APPLICATION NO. 1485517

ALBERTA ELECTRIC SYSTEM OPERATOR (AESO)

2007 GENERAL TARIFF APPLICATION

DUAL USE CUSTOMERS

POD CHARGES AND PRIMARY SERVICE CREDIT REPLY ARGUMENT

July 13, 2007

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Summary

The DUC attempted in final argument to summarize the proposals of the AESO and interested parties regarding POD charges, the PSC and the AESO's maximum investment levels. The following table provides an update complete with the new proposal the AESO provided in argument and a summary of the interconnection cost function proposals:[1]

Interconnection Cost Function		**AESO Proposal**	**DUC Proposal**	**PPGA Proposal**	**PPGA Alternate Proposal**	**CCA/PICA Proposal**	**AESO Revised Proposal**
Fixed	($)	947,000	947,000		1,579,000	947,000	947,000
0-7.5 MW	($/MW)	621,000	621,000		233,000 (1)	326,000 (6)	621,000
7.5 - 40 MW	($/MW)	154,000	154,000		273,000 (1)	122,000	154,000
40 + MW	($/MW)	154,000	30,000		273,000 (1)	122,000	47,000

POD Charges		**AESO Proposal**	**DUC Proposal**	**PPGA Proposal**	**PPGA Alternate Proposal**	**CCA/PICA Proposal**	**AESO Revised Proposal**
Fixed	($/month x SF)	4,762	4,762	4,725	5,833	7,083	5,004
0-7.5 MW	($/MW/Month x SF)	3,129	3,435	1,447	1,735 (1)	2,438	3,285
7.5 - 40 MW	($/MW/Month)	776	852	1,447	1,024 (1)	912	815
40 + MW	($/MW/Month)	776	166	1,447	1,024	912	249

PSC		**AESO Proposal**	**DUC Proposal**	**PPGA Proposal (2)**	**PPGA Alternate Proposal (2)**	**CCA/PICA Proposal (3)**	**AESO Revised Proposal**
Fixed	($/month x SF)	1,905	2,619	2,073	2,073	2,833	2,752
0-7.5 MW	($/MW/Month x SF)	1,252	1,889	1,362	1,362	975	1,807
7.5 - 40 MW	($/MW/Month)	310	469	338	338	365	448
40 + MW	($/MW/Month)	310	166	338	338	365	137

Max. Investment Levels		**AESO Proposal**	**DUC Proposal (4)**	**PPGA Proposal (2)**	**PPGA Alternate Proposal (2)**	**CCA/PICA Proposal (5)**	**AESO Revised Proposal**
Fixed	($/year)	54,500	57,225	54,500	54,500 (1)	54,500	57,270
0-7.5 MW	($/MW/year)	35,800	37,590	35,800	35,800 (1)	35,800	37,585
7.5 - 40 MW	($/MW/year)	8,900	9,345	8,900	8,900	8,900	9,347
40 + MW	($/MW/year)	8,900	1,785	8,900	8,900	8,900	2,856

Notes:
(1) PPGA Alternate Proposal is a breakpoint at 17 MW
(2) PPGA proposal outlined in Ex. 323, AESO.PPGA-011
(3) The DUC assumes the CCA/PICA supports the AESO's determination that the PSC should be 40% of the POD Charges. The CCA/PICA did not respond fully to DUC.CCA/PICA-3, Ex. 297
(4) DUC suggests in argument that the maximum investment levels should be increased by 5% to reflect inflation to 2008 / 2009
(5) The DUC assumes the CCA/PICA supports the AESO's maximum investment levels
(6) CCA/PICA proposes $490,000/MW for investment

[1] AESO Proposal: Ex. 005, section 4 of Application, p. 21 & 51 & Ex. 007, section 6 of Application, p. 31
DUC Proposal: Ex. 229, p. 22, 29 & 37
PPGA Proposal: Ex. 239, p. 15, 17 & 21. PSC proposal corrected as per Note (2).
CCA/PICA Proposal: Ex 225, p. 7-10 & Schedule 3
AESO Argument Proposal: AESO Argument p. 43-44, 62-64 & 76-81

The AESO presented a revised cost function in argument, based, it would appear, on the AESO's view that "useful additional information [was made] available in this proceeding that could be incorporated in [the AESO's] methodology for setting the proposed Raw Cost Function, and would enable a determination of a reasonable cost function for larger sized PODs."[2] This additional information has allowed the AESO to propose a revised cost function, which adopts some of the recommendations made by the DUC. We commend the AESO for its willingness to consider the additional information led during the proceeding and to revise its proposal accordingly. Unfortunately, the AESO has not, in our submission, made all of the revisions necessary to its proposal, but the AESO's revised proposal has closed the gap between the DUC's proposal and the AESO's position.

Up to POD sizes of 40 MW, the AESO and the DUC recommend the same tariff charges. A comparison of the differences between the AESO and the DUC's positions for large PODs is provided in the table below:

	AESO Application	**AESO Revised**	**DUC Evidence**
Third tier breakpoint	N/A	50 MW	40 MW
Third tier line slope	$154,000/MW	$47,000/MW	$30,000/MW
Third tier POD charge	$776/MW/month	$249/MW/month	$166/MW/month
Multiple transformers?	Yes	Yes	No
Third tier PSC	$310/MW/month	$137/MW/month	$166/MW/month

The AESO has recognized the significant economies of scale present for large PODs and has based its revised proposal on the TCCS data for PODs over 40 MW in size. The key and significant remaining differences between the AESO's revised proposal and the DUC position are twofold:

1. The AESO assumes that the third tier interconnection cost function line slope is based on providing in some cases more than one transformer, whereas the evidence on the record and the DUC's position is that the AESO's current policy is the provision of one line, one breaker and one transformer as a standard service.

2. The AESO is of the view that the third tier PSC should be 55% of the third tier POD charge, whereas the DUC is of the view that the third tier PSC should be 100% of the third tier POD charge. There is no evidence to suggest that larger PODs attract higher transmission line costs and the expert testimony of the DUC witnesses is that they do not. Therefore, if a customer provides the substation, there should not be a net third tier tariff charge.

[2] AESO Argument, p. 75, l. 30-34.

Regarding the first difference above, we note for example that for the Canadian Natural Horizon project, the expected DTS demand is 179 MW, however, the AESO only allowed for a single transformer to be classified as standard facilities.[3] We submit that in this instance the AESO is not applying industry standard practices as it is unreasonable to expect a 179 MW load to be served from a single transformer.[4]

The DUC could accept the AESO's third tier breakpoint (50 MW), third tier line slope ($47,000/MW) and third tier POD charge ($249/MW/month) as stated in the AESO's argument if the AESO were to confirm that its multiple transformer policy should and will be applied in accordance with standard industry practices so as to include additional transformers within the definition of "standard facilities" for larger PODs, or, alternatively, if the Board were to issue a direction to the AESO requiring the AESO to revisit its policy of only providing one transformer for larger PODs.

Regarding the second key difference noted above, the DUC does not accept the AESO's position and requests that the Board direct that the third tier POD charge and the third tier PSC be set to the same value. In this case, the PSC would be set at 100% of the third tier POD charge. Assuming acceptance of the AESO's third tier breakpoint, line slope, and POD charge, this would mean the third tier PSC would be set at $249/MW/month.

[3] T. 1338/6-22

[4] Ex. H-032 the AESO's standard transformer sizes.

1. Stakeholder Consultation and Process Matters

3. Phase II

3.4 Demand Transmission Service (DTS) Rate Design

3.4.5 Point of Delivery (POD) Charge (PPGA vs. AESO vs. DUC vs. PICA approaches)

AESO Approach

The AESO has provided a revised POD Charge proposal that more appropriately recognizes the economies of scale present for larger PODs. The changes the AESO has proposed can be summarized as:

1. Introducing a second interconnection cost function breakpoint at 50 MW.
2. A third tier line slope of $47,000/MW, which represents the incremental cost of a large POD above 50 MW.
3. PODs over 50 MW in size that have multiple transformers have incremental costs that are significantly lower than the AESO initially proposal of $154,000/MW and much closer to the $30,000/MW suggested by the DUC.

The AESO's revised proposal is based on an evaluation of all of the greenfield interconnection cost data plus the five TCCS projects over 40 MW in size.[5] The AESO stated:

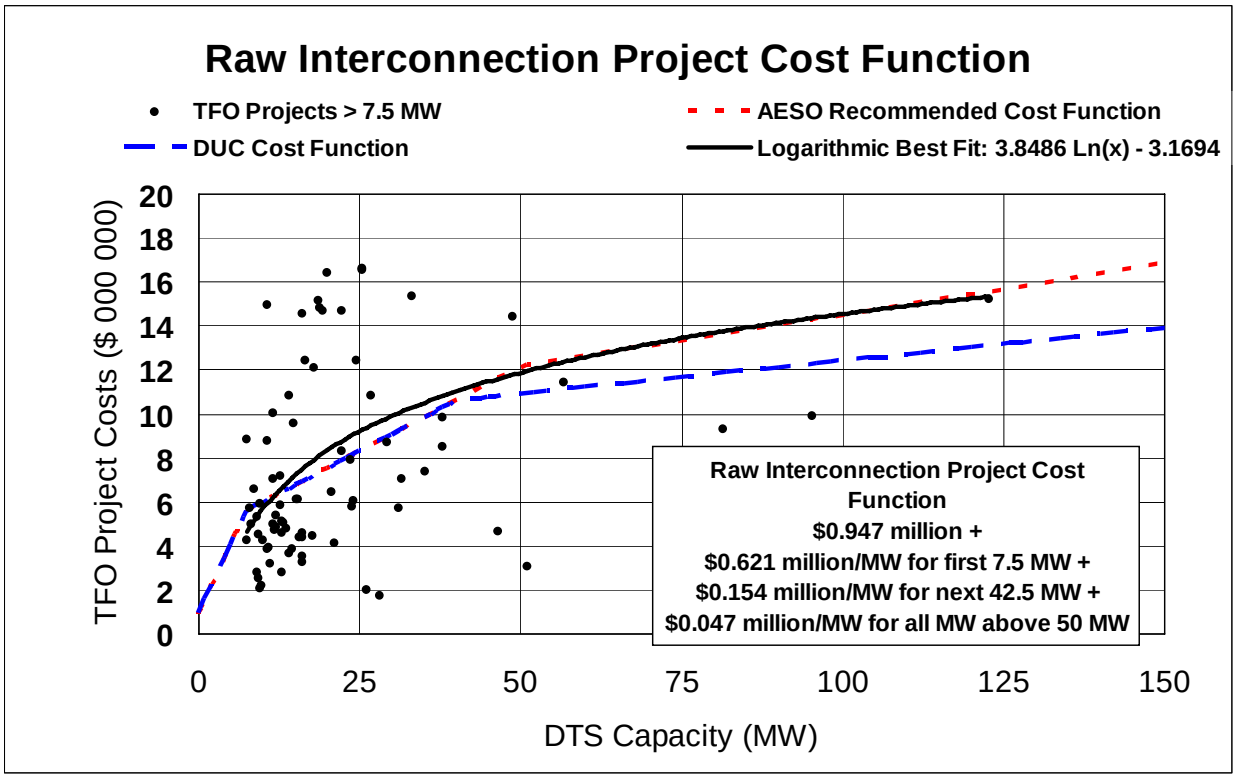
> … the AESO acknowledges there is some merit in the suggestion by DUC that directionally, the average costs for larger PODs may be lower than that represented by the AESO's proposed Raw Cost Function. The AESO did not initially specifically analyze such PODs as part of its proposal, generally due to the fact that no projects with capacities greater than 43.2 MW were contained in the Greenfield data. However, the AESO is of the view that some useful additional information is available in this proceeding that could be incorporated in its methodology for setting the proposed Raw Cost Function, and would enable a determination of a reasonable cost function for larger sized PODs.
>
> The AESO suggests the TFO data for 109 interconnection projects at various capacities can be incorporated into its analysis to address the larger PODs, similarly to what the AESO did for the less than 7.5 MW PODs. Of the 109 projects, 11.9% are projects of less than 7.5 MW in capacity, and 4.6% have capacities greater than 50.0 MW. The data provided in BR.AESO-003(a), Tab A3 (Exhibit 160) indicates that of the

[5] AESO Argument p. 76 stating at line 25

491 PODs currently under System Access Service Agreements, 37 have capacities of greater than 50.0 MW (7.5%).

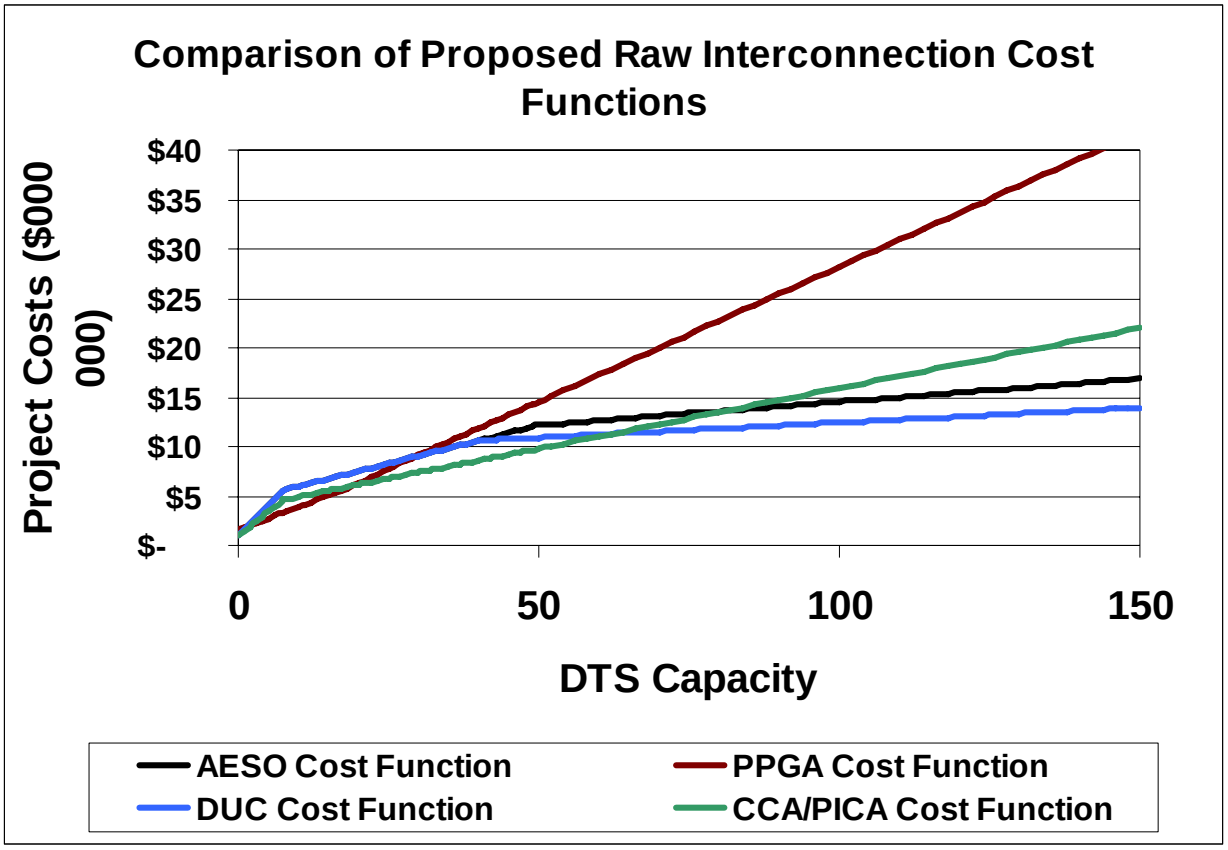
To better reflect the larger PODs in its raw cost function, the AESO suggests that it is reasonable to establish a separate cost function for greater than 50 MW.[6]

By utilizing the additional data, the AESO proposes a logarithmic raw interconnection cost function as follows, with the DUC interconnection cost function added for comparison purposes:



As can be seen from the above figure, the AESO has recognized the economies of scale present for larger PODs. The AESO and the DUC are in agreement concerning the interconnection cost function up to 40 MW. As can be seen in the following figure, the AESO's revised cost function remains higher than the DUC's above 40 MW but the two cost functions are now much closer and both reflect the economies of scale present for larger PODs:

[6] AESO Argument, p. 75, l. 25-40



DUC Approach

The DUC interconnection cost function and the resulting POD charges differ from the AESO's revised proposal presented in argument only with respect to where the second breakpoint should be made (40 MW vs. 50 MW) and the slope of the third tier line ($30,000/MW vs. $47,000/MW).

The key difference between the AESO and the DUC approaches is that the AESO assumes the provision of multiple transformers for most large PODs as standard service. We say this as the AESO utilized the TCCS data, and as that data, based as it is on historical practices, includes larger PODs where more than one transformer was provided as standard service.[7] The DUC's position, and the evidence before the Board, is that the AESO no longer provides more than one transformer.[8]

As noted, the DUC could accept the AESO's revised interconnection cost function and resulting POD charges if the AESO were also to revise how it applies its policies to

[7] DUC Argument, table at top of p. 19 & Ex. 229, p. 14, l. 1-3 & Ex. 305, AESO-AESO-3 a) state that the current policy is one transformer; Ex. 305 and T. 1346/17 – 1347/3 show that 80% of PODs over 40 MW is size have more than one transformer.

[8] Ex. 305, AESO-DUC-3 a). The DUC notes that the AESO did not refute this evidence.

provide multiple transformers for large PODs, and if the AESO were to bring its practices in line with historical practices as seen in the TCCS data. Alternatively, the DUC could accept the AESO's revised interconnection cost function and resulting POD charges if the Board were to direct the AESO to recognize industry standards and the requirement of multiple transformers for large PODs, in keeping with good industry practices, similar to those provided by the AESO's predecessors. In this case therefore, the DUC would accept the AESO's third tier breakpoint of 50 MW, the AESO's third tier line slope of $47,000/MW, and the AESO's third tier POD charge of $249/MW/month.

PPGA Approach

The PPGA proposed interconnection cost function is unreasonable. As can be seen in the figure above, for a POD of 150 MW in size, the PPGA proposes costs that are double those proposed by the AESO, the DUC and the CCA/PICA.

The DUC submits that the PPGA's analysis is not based on sound data and does not conform to standard rate design principles. The PPGA's analysis suffers from the same failing the PPGA claims the AESO's data suffers from: the analysis is neither good enough nor robust enough for ratemaking purposes.

As noted in argument, the DUC submits that the PPGA proposals do not reflect cost causation and should be rejected.[9] The PPGA's plea for lower rates to compensate for the price increases from the 2005 to the 2006 tariff, resulting from the implementation of the TCCS, is not relevant to this proceeding. This issue was effectively dealt with in the last proceeding.

CCA/PICA Approach

The CCA/PICA proposal is essentially to modify the interconnection costs function by manipulating the radial line cost data to shift costs to larger POD customers. In our submission, there is no basis for the shifting of costs based on the number of historical radial lines that may have reclassified as looped.

The CCA/PICA suggests that their second tier line slope of $99,000/MW "more closely track actual costs… for larger PODs."[10] The AESO has now agreed that actual historical costs for PODs over 50 MW in size is less than half the CCA/PICA proposal of $99,000/MW (i.e. $47,000/MW). The lack of acknowledgement of the economies of scale present for larger PODs makes the CCA/PICA proposal unreasonable and we submit unacceptable.

3.11 Primary Service Credit

3.11.1 PSC Credit methodology (AESO vs. DUC approach)

The AESO's revised PSC as presented in its argument aligns with the DUC evidence that the PSC should be set at 55% of the POD charges:

[9] DUC Argument, p. 19-20

[10] CCA/PICA Argument, p. 25

> In its POD Charges and Primary Service Credit Evidence (Exhibit 229), DUC proposes an alternative method for deriving the percentage or level of the POD costs attributable to transformation. DUC's methodology relies directly on the new project data the AESO provided in this Application, which the AESO's proposed PSC level did not. As such, the AESO is of the view that the DUC approach is superior, and should be adopted. This methodology is presented in Figure 19 in the DUC Direct Evidence (Exhibit 229, page 36), and results in a PSC level of 55%.[11]

The AESO stated that there should be a single PSC.[12] The DUC agrees with the AESO. In argument, the DUC withdrew its proposal to provide two PSC levels, one for customers who owned transformation and one for customers who owned their substation.[13]

For the PSC up to the third tier, the AESO and the DUC are aligned and we both submit that the PSC should be set at 55% of the POD Charge. For the third tier, the AESO is of the view that the PSC should be 55% of the POD charge, whereas the DUC is of the view that it should be 100% of the POD Charge. The AESO's stated its concerns as follows:

> The AESO maintains that POD charges are appropriately averaged to reflect that customers are paying for system access service, not for facilities. At the same time, the AESO accepts that it is reasonable to continue what has been done historically, which is to essentially create another rate class for those customers who have purchased transformation facilities themselves (i.e. and therefore not requiring they be provided by the TFO) and charge such customers a reduced rate that reflects this (i.e. through the PSC or a similar mechanism). However, taking this notion to yet more levels of supposed precision to reflect exactly what a customer has invested in is, in the AESO's view, not appropriate or meaningful.[14]

With respect, we disagree. The Board has accepted that cost causation should trump rate averaging unless the rate impact is unacceptably large. The DUC proposal is not taking the PSC to "more levels of supposed precision," rather the DUC proposal incorporates the cost causation that is evident from the information on the record.

The PSC has been approved to reflect the significant investment customers have made in owning their own substations and to ensure that customers do not pay twice for the same asset.[15] The PSC should reflect cost causation. In order that the PSC does so, it

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[11] AESO Argument, p. 62, l. 24-30

[12] AESO Argument, p. 62, l. 31-35

[13] DUC Argument, p. 22, l. 13-21

[14] AESO Argument, p. 62, l. 39 – p. 40, l. 2

[15] Decision 2005-096, p. 39

is necessary that there be no incremental POD costs above 40 MW (or 50 MW as per the AESO) for customers that own their substation. As stated by the DUC in argument:

> The DUC submits that the non-substation costs; that is, transmission line costs, are appropriately collected under the POD fixed and rate block charges up to 40 MW of Billing Capacity. Above 40 MW, the DUC has demonstrated and provided evidence that the incremental costs are primarily related to incremental transformer costs, which are fully substation related.[16] It therefore follows that the PSC for Billing Capacity over 40 MW should be set equal to the POD charge over 40 MW of Billing Capacity.
>
> Stated another way, once a customer has paid the POD charges (and received the PSC) for billing capacity up to 40 MW, the customer has made a full and appropriate contribution to all non-substation related costs, which are primarily transmission line related costs. There is no evidence to suggest that PODs over 40 MW have higher transmission costs and that a customer should continue to provide revenue to the AESO to recover incremental transmission related costs. Above 40 MW, all costs are substation related, and since a PSC eligible customer has provided the entire substation, the POD and the PSC rates should be equal for Billing Capacity over 40 MW.[17]

The AESO's position that it is providing a service does not justify the conclusion that cost causation for larger PODs should be ignored.

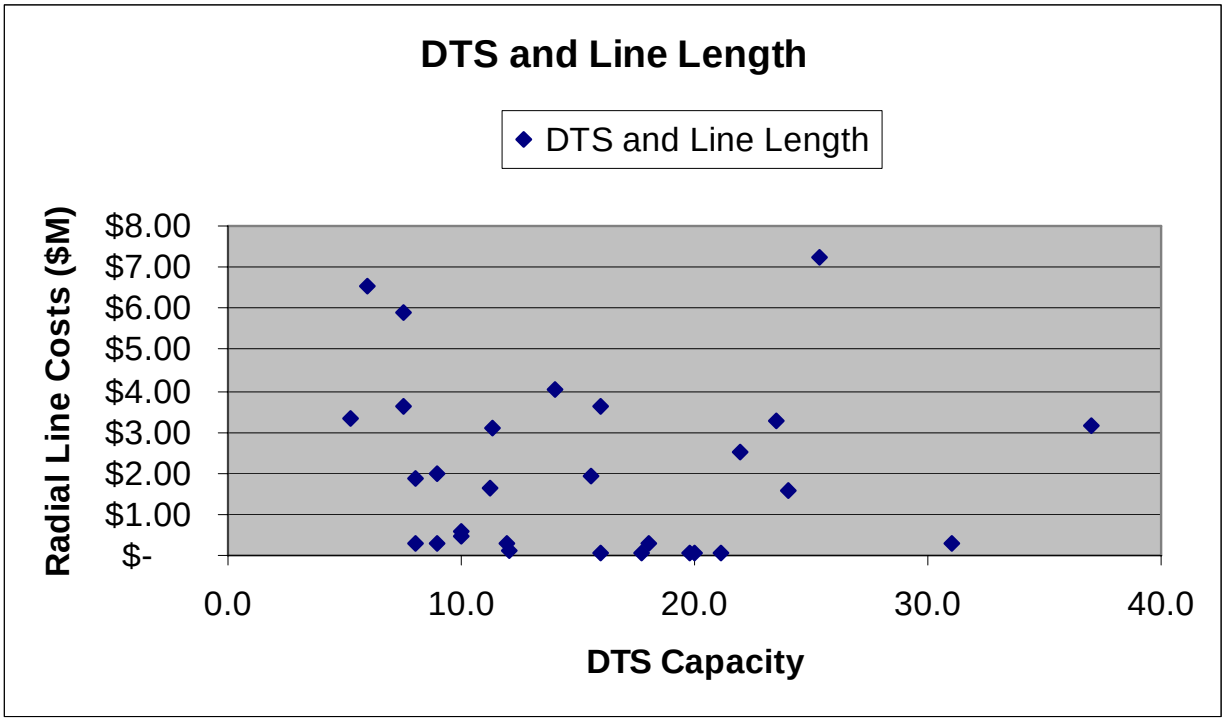
The AESO does try to suggest that there may be some radial lines costs that are higher for larger PODs[18] and then suggests that "[i]n the absence of detailed project data to the contrary …radial line costs likely increase for larger PODs in a manner comparable to the increased costs of transformation." Contrary to the AESO's submissions, there is evidence to the contrary on the record. The AESO is ignoring its own evidence that strongly suggests there is no correlation between POD size and radial transmission line costs. In response to TCE.AESO-025 the AESO provided the following figure that shows no correlation between POD size and radial line transmission costs:[19]

[16] Ex. 229, p. 18-19

[17] DUC Argument, p. 24, l. 1-15

[18] AESO Argument, p. 36, l. 29-39

[19] Ex. 129, spreadsheet tab Charts.



The DUC provided a similar analysis under Figure 4 of its evidence.[20] The DUC also provided the following in response to PPGA:

> The DUC is of the view that for two substations of equal distance to an existing 138 kV or 240 kV transmission line, the transmission line interconnection costs will generally be higher for the 240 kV connection. However, the least cost interconnection option should always be utilized regardless of substation size or location. The DUC is aware of instances where very small loads are served from 240 kV lines (e.g. 720S Wabasca) and very large loads up to 200 MW are served at 138 kV (e.g. 409S Shell Scotford). Therefore, one can not conclude that larger substations will be more costly to interconnect as the costs will be a function of geography and the state of development of the interconnected system in the area.[21]

The evidence that is on the record is that large PODs do not have higher radial line costs than smaller PODs. The DUC submits that there is no justification for the AESO's proposal to reduce the third tier PSC to 55% of the POD charge.

The DUC submits that the third tier PSC should be 100% of the POD Charge. Assuming adoption of the DUC's interconnection cost function, the PSC should be

[20] Ex. 229, p. 11

[21] Ex. 308, PPGA-DUC-4 b), p. 4

$166/MW/month. Assuming adoption of the AESO's interconnection cost function, the PSC should be $249/MW/month.

3.11.2 Eligibility

The CCA/PICA does not support the DUC position that the PSC should not be extended to ATCO Electric for the isolated generation sites. The CCA/PICA state:

> In CCA/PICA's submission, an economic choice was made to use isolated generation instead of conventional transformation with interconnection to the grid. This choice is no different than an industrial customer who makes an economic choice between providing its own transformation or using system supplied transformation.

The CCA/PICA fails to recognize that there is a significant difference between the choice ATCO Electric made to serve a remote communities with diesel fired generation and the choice than industrial customer made to own the substation. All of ATCO Electric's costs to provide service to the remote communities are included in either ATCO Electric's tariff or in the AESO's tariff. None of the costs an industrial customer invested in his substation are reflected in the AESO's tariff or any other tariff.

Since there is no capital investment reductions and resulting cost benefit to AESO customers from the insolated generation PODs, the PSC should not apply to them.