless future transmission upgrades are driven directly by the DCG customer or the DCG export capacity increases.

Response to Other AESO Questions:

58. In its Proposal Guidelines for Session 2, the AESO indicated the proposers must answer the question: How can distribution-connected generation optimize distribution or transmission facilities by either their connection or their supply? And How can the value or optimization of distribution or transmission facilities be determined?

59. FortisAlberta's proposal to charge supply-related transmission contributions (ASIC) to DCG proponents based on average local transmission costs and the supply's use of those local facility components provides a marginal cost-based price signal to the DCG to optimize its interconnection to the AIES. The ASIC price signal, as proposed to be calculated by FortisAlberta, also incents DCG to locate its interconnection to the system to PODS that are already serving load, thus deferring the need for incremental transmission facilities from being built to serve the DCG.

60. FortisAlberta's proposal does not include "value to the grid" price signals being afforded to DCG as that should be discussed within the context of the DCG acting as a non-wire alternative (contractually obligated to the wires owners to perform for the purpose of fulfilling a transmission wires need). FortisAlberta considers discussion of non-wire alternatives as outside the scope of these proposals.

61. The AESO also asked: "Can the proposal be implemented within the existing ISO tariff provisions? If not, what will need to be changed?"

62. No, Sections 8 and 9 of the ISO tariff will have to be reviewed and adjusted by the AESO to introduce language that codifies whatever proposal the AESO ultimately seeks approval for from the Commission.

63. With respect to FortisAlberta's proposal, if accepted, the AESO should propose and gain AUC approval for alterations to the ISO tariff (terms and conditions, rates and riders), to affect the proposal for the different customer contribution treatment of DFO-contracted PODs. Further, the Company also recommends that the AESO develop an Information Document to make its contribution policy, contracting, timing and queuing processes more clear, consistent and transparent for DFOs and DCG. Such a document should set out the AESO's contracting practices with respect to both STS and DTS and the timing of its administration of its tariff's customer contribution policy at DFO-contracted PODs.

3.3 Process Calculation Examples

64. This section provides two examples to demonstrate the process to monetize DCG usage of existing local transmission infrastructure components that enables connection to the AIES bulk transmission system (i.e. process steps 1 to 8). Example 1 monetizes DCG usage of only the distribution voltage feeder breaker/bus. Example 2 monetizes DCG usage of all components of the existing local transmission infrastructure components that enables connection to the AIES bulk transmission system.

65. The example assumptions used to monetize the DCG usage include:

Transmission Component	**Average cost**	**Average maximum reverse power flow capacity**
Distribution voltage feeder breaker and bus	$1.0M	25 MW
Substation stepdown transformer, breakers and bus	$3.6M	40 MW

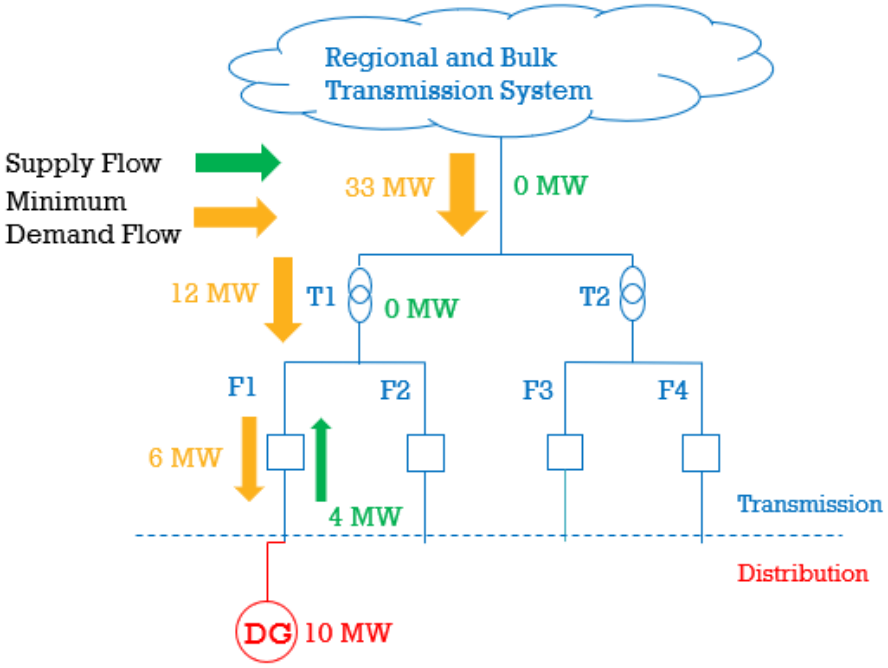
*The assumed average costs and capacity ratings presented in this table are for illustration purposes only. Actual average cost and reverse flow capacity of transmission components need to be determined by the AESO in consultation with Alberta TFOs.

Example 1 – Reverse power flows only at the distribution voltage feeder/bus level

66. In this example, and as illustrated in Figure 3, the DFO power flow assessment determined the following magnitudes of peak reverse power flows and load factors. It is also assumed that for this example, the DCG is wind powered and the AESO determined that the DCG capacity factor is 0.33.

	Peak Reverse Power Flow (MW)	Peak Load (MW)	Load Factor
Breaker	4.0	12.0	0.64
Transformer	0.0	27.0	0.77

Figure 3:



67. Using the example assumptions identified above, the resulting required DCG usage contribution is $24k.

68. The required DCG usage contribution for Example 1 was determined using the following worksheet calculator that includes the example assumptions listed above and the determined magnitude of peak reverse power flow.

Utilization Factor Calculation:

Component	(w)	(x)	(y)	(z)	(w*x)/[(w*x)+(y*z)]
	Maximum Component Reverse Power (MW)	DCG Capacity Factor	Peak Component Load	Load Factor	Utilization Factor
(1) Distribution voltage feeder breaker	4.0	0.33	12.0	0.64	0.15
(2) POD Substation Transformer	0.0	0.33	27.0	0.77	0.00

Average Supply-Related Interconnection Contribution (ASIC) Calculation:

Component	(a) Step 1	(b) step 4	(c) Step 5**	(d) Step 6	(e) Step 7 (c/d)	(e) Step 8 (a x b x e)***
	Magnitude of Reverse Power flow (MW)	Utilization Factor	Ave installed cost ($k)	Capacity (MW)	Installed cost per MW ($k)	Required DCG Usage Contribution ($k)
(1) Distribution voltage feeder breaker	4.0	0.15	$1,000	25	$40	$24
(2) POD Substation Transformer	0.0	0.14	$3,600	40	$90	$0
Total required DCG usage contribution of all components ($k)*						**$24**

* Sum of (1e) and (2e)

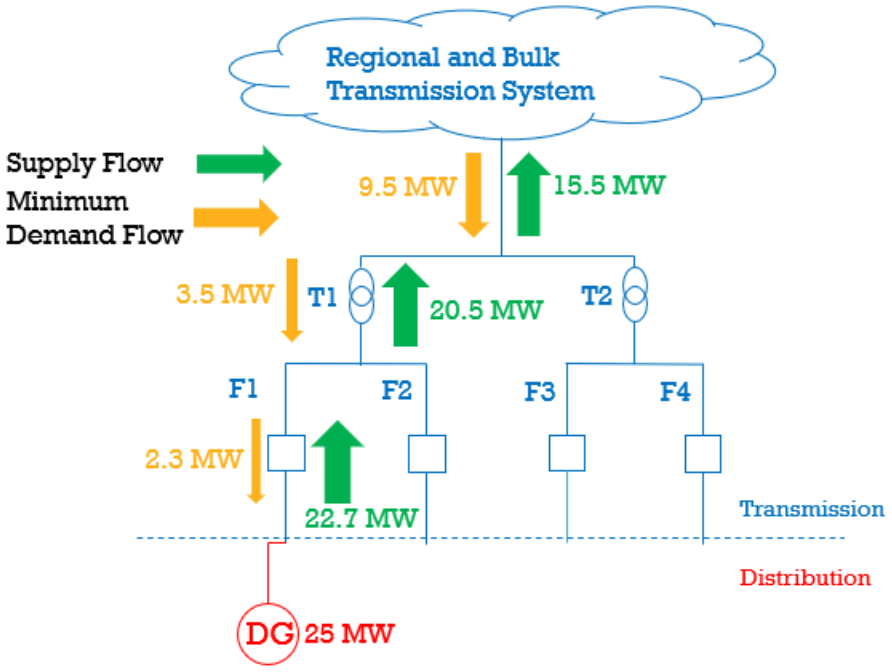
requires input

Example 2– Reverse power flows into the Bulk Transmission System

69. In this example, and as illustrated in Figure 4, the DFO power flow assessment determined the following magnitude of peak reverse power flows and load factors. It is also assumed that for this example, the DCG is wind powered and the AESO determined that the DCG capacity factor is 0.33.

	Peak Reverse Power Flow (MW)	Peak Load (MW)	Load Factor
Breaker	22.7	5.0	0.71
Transformer	20.5	12.0	0.87

Figure 4:



70. Using the example assumptions identified above, the resulting required DCG usage contribution is $1.3 million.

71. The Example 2 required DCG contribution was determined using the following worksheet calculator that includes the example assumptions identified above and the determined magnitudes of peak reverse power flow.

Utilization Factor Calculation:

Component	(w)	(x)	(y)	(z)	(w*x)/[(w*x)+(y*z)]
	Maximum Component Reverse Power (MW)	DCG Capacity Factor	Peak Component Load	Load Factor	Utilization Factor
(1) Distribution voltage feeder breaker	22.7	0.33	5.0	0.71	0.68
(2) POD Substation Transformer	20.5	0.33	12.0	0.87	0.39

Average Supply-Related Interconnection Contribution (ASIC) Calculation:

Component	(a) Step 1	(b) step 4	(c) Step 5**	(d) Step 6	(e) Step 7 (c/d)	(e) Step 8 (a x b x e)***
	Magnitude of Reverse Power flow (MW)	Utilization Factor	Ave installed cost ($k)	Capacity (MW)	Installed cost per MW ($k)	Required DCG Usage Contribution ($k)
(1) Distribution voltage feeder breaker	22.7	0.68	$1,000	25	$40	$616
(2) POD Substation Transformer	20.5	0.39	$3,600	40	$90	$725
Total required DCG usage contribution of all components ($k)*						**$1,342**

* Sum of (1e) and (2e)

requires input

3.4 Jurisdictional Review

72. FortisAlberta views its proposal to assess a contribution upfront to a customer for interconnection to the system with the inclusion of incremental supply-related interconnection costs associated with any new local transmission facilities that are expressly required to be constructed to serve the supply customer, as being consistent with most customer contribution policies and mechanism in most jurisdictions.

73. Conversely, FortisAlberta is unaware of any other jurisdiction that utilizes the AESO's currently approved substation fraction method or implements the AESO's recent requirement to allocate costs of existing transmission system infrastructure to DCG.

4.0 IMPLICATIONS OF PROPOSAL

4.1 Benefits

75. The benefits attributable to FortisAlberta's proposal are as follows:

- Provides a pathway for the AESO to effectively resolve the stated DFO/DCG concerns with respect to the application and administration of the ISO tariff, particularly as it relates to application of the ISO tariff's contribution policy, to DFO-contracted substations and distribution-connected supply (DCG).
- Improves harmonization and timing of transmission price signals sent by the ISO tariff for flow-through distribution tariffs to end-use DCG customers.
- Removes the unmitigable risk, and the resulting adverse impact on DCG development, that was imposed by the AESO's practice of applying its substation fraction approach for DFO-contracted PODs.
- Provides a potential solution to achieve parity between transmission and distribution-connected supply, which FortisAlberta understands was the AESO's primary objective inherent in its adjusted metering practice document.
- Provides investor and cost certainty for DCG proponents with respect to transmission contributions assessed by the AESO in accordance with its tariff at the time of DCG interconnection, and decouples these supply-related costs from the DFO's arrangement of system access service for load (DTS) at DFO-contracted PODs. This eliminates the possibility of transmission contribution costs being assessed to DCG after they have interconnected or the AESO clawing back transmission investment to DFO load customers in the event of DCG interconnection at a pre-existing POD.
- Confirms the flow-through nature of transmission costs through distribution tariffs for DFOs.
- Aligns with the tariff making principles established by parties in Session 1.

4.2 Costs / Risks

76. The costs and risks associated with FortisAlberta's proposal are primarily implementation costs associated with the AESO's implementation of the proposal, in that it would require extensive upfront cost analysis to be undertaken by the AESO, TFOs, and DFOs working collaboratively to establish the development of the ASIC schedule in the ISO tariff.

77. It would require the AESO to propose language in its tariff to differentiate between the application of its ISO tariff customer contribution policy to DFO-contracted PODs versus non-DFO-contracted PODs and to codify the ASIC mechanism in its tariff. The AESO (with the assistance of the respective TFO) would also have to design POD specific riders in its ISO tariff as a means to compensate the DFO's load customers in the form of lower DTS POD charges for the DCGs' payment of ASIC (i.e. offsetting TFO rate base at these DFO-contracted PODs).

78. In order to minimize the implementation risk associated with amending the ISO tariff to abandon the substation fraction approach and implement the proposal, it would be helpful for the AESO to develop an Information Document (ID) to make its CCD timing and contracting practices and policies more clear, consistent and transparent for its DFO and DCG customers.

4.3 Evaluation of Proposal against the AESO Principles

79. FortisAlberta is generally supportive of the high-level principles provided by the AESO in Session 1 and finds that its proposal aligns with each of these principles for purposes of determining transmission contributions associated with ISO tariff participant-related costs for DFO-contracted PODs and DCG:

AESO Principles	FortisAlberta Proposal Alignment
AESO Overarching Principle Tariff design and implementation facilitates a fair, efficient and openly competitive market (FEOC) • Fosters competition and encourages new market entry • Efficiency • Avoidance of undue discrimination • Fairness	✓
1. Parity between transmission interconnection costs calculation for transmission connected customers and distribution connected customers • Fairness • Effective price signals	✓
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	✓
3. 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	✓
4. DFOs should be provided with reasonable certainty re: cost treatment/recovery • Certainty of future costs • Stability	✓

4.5 Impacts by Stakeholder

80. The following provides a summary of the impacts of FortisAlberta's Proposal by stakeholder.

4.5.1 Impact on DCGs

81. For its DCG customers, FortisAlberta's Proposal:

- Removes the unmitigable risk and the resulting adverse impact on DCG development, that was imposed by the AESO's current practice of applying its substation fraction approach for DFO-contracted PODs.
- Provides a fair, effective and timely price signal to DCGs that can only be effective when the DCG proponent is aware of the costs it would be subject to, prior to proceeding with its project and the DCG and wire owners being required to deploy capital. It also does not attempt to allocate additional STS-related contribution costs (or costs properly attributable to load (DTS)) after interconnection unless STS levels (related to their project) change.
- Provides a cost causation based transmission price signal to DCGs at time of interconnection for transmission interconnection costs for DCG, consistent with the long standing tariff practice in Alberta that generators pay their full T&D interconnection costs when interconnecting to the grid, as well as achieving parity with the costs a similar sized TCG customer would pay/incur when interconnecting to the AESO/transmission system directly.

4.5.2 Impact on DFOs

82. FortisAlberta's proposal impacts DFOs by requiring them to confirm that their distribution tariff terms and conditions and associated DCG customer interconnection processes are aligned with the amended ISO tariff to harmonize and synchronize timing of transmission price signals sent by the ISO tariff for full flow-through in distribution tariffs to end-use DCG customers at the time of interconnection. In distribution tariffs, DFOs may also want to establish corresponding STS contract levels in DCG interconnection agreements that mirror SAS agreements with the AESO.

83. Under this Proposal, DFOs will also have to play a supportive role in assisting the AESO to determine the reverse power flows and utilization factors through each transmission component for purposes of the AESO determining the respective ASIC allocation attributable to an interconnecting DCG.

84. The Proposal also confirms flow-through treatment of transmission costs through distribution tariffs, consistent with section 47(a) of the Transmission Regulation, thus removing any need for DFO "discretion" which implied that the DFO should interfere with the AESO's transmission cost allocation to its supply customers.

85. Lastly, with the DTS substation fraction being maintained at 1.0 for all DFO-contracted PODs, irrespective of the level of DCG (and STS) being interconnected at the POD, the ISO tariff's contribution policy for the DFOs' DTS load requirements will decoupled from STS requirements and therefore remain stable and not adjusted in the event of DCG interconnection at that POD (i.e. no claw-back of AESO local investment as was the case when applying the substation fraction).

4.5.3 Impact on AESO

86. FortisAlberta's Proposal impacts the AESO by requiring the AESO to propose provisions in its tariff to differentiate between the application of its ISO tariff customer contribution policy to DFO-contracted PODs versus non-DFO-contracted PODs and to codify the ASIC levels and mechanism in its tariff.

87. The AESO (with the assistance of the respective TFO) would also have to design POD-specific riders in its ISO tariff as a means to compensate the DFO's load customers in the form of lower DTS POD charges for the DCGs' payment of ASIC (i.e. offsetting TFO rate base at these DFO-contracted PODs).

88. In order to minimize the implementation risk associated with amending the ISO tariff to abandon the substation fraction approach and implement the proposal, it would also be helpful for the

AESO to develop an Information Document (ID) to make its CCD timing and contracting practices and policies more clear, consistent and transparent for its DFO and DCG customers.

89. Lastly, given that any proposals accepted by the AESO and applied for to the Commission should only be approved for effect on a prospective basis, the AESO will need to determine and propose transitional provisions in its tariff application to ensure the fair treatment of DCGs (and DFOs) for any CCDs that it has previously issued to DFOs/DCG using it current substation fraction approach. This may require some sort of grandfathering provisions or recalculation of these CCDs for DTS and STS (ASIC) purposes.

4.5.4 Impact on TFOs

90. Under the Proposal, TFOs would be required to assist the AESO to determine the average transmission costs by component (feeder breakers and bus, substation transformer and local transmission line (if applied) for purposes of the AESO determining the respective ASIC allocation schedule to be applied to interconnecting DCGs as per the ISO tariff.

91. TFOs will be required to support the AESO in designing the POD-specific credit riders in its ISO tariff as a means to compensate the DFO's load customers in the form of lower DTS POD charges for the DCGs' payment of ASIC (i.e. offsetting TFO tariff rate base at these DFO-contracted PODs).