Participant-Related Costs for DFOs (Substation Fraction) and DFO Cost Flow-Through Technical Session 3 on June 25, 2020

I. Purpose of this session

The purpose of this session was to:

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

II. Session agenda

Time	Agenda Item	Presenter
9:00 – 9:15	Welcome, Introduction and Session Objectives	Stack'd / AESO
9:15 – 11:00	Learnings and emerging conclusions • What we learned through the engagement • How we are using those learnings (i.e., emerging conclusions) • Clarifying questions	AESO
11:00 – 11:20	Next steps	AESO
11:20 – 11:30	Session close out	Stack'd / AESO

III. Attendees

Company
Acestes Power ULC
Alberta Electric System Operator (AESO)
Alberta Energy
Alberta Newsprint (ANC)
Alberta Utilities Commission (AUC)
AltaLink Management Ltd.
ATCO Electric Ltd.
Best Consulting Solutions Inc.
Blake, Cassels & Graydon LLP
BluEarth Renewables Inc.
Candor Engineering Ltd.
Capital Power

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Company
CCA
Chymko Consulting Ltd.
City of Edmonton
Denis Forest Consulting Inc.
DePal Consulting Limited
Dizrupt Energy
Elemental Energy Renewables Inc.
EPCOR Distribution & Transmission Inc.
FortisAlberta Inc.
Government of Alberta
Green Cat Renewables Canada Corporation
Innogy Renewables Canada Inc (DCG Consortium member)
Industrial Power Consumers Association of Alberta (IPCAA)
Irricana Power Generation
Kalina Distributed Power
Lionstooth Energy Inc.
Longspur Developments
Northstone Power Corp.
Osler, Hoskin & Harcourt LLP
Peters Energy Solutions
Power Advisory LLC
Signalta Resources Ltd.
Solar Krafte Utilities Inc.
Suncor Energy Inc.
TC Energy Corporation
URICA Asset Optimization
Utilities Consumer Advocate (UCA)
Wolf Midstream
Stack'd Consulting, Inc.

IV. Discussion summary

Few participants were unilaterally supportive of the AESO's changed direction in its proposal. While many participants recognized and signaled support for the AESO's new position (i.e., addressing some of the

outstanding concerns through the distribution tariff and using discussions like the Distribution System Inquiry to resolve some of the root issues in the market today) many still held reservations, most notably that (1) the proposed approach creates an asymmetry between transmission connected generation (TCG) and distribution connected generation (DCG) for the period of time until the distribution tariff is revised; and, (2) the proposed approach creates challenges with cost allocation through the previous years in question.

It was agreed that the proposal resolves the current unhedged price risk that DCGs face with the existing substation fraction methodology.

Most participants signaled they were still adjusting to what was a shift from the emerging proposal that was presented on May 28 and the new emerging proposal.

V. Detailed summary

Below you will find the questions and answers as they were asked and answered in the session. This is for discussion purposes only.

Q [Power Advisory LLC]: I have a question about slide 31. I just want to make sure I understand where we are going back to when we talk about re-calculating old construction contribution decisions (CCDs) with a rate STS effective December 1, 2015. Are we thinking about projects that went into service on or after that date would get all of their CCDs recalculated, whereas project that were in service prior to that would not get CCDs recalculated even if the CCDs came out recently?

> **A [AESO]**: If we are tying to that direction by the Commission, if there is an invoice that has been held back by Fortis for those projects. My initial review like I stated, looked like December 1, 2015 effective date for a rate STS. There are some projects, just going from memory of very small megawatts like one or two, we can work on those for sure but we are trying to look for the ones that contribute to the most of the 69 megawatts of existing rate STS that is compiled.

Q [Power Advisory LLC]: When you are thinking about rate STS, you are thinking about generators not substation upgrades?

> **A [AESO]:** So if the generator is added, a rate STS contract is issued; let's say December 1, 2015 and then there is an upgrade that happens two years later and a CCD issued, that CCD would then be impacted because the December 1, 2015 CCD had a substation fraction of one

Q [Power Advisory LLC]: I understand that scenario. Maybe I will give you a different scenario: what if the rate STS contract came into effect in 2013, so years before but the substation was upgraded in 2018 and so the CCD is brand new and the costs that are allocated are brand new, the invoices have not been paid yet it is just that the generator has been in-service for a long time; are we saying that those don't qualify for re-calculation.

> **A [AESO]:** That is our initial plan, yes.

Q [CCA]: AESO, you mentioned the refund of contributions, so one question is when incremental DCG connects the refund of contributions would be calculated on something, I am not sure how that is going to be calculated. The other reason, you also mentioned participant-related costs, there would no longer be the DCG charge to incremental DCG but would there still be some form of participant-related cost for DCG?

A [AESO]: Only for incremental costs that their connection causes. So participant-related costs driven by their connection would be charged directed to the distribution facility owner (DFO) to be paid through the DCG

Q [CCA]: Would that then include both system-related and point-of-delivery (POD) substation-related costs or how would that be calculated?

A [AESO]: IF the DCG or rate STS addition or incremental increase at a substation results in system costs. If it is system related, it is system related.

Q [Irricana Power]: I had a question about slide 26. So the substation fraction is one, let's say where there is only D load, does that mean there is a different substation fraction process for feeders with multiple DCGs

A [AESO]: There would be a substation fraction accounting for DTS and STS, if the market participant at the DFO substation was a transmission connected industrial customer

Q [Irricana Power]: So if there is more than one DCG the substation fraction is still one?

A [AESO]: Yes.

Q [IPCAA]: If I was to summarize this, the way it sits now until changes are made in the distribution tariff; the direct transmission connected generator has to pay for the connection but they no longer have an unhedged risk where as a distribution connected generator now has no payments at all until the distribution tariff changes? There is an asymmetry here. You have created a total asymmetry until the distribution tariff changes.

A [AESO]: Can you repeat the first part of your question?

Q [IPCAA]: If I am a transmission connected generator, I have to pay for that connection and if somebody else has built, I have to give them some money back for that, is that correct? But they don't have an unhedged risk going forward?

A [AESO]: Yes and yes.

Q [IPCAA]: With the distribution connected generator, they didn't pay for any connection but they had an unhedged risk right? There was an asymmetry.

A [AESO]: Correct.

Q [IPCAA]: Now the distribution connected generator does not have an unhedged risk, that has gone away and they don't pay for any connection until the distribution tariff changes. So you have punted it all to the distribution tariff correct?

A [AESO]: They will pay their incremental charges that they cause, but they won't unless there is something added to the DFO's tariff, they wouldn't be paying a charge for the use of the existing infrastructure that was built to meet the DFO load.

Q [IPCAA]: So it means now that there is even a greater incentive to connect to the distribution until the distribution tariff changes. There is a greater incentive to connect to the distribution system on a megawatt basis right?

A [AESO]: Right. I would say it is a different signal because even with the existing substation fraction charge, we would have DCG's mining for substations where there had been no projects in the last 20 years. So it's not whether they are not paying for anything, they were looking for sites where they would not have to be allocated any costs for a prior project but did it result in generation being added at substations where there is value, where it could reduce costs for load.

Q [IPCAA]: But it reduced their unhedged risk. You have eliminated their unhedged risk until something changes in the distribution tariff

A [AESO]: Right, we have removed that future liability so if the DFO wants to make improvements on a substation and the substation fraction allocation, allocated supply related cost of that project to a DCG, that is now gone with the substation fraction now equal to one. If the DFO needed to put facilities in that were required because of more DCG or more rate STS then those costs would be allocated to the DCG

Statement [IPCAA]: So from my perspective, you increased the asymmetry between the transmission connected generator and a distribution connected generator until the distribution tariff changes.

Statement [AESO]: We recognize that and that is why we have tinted our box red. That was not the intention and that is the tradeoff that is captured in how do you address that uncertainty, that unhedged risk that they faced. As we looked it was more identifying that was the substation fraction methodology continuing to be effective as the substation are being used for different purposes as we mentioned. There are a whole range of activities that are occurring in the distribution space and I think there are some areas we need to focus on; DCG's credits being one of them. A strong incentive to locate or signal the DCG system that the value is questionable is that credit incenting something that is creating efficiency for the system and that is a bigger area as an industry that we should be focusing on as opposed to reworking the substation fraction methodology or trying to find an AESO charge in the tariff to address the parity issue I think there maybe other areas/other issues of parity that are better addressed right now first but we do recognize that we are not addressing the parity issues completely by not meeting Principle 1 completely with this proposal

Q [IPCAA]: When there is a huge issue with the distribution credit issue but ultimately when you end up coming to the same conclusion on the distribution credit as the substation fraction that it is a distribution tariff issue and that you'll leave it to the distribution tariff to deal with and just walk away from that?

A [AESO]: No, it is a distribution tariff issue, the AESO has made its comments in the 2018 General Tariff Application (GTA) as well as the Distribution System Inquiry around its use of the effectiveness of the DCG credit but I think what we can control is what we put in the ISO tariff and we landed at a place of the DCG charge, if we put it in the ISO tariff, we could end up with something that looks like DCG credits where it has got a disconnect where if you built it for one reason at a point in time and then everything else around it changed and does it still make sense. We landed at a place we could develop this charge in the ISO tariff but then where will these DFO tariffs go and would it still align with the incentives signals they are trying to send or are we just ending up with a different issue several years from now

Facilitator [Stack'd]: Maybe put another way, I think your observation is fair and really when I hear the AESO talking about the approach its taking, I hear: Yeah, we heard you about the parts that are most broken right now so here is a solution for that but let's not try to tackle it with this scope; there are other better vehicles and mechanisms. So the immediate treatment is going to leave that open for it, I think your point is fair but the intention is to absolutely work and address that. Is it a timing perspective very fair but I would lean more into the intent in that, is that fair AESO?

A [AESO]: Yes, I think the other part is that we are making this proposal but it will require changes to the tariff that the Commission will have to adjudicate on and confirm it is the right balance.

Statement [DePal Consulting Limited]: I just wanted to respond a bit to what IPCAA was talking about, it seems like where we have landed was that the DCG would connect and that they would pay their actual connection cost that they caused to the transmission system and this would be exactly the same as a generator that connects to the transmission system that would pay its actual transmission costs. So a generator might connect to the transmission system with a T-tap or an in-out and if it goes to an in-out it might pay quadruple the cost. So a lot might choose the T-tap and that may be the lower cost of connection and that is what they will have to pay to connect. Similarly now you will have the DCG being connected to the distribution system and paying their actual connection costs they charge on the transmission system, so it seems to me there is parity. They are both paying their actual costs to connect. We are not going to create some fictious cost on DCG's for that theoretically say that it is a fair cost. I think that makes a lot of sense. Just to put another perspective out there I think that the balance you have on the connection costs is appropriate.

Statement [AESO]: I think the example, if I could switch your example a bit. Let's say it's a T-tap connection, if it is to the transmission system then yes the generator has to pay for that connection. If, for example though say it is a T-tap into another generators connection to the transmission system then the shared facility provision in our tariff would mean the generator would also have to pay for a share of the transmission line that would connect to the transmission system and that might be a more appropriate parallel to the distribution system ,where the generator is connecting and they pay their incremental charges to connect to the transmission system but they are not paying a share of the interconnection that exists for the DFO loads

Statement [DePal Consulting Limited]: I don't know that it is a good example that shows something that is comparable because on. I think what we want to charge customers is what they actually cause cost to happen on the system. If a DCG connects and they can do it cheaply on the transmission system, then they pay the actual costs. Now the DCG is still paying its connection costs on the distribution system which can be substantial depending on how much line they have to build but they also have to put in their own substation from a distribution perspective. I would think that the way that you are doing it is fair and appropriate. Now, typically when you have a generator connect with a load at a transmission substation, then typically it is the same customer and then what the AESO wants to do is a substation fraction is ensure that the customer doesn't get full investment for their DTS side. With that so that there is parity there and I think that is appropriate; So I think finding a connection where a generator is going to connect that is not owned by the same company or related in some way through a transaction is going to be hard to find. I think you have landed in a good place and if the distribution firms want to do something different that will be up to them.

Statement [Kalina Distributed Power]: I would like to respond to one of the above comments but also land support to the last speaker's comment. I think it is fair to say that distributed generators not only pay their incremental costs on the distribution system but if there are any upgrades to transmission caused by them; they pay for that as well. I just didn't want to have it mischaracterized that distributed generators get a free ride because they don't and I think what I am seeing here with the revised proposal is certainly a step in the right direction and to your earlier comment, where you are looking to remove barriers to energy, facilitate business in Alberta, I think this is a good step forward.

Statement [IPCAA]: The asymmetry exists but I guess you will have to leave it to the distribution tariff whenever that changes but the asymmetry exists, and its reinforced. No matter what you say it is going to be there. It is going to be up to the distribution tariff to sort this out. That it is where it is going, thank you.

Statement [CCA]: I just want to go back to the comment, talking about parity. If you take a generator, a traditional generator, they connect and they own the substation when they inject power into the system. At least the majority of them to my knowledge own their own substation. When you come to industrial systems co-generators, singularly they are required to identify a substation fraction and their potentially for the supply side and the demand side they would have to pay a cost associated with accessing the system. When you come to distributed generation, I don't see how that same principle is being applied because if you take the incremental approach where you are saying that any incremental cost caused by the DCG is going to be charged and there will not be a DCG charge based on an embedded approach there appears to be a deviation for DCG which differs from the treatment for both transmission access as well as the generators. So this is an issue I have raised before, I have made the submission/comment in my submission to the AESO, So I am just making this comment and it seems like what you are proposing now, does not seem to reconcile that disparity.

Statement [AESO]: Again, right now the POD charges, the participant-related costs that we are talking about is relating to investment. The changes the ISO tariff is making is in how we determine the appropriate investment and as well there is this part about sharing of the costs that we are stepping back from and think is more appropriate in the distribution tariff. What you are talking about like you and I discussed is not a POD charge; it is something else and something new and is a good discussion broader than just DCG at the bulk and tariff regional design work.

Statement [CCA]: I have had this conversation, and I just wanted to note that that disparity does exist and whether that is something that could be corrected at the distribution tariff level but rather it is more of a conceptual issue as to the question of equal access or non-discriminatory access for all sorts of generation whether it be transmission connected generation or distribution connected generation. There should be the principle of equal access or non-discriminatory access should be the principle that should be upheld. I take your point that you may be reviewing that at some later point. At this point, that disparity does exist.

Statement [Capital Power]: I would like to land some support to the comments made by IPCAA. I think without a doubt you have created a scenario that reinforces a treatment that is not achieving parity between transmission and distribution connected generation. We sat through the Distribution System Inquiry yesterday and it is pretty clear that a lot of the experts view on this were that the proliferation of DCGs, we are talking a matter of years not decades and I see the situation that is being created here, I don't disagree that it is probably best suited to a distribution tariff but we are creating a situation where we will have a period of time where this will encourage proliferation of distribution connected generation at the expense of other generation because it is not an equal treatment and I believe that outcome follows and what comes of that situation is directly going to impact the duties of the AESO. I think to the extent that there is an option, I think an application has to consider what that interim period looks like until distribution tariffs are updated. I don't think you can just reinforce this and quietly and leave it to that regular distribution tariff update cycle knowing that there will be immediate impacts to market fundamentals because of that treatment.

Facilitator [Stack'd]: If I am hearing you correctly, Capital Power; you are both in support of IPCAA's comment that this solution does create a period of time where there is further inequity in your opinion through the resolution of some of the unhedged risk that was previously overtop of DCG and you would

look to some type of additional treatment that trues up T-gen for that period of time, is that a fair characterization?

Statement [Capital Power]: Yes, I think you need to address somehow in your application that there will be a period of time until those distribution tariffs are updated where there is inequity and that timing is uncertain and it has to be acknowledged in the application and I think it has to be addressed with some sort of interim solution to ensure there is an appropriate cost sharing for existing facilities for DCG's

Statement [FortisAlberta]: I just can't stay quiet any longer here; this expectation that the AESO has basically stuck with Principles 1 and 2 for two and a half years now. So when we challenge the substation fraction back early in the ISO tariff proceeding, the AESO doubled down on the shared system costs that exist already, the tariffs have always had the interconnection costs. What has caused the AESO to back off on Principles 1 and 2 when it has steadfastly defended those as the proper way to go for the last few years. Don't get me wrong, I think this whole idea of going back to interconnection costs is back to the future; but this expectation that somehow the AESO is going to absolve itself of allocation of its costs to STS and DTS at the distribution utilities are somehow going to reallocate DTS costs over to STS costs, we just don't see that happening. So I guess we are a bit perplexed by this idea that the distribution tariffs are going to solve this. This is a transmission cost allocation issue which is firmly set in the ISO tariff; and distribution tariffs only flow through those costs to supply our load as determined by the AESO. Could you just help us with that a little?

Statement [AESO]: It is really driven by the fact that as we look at the future, in the structure of the tariff design as a market participant, a DFO as a market participant and the use of the infrastructure and the interconnection the DFO has to the transmission system will likely be used in new ways and the previous STS and DTS allocation might not be robust going forward and through that we have landed at the place that the DFO's market participants will be able to best define how that use or the value is being provided form that interconnection and allocate that out as you see fit/as deemed appropriate through your tariff.

Statement [FortisAlberta]: The AESO is the sole provider of system access service and it collects all of its costs, its AESO revenue requirement if you will, which includes TFO costs and it allocates those to two rates: load DTS and supply STS. The reason we are all here today is because of the substation fraction allocating a portion of those transmission costs to STS, is the AESO saying they are not willing to stand behind their allocation to load and supply, because to just throw this over the fence to the distribution tariffs and to say that the Commission and DFOs and the DFO customers will figure this out, we have seen already this morning that there seems to be tension between load and generation in terms of who pays costs. By the AESO absolving itself and just walking away from this and throwing this down, it is one thing to say we are going to go back to the future, and go back to interconnection costs, but then to throw the issue which is why we are all here: substation fraction and the flow through of distribution tariffs to DCG. To just throw that to the distribution tariffs and say that it is going to be solved there. The distribution tariffs are not going to solve an issue of allocation to STS and DTS at the ISO tariff level.

Statement [AESO]: It won't be at the ISO tariff level because substation fraction to one will mean that it is all defined as DTS. We would rephrase it is, if there is a value or share of which that should be paid by the DCG's for the use of that interconnection then it would be better determined in the distribution tariffs because it would allow it to use information, be more adapted, more aligned in adapting with how the DFO system is evolving and using distribution connected generation on the distribution system. Also capture, evolve it more independently as the different DFO system evolve and not end up with one big overarching charge the ISO tariff is either always trying to catch up on or setting a less effective signal. Breaking what can be done on the distribution system or not allowing for the right efficient signal to be sent through on how to use the distribution system.

Statement [FortisAlberta]: We are still perplexed by the AESO's view that somehow DFO's will reallocate between DTS and STS costs. The tariff framework is such that transmission costs in general whether they be contributions for STS or DTS or the ongoing STS losses or ongoing DTS POD and bulk system charges. Those are all reallocated by DFOs to its rate classes and I don't see how we as DFOs are in any position to interfere with that rate signal being sent by the AESO to customers. In our view this needs to be solved at the ISO tariff level to revert back to interconnection costs which we would support, that is one thing but then for the AESO to come out and say that, we just solved the problem but we are going to not let it die but just shift it down to the distribution tariff level and wash our hands of it, it seems to be not very productive or helpful.

Facilitator [Stack'd]: Am I understanding you correctly that the overall design on a forward looking basis is something that is amenable that Fortis would be supportive of and it is really this reallocation that the rear looking reallocation of CCDs that you are having a heartache about right now? Am I understanding that correctly?

> **A [FortisAlberta]:** That's right, that is what these technical sessions are all about. It is about finding a substitute for the substation fraction or walking away from it. We were essentially led down the garden path in our proposal by the AESO. To me Principles 1 and 2, and that we essentially made a proposal here supporting where the AESO wanted to go and now the AESO is essentially walking away from Principles 1 and 2 and not only doing that but not solving the problem but somehow suggesting that it is going to be resolved in the future. Don't get me wrong, I do believe the Distribution System Inquiry is the place to discuss the DER Roadmap and all of these sorts of things and there is all kinds of costs that DCGs may or may not pay moving forward and the DCG credits which again were a result of a change to the transmission metering practice back in the 2000's, that was the start of option M. We are at a place here where the distribution tariffs will at the end of the day bring all of these pieces together and make sure that the DCG pays for their appropriate costs as per the regulations and the tariff structures we have in the province and that they get the credits for whatever value they bring to the system. As far a substation fraction goes and STS contributions, what happens at the ISO tariff level will be flowed through to our customers whether they be load or supply and that is what distribution tariffs do. To suggest that somehow there will be another reallocation of transmission costs by DFO's I just don't see that happening.

Statement [Denis Forest Consulting Inc.]: I have the same opinion as FortisAlberta, in that this does not belong in the distribution tariff. It raises a lot of questions on whether it belongs there or not in terms of delay, consistency, and retroactivity to show up in the distribution tariff. I think Principle number 2 which is cost causation is the key and that also addresses the previous concerns raised in terms of they seem to believe that somehow DCG should be paying for the privilege of tying to the transmission system through the substation and this is a nice motherhood concept in principle to believe in but if you think of any specific examples you discover that it is… the Bull Creek example is a very public and well documented. At the Hayder substation which was old enough that it did not have to be profit sharing, BluEarth set up the Bull Creek windfarm and then almost coincidental with their setup, Fortis requested the addition of a second transformer. The original transformer was 47MDA, big enough to handle the 29MDA DCG; it did not need a second transformer but because Fortis wanted a second transformer to meet the reliability needs of load customers, that 5 million charge based on contract capacity is now being allocated between supply and load but the driver was load need. Load needed that second transformer for reliability as demonstrated in session 1; it brought negligible benefit for DCG. Some people who don't understand the depth or detail here think that BluEarth should be paying a portion of that cost even though they didn't ask for it, didn't want it and didn't need it. The causation has to be looked at as to who pays for it. I just want

to leave that with people to understand that you can't just think of a high level principle. You have to dig down into the deep end.

Q [CCA]: I just wanted to find out how this Review and Variance (R&V) application, how it synchronizes or does not synchronize with the compliance filing that is before the Commission and I think in that compliance filing that AESO has basically requested the approval of the conditions as put forward here. How does this all mesh together?

> **A [AESO]:** We believe that the Commission has all the information that is required to release a decision. I am not speaking for them but I don't think that what we are proposing here would impact the compliance decision. The adjusted metering practice, the grandfathering of that initiative still continues as in the compliance. This is a new application, a new look and then the R&V would be, we are giving the Commission the information that we can gather, a better understanding or a larger understanding how the existing provisions work on the participants flow through, the costs that flow through to DCG and then there would be a subsequent application as the Commission has directed us to file any changes or a proposal in an application to the Commission.

Q [CCA]: Do you think then they would just simply go ahead and approve whatever you have filed and then there would be a subsequent R&V and I am assuming part of the R&V would also have to address the Commission's finding in 22942 that substation fraction should be determined for access to the system by DCG as well as by transmission connected generation. Those are principles that they have laid out and I think this may be a deviation from all of that.

> **A [AESO]:** I can't speak for the Commission. Unfortunately, I guess we are in a spot where proceedings take a long time and a lot has even changed since five years ago when we started the 2018 tariff application. What we are looking for is a close on that proceeding so we can move forward with what was approved there not that we are saying that the substation fraction certainly does not need to reopen at the 22942 proceeding.

Facilitator [Stack'd]: As we move towards the next steps, I have seen that there is a bit of contention around some of how this might apply. Something I am curious and interested in is how much of that is the path forward to resolve and get some of the stuff that is in our history versus actually determining what the path forward is. I have heard from some on a forward-looking basis the guidance/direction the AESO is heading down makes sense, it is more of how we are still going to resolve the reallocation in the rearview mirror that is still causing a bit of angst. I heard from others that by making this decision in one way actually increases the inequity between T-Gen and D-Gen and what the incentives are and that there may be a timing issues in place here until the DFO tariff is further resolved and refined for it. How about some of the other participants?

Statement [LionsTooth]: LionsTooth's opinion having had a pretty cursory read like everyone else being very involved with the Distribution System Inquiry yesterday is that we maintain that DCGs pay a lot of interconnection costs already. Those incremental costs as part of that distribution connection and incremental only is the appropriate approach. This appears to be a bit of an interim relief response. It does pretty much kick the issue down the line a little bit further and will result in more discussion about this going forward

Statement [ATCO Electric]: I think like others we are still trying to digest the changing course. At a very high level and maybe at the risk of oversimplifying it, TCGs pay the cost of their step up transformation to get from their generation voltage to transmission voltage and then the line that they need to build to connect and ignoring any cost sharing to a previous generator that they may tap into. DCGs pay their

incremental costs to step up their generation voltage to distribution voltage and the cost of the line to connect and then there is protection costs as well. All things being equal the transmission costs the TCG incurs will always be higher than the distribution costs unless there is a very long distribution line and a very short transmission line in the comparison that is being made. Long distribution lines really don't work for large generators because of the nature of managing voltage on the distribution system so again not to oversimplify but the other components of this is that once a TCG is connected they don't pay any additional costs for use of the transmission system. Once a DCG is connected they don't pay any additional costs for use of the transmission system. That is the bottom line. What everybody has already noted, what we currently have is a situation where it is far less expensive to connect DCGs to the distribution system than it is to connect a TCG to the transmission system if they are the same size and other things being equal. The disparity or the issue around the price signal does remain. I do appreciate Fortis' frustration with the effort that has gone into this with only to essentially land at the same place that we were before. The suggestion that DFOs need to resolve the issue of cost allocation is something we will have to think about. I would note that on the bottom of slide 41 of the AESO's presentation it noted that DFOs could allocate costs to a DCG it is not suggesting that must happen. To be clear from ATCO's perspective and with respect to the issue of discretion, we will always allocate 100 per cent of the costs of connecting a DCG to our system if those costs are directly driven by a DCG. There is no discretion in that respect. Those are incremental interconnection costs. Where we may land going forward with respect to something in the distribution tariff to try and address the issue of parity of what is currently and incentive for large DCGs to connect to the distribution system simply because it is much cheaper than connecting to the transmission system is a matter that we will have to think about as an industry. I am not sure what the solution is. It may not be a price signal, it may be some sort of policy in terms and conditions approved by the Commission that is intended to ensure that as I have said a couple times before, much to the chagrin of some generators, that transmission-sized generators should not be connected to the distribution system. I would note for those who believe that we connect large loads to the distribution system, that the largest distribution transformer that ATCO Electric has in their standards and currently in service is 20 MW. We do not have any distribution load larger than that so the suggestion that a 40 MW load generator is similar to a 40 MW distribution load, those don't exist on our system. Our feeder capacity limit is about 25 MW for a single feeder. We don't have distribution customers connected that are larger than that. So we still have this scenario where we see an incentive for large generators to connect to the distribution system. In terms of some sort of inequity between the DCG and TCG and maybe this is an obvious point, we are not talking about something that is unfair because we are talking about the same proponents. Those generation proponents are not. It is not a TCG competing with a DCG, it is a generation proponent deciding which is the most economical way to connect their generator, either transmission connected or distribution connected. It is not a competition of fairness between different generators on a go forward investment decision. There are a lot of things still at play here; I am not sure how DFOs are going to resolve this at a distribution level but I think overall, what I have heard is essentially a validation of two proposals, which essentially has said that absence some change in our current policy load pays and whether it be a TCG or DCG, how could they connect and pay for their incremental connection facilities, they don't pay. I could go on but I think I have gone on long enough.

Statement [Kalina Distributed Power]: I just want to lend some credence to what ATCO had said and I think the point to take away is a generator, we do exactly what he said. We examine is it more economic to connect to a distribution level or a transmission level. It really is that simple; there is no mention of competition but it is an issue of price signal efficiency and cost causation and those are the issues that drive where a generator connects and how they connect.

Statement [AESO]: ATCO's comments about terms and conditions, I think that speaks to the knowledge that DFOs have and as a group to come up with the best way and again it is not inappropriate charging or terms and conditions but there is a lot of tools they have in their toolbox the AESO does not have and the

last thing we want to do is put in a barrier where the DFOs can't achieve the most value they can get from DCG relating to cost causation principles that everyone can agree on

Statement [Peters Energy Solutions]: I wanted to applaud ATCO Electric because I thought it was really well said and I support that. I want to come back to a couple of comments that were made, AESO mentioned that it is a very different connection between TCG and DCG, this parity concept is very confusing. It is not an apple and an apple and the consequences and the scale, there are a bunch of advantages to connecting TCG and a bunch of advantages to connecting DCG and ATCO made the excellent point that every proponent has the opportunity to choose that is how a market functions. To the other point with the goal being to make Alberta competitive, if it is cheaper to connect one way over another way, genuinely cheaper uses existing infrastructure and doesn't demand a whole bunch more physical cost that is just cost, it drives down the cost for all of the participants in the province. It makes Alberta more competitive; if it causes a swing to make a bunch of small DGs to pop up where there is load and serve that load at a much lower addition of generation supply on the system without as big of an investment, I don't see how that is a bad thing for Alberta. I think that it is very hard for all of us to step back from the individual projects we are working on, or the individual firms we represent and look at the holistic for the province and I recognize the challenge that the AESO has undertaken, it is though but I think that we always have to zoom out from not which is better for T-Connect or D-Connect, but what is better for Alberta and how are we going to maintain a competitive jurisdiction

Statement [IPCAA]: I would agree that a generator is always going to make the rational decision to decide where to connect on the transmission and distribution system, whichever is cheaper. If that is caused by some sort of asymmetry and the incentive is to connect on the distribution system and that in turn strands that $17 billion we have spent on the bulk system, load ultimately pays for that anyway. What we want is a fair competition between where transmission and distribution generators connect and we just don't want all folks saying it is a lot cheaper to connect on the distribution system and by the way we are going to strand all that debt and leave it with load to pay on the bulk system. Just want symmetry that is all. I agree generators will always find the cheapest place to connect but we want it to be symmetrical. We don't want these asymmetrical incentives causing people to connect on a distribution system and then stranding something on the bulk system

Statement [CCA]: With regard to the issue of price signals, I think what I am hearing is based on ATCO's discussion; you can provide the price signal but if you don't provide it at the ISO tariff level then you could provide it to the distribution tariff approach, now FortisAlberta said that you cannot count on the DTS, the distribution tariffs to do that but assuming that can be done, apart from the tariffs and the charges to the DCG there are also the locational issues, what I am wondering is to the extent a DCG connects at the distribution level and proceeds a transmission price signal including a generating unit owners contribution (GUOC) type price signal for investment, the AESO is able to provide those kind of price signals by going through a GUOC. Now a distributor would not be able to do that so there is some kind of… as the system expands then you want the system to expand in a way whether it is at the distribution level or the transmission. You want to see expanding in a way that is efficient for the entire system. Ideally you want to have a system where signals such as locational signals such as GUOC could be provided by the AESO. I am not sure if that is something that could be provided at the distribution level

Statement [Participant]: I heard two camps; one camp that can't wait to put costs back on DCGs and a camp that thinks that incremental costs only is appropriate.

Statement [Capital Power]: Just for clarity of the record here, there has been a lot of discussion around this isn't transmission connected generators against distributed connected generators and certainly that is true to a point but I think also in the AESO is aware of this but their own system planning studies

acknowledge that proliferation of DCG reduces the bulk system capacity and that has a direct impact on new generators and a direct impact on existing generators as well. To the extent that the market develops with incentives or price signals that are not enforcing parity, that has an impact on the entire market.

Statement [LionsTooth]: Parity is a weird one right, because people can view parity and disparity across a couple of different avenues and a couple of different areas so I think it is really important to recognize there are other areas where DCG and TCG don't have parity with each other; one of them being the constrained nature of the distribution system itself. I think we have to recognize that by addressing parity in one particular area, we may be overlooking disparity in others. Parity is a really hard thing to achieve if we are not going to achieve it across the board.

Statement [Capital Power]: Thanks, I can't help but feel like we came out of the last session with parties being quite a lot closer on resolving this issue and I think today the AESO's road map to the conclusion of the Distribution System Inquiry, the coordinated planning framework work you guys are doing and you know I support the direction you are going, where you are considering these holistic major system changes we are expecting but to sort of punt a near term issue to the DFOs who may have shown a bit of resistance there today, I just don't know that a proceeding given all of that context is actually the best route.

Statement [IPCAA]: I get the feeling, I remember back in high school, I think it was called the two solitudes and I get the feeling here we are going the same way, we are going to have the AESO dealing with transmission connected tariffs and everything else at the DFO level and they will not meet, there is not interplay between the two. The AESO will simply hand down the money it requires and the DFOs will deal with it whereas before there was some sort of feeling there was integration between the two. I am starting to feel now that it is the two solitudes.