



November 26, 2007

Submitted via EUB Digital Data Submission System

Alberta Energy and Utilities Board
640 – 5th Avenue SW
Calgary, Alberta
T2P 3G4

Attention: Jamie Cameron, Application Officer

Dear Jamie:

Re: AESO Reply Comments on EUB Approach to POD Cost Function

In its letter dated October 25, 2007, the Alberta Energy and Utilities Board (EUB) established a comment process for an approach to the construct of the Point of Delivery (POD) cost function developed by EUB staff. ADC, the AESO, ATCO Electric, ASBG/PGA, CCA/PICA, DUC, IPCAA, and PPGA submitted comments on November 5. The EUB subsequently asked the AESO two information requests relating to the AESO's comments, to which the AESO replied on November 19. DUC additionally submitted initial reply comments on November 21.

The AESO has reviewed the submission of all parties in this POD cost function process, and offers the following reply comments in accordance with the EUB schedule as amended in its November 15 information requests to the AESO.

The AESO reiterates the concern expressed in the cover letter accompanying its information responses: that is, the limited data examined in this proceeding does not support the level of precision apparently being ascribed to the results of regression analysis. ADC, in its comments, states it is supportive of "greater precision in cost causation". Although greater precision may be achievable, the AESO does not believe the additional analysis submitted in this process has provided greater accuracy.

The accuracy of the analysis is limited by the data available for examination. The AESO continues to be concerned about the EUB's development of its combined 48-point data set, for the reasons expressed in the AESO's original comments provided on November 5. In addition, the AESO notes the following error ranges provided by DUC in the attachment to its November 21 initial reply comments. DUC recommended the following equation as the basis for the cost function underlying the POD charge, maximum investment, and Primary Service Credit:

$$\text{Costs} = \$2,693,924 \times (\text{MW} - 0.0057148)^{0.3291573}$$

Based on the data analyzed to generate that equation, and using a 95% confidence interval, DUC also provided the following error ranges for the constants in the recommended equation:

Constant	Error Range
\$2,693,924	\$1,675,593 to \$3,712,255
0.0057148	0.2176184 to 0.4406961
0.3291573	-1.171749 to 1.16032

Note: Values from Model II in U of C Regression Analysis Output attached to DUC's November 21, 2007 initial reply comments

The combined effect of these error ranges is illustrated in Figure 1 below.

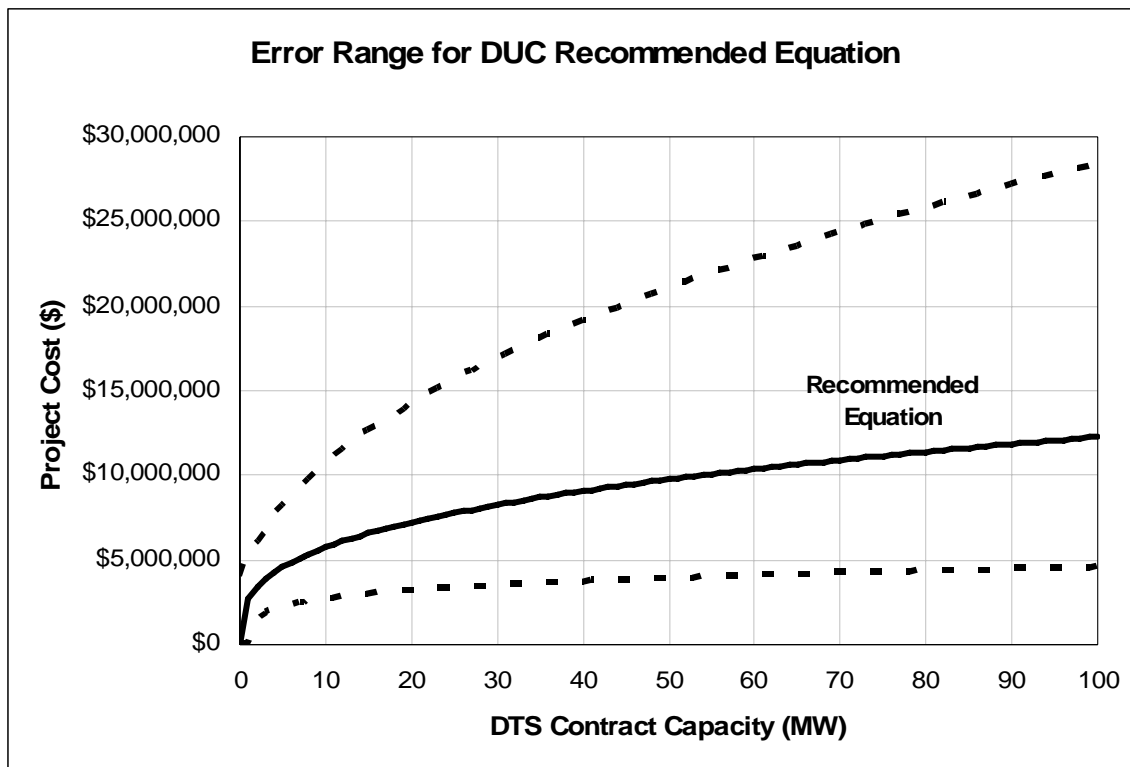


Figure 1: Chart of Error Range for DUC Recommended Power Curve Equation

The other curves analyzed by DUC, as well as those suggested by the AESO in its comments and discussed in the AESO's information responses to the EUB, all have similar ranges of error, reflecting the limited data from which the curves were developed. Given the large range of error, the AESO submits that selecting a curve based simply on highest coefficient of determination (r^2) ignores the significant uncertainty surrounding the equation. In the face of such uncertainty, the AESO suggests consideration be given to the additional rate design principles developed by Bonbright and summarized in section 4.2 of the AESO's Application (Exhibit 005, page 4): stability and predictability, and practicality such that rates are appropriately simple, convenient, understandable, acceptable, and billable. It is important to keep in mind that the purpose of the rate design exercise is to derive a fair and equitable charge for service from the transmission system.

The AESO also considers that the development of a mathematically precise curve-fitting equation has been completed at the expense of other rate design evidence filed during this proceeding. For example, the AESO used a minimum-intercept method to define a no-load or absolute minimum cost at the y-intercept of the cost function (as discussed in section 6.5.3 of the AESO's Application, Exhibit 007, page 20). This minimum-intercept approach has apparently been abandoned in the current discussion, despite its accepted use in rate design (as supported by Information Response BR.AESO-014). Again, ignoring this concept appears to ignore the purpose of the rate design exercise.

The AESO also provides in Figure 2 a comparison of the POD charges from the 2005 and 2006 AESO approved tariffs, based on the AESO's recommended cost function, and based on DUC's recommended cost function.

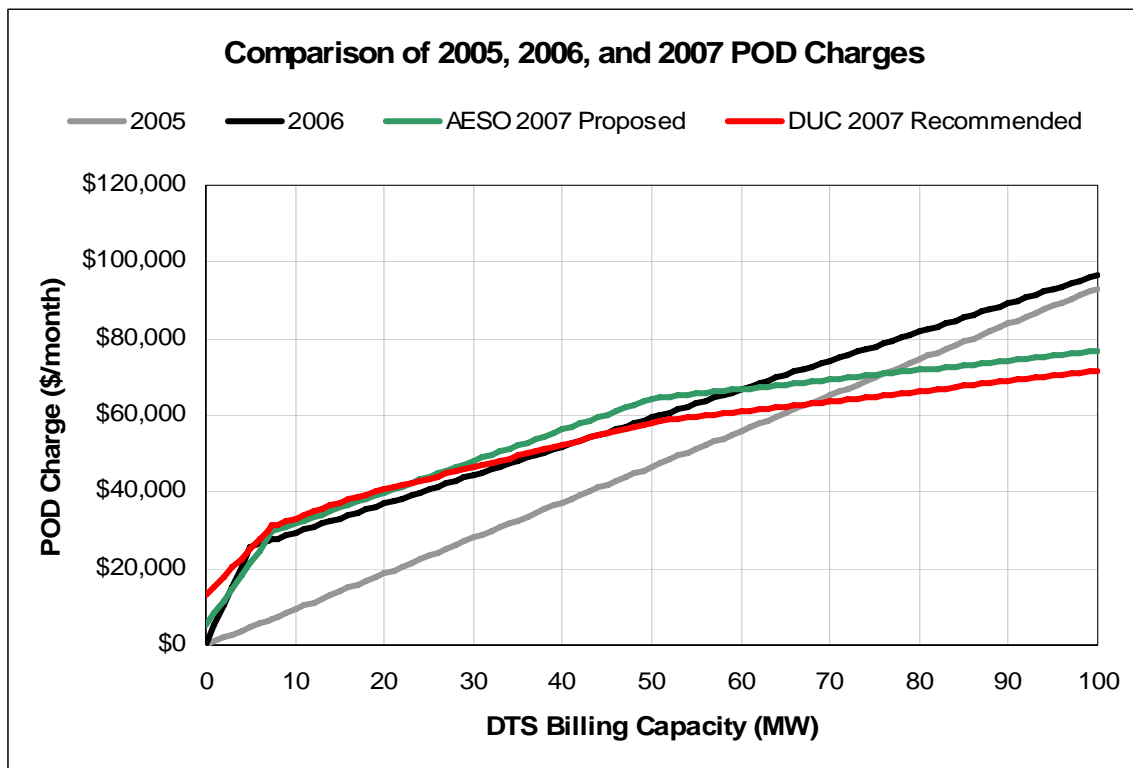


Figure 2: Comparison of 2005, 2006, AESO 2007 Proposed, and DUC 2007 Recommended POD Charges (The AESO's 2005 rate did not include a specific POD charge. However, POD costs are 40.9% of DTS wires costs, and in 2005 DTS demand-related costs were 60% of DTS total costs, so an equivalent POD charge would be $\$1,365.66/\text{MW} \times 40.9\% \div 60\% = \$930.92/\text{MW}$.)

The AESO suggests that Figure 2 illustrates the shifting of costs from larger services to smaller services since 2005, a matter discussed in detail in section 4.5.3 of the AESO's Application (Exhibit 005, pages 22-33) and during this proceeding. The AESO also suggests the further shifting of costs to smaller services that would arise from adopting the DUC recommended cost function is not warranted based on the limited data examined in this proceeding.

Finally, DUC suggests a cost function with three straight-line segments more closely approximates the smooth power curve equation than a cost function with two segments. The AESO considers this to be self-evident; taken further, this logic would suggest a cost function

with four, five, or more straight-line segments would provide progressively better approximations of a smooth curve. The AESO points out the quote provided in Information Response BR.AESO-001 (b), that “[t]he parameter values must also make sense from the standpoint of the model.” The AESO repeats that the breakpoints which have the most physical meaning in this proceeding are the 7.5 MW and 50 MW ones, as further discussed in Information Response BR.AESO-001 (e).

ATCO Electric noted in its November 5 comments that the EUB’s proposal “has not been appropriately vetted” in this proceeding. As the above comments indicate, the AESO generally agrees. The AESO also agrees with ATCO Electric’s comments that more complexity may be “meaningless” and “simply not practical”.

The AESO agrees with DUC’s and IPCAA’s comments that the same cost function should be used as the basis for the DTS POD charge, the maximum investment level, and the Primary Service Credit.

PPGA commented that the EUB’s proposal “is not supported on any ‘cost-causation’ basis.” (emphasis in original) Although the AESO believes that analysis of TFO project costs does provide a sound cost causation basis for the DTS POD charge, the AESO does not consider the additional analysis provided by the EUB and by DUC in this proceeding to be a more accurate representation of cost causation that the cost function summarized in the AESO’s Argument (pages 71-80).

The AESO provides the above comments in reply to submissions of other parties in the POD cost function process. Lack of response to any specific comments of other parties does not necessarily indicate agreement on that matter by the AESO.

The AESO has provided the Microsoft Excel worksheets used to prepare the figures provided in these reply comments as an attachment.

If you have any questions on these reply comments or need additional information, please contact me at (403) 539-2465 or by e-mail to john.martin@aesoc.ca.

Sincerely,

[original signed by]

John Martin
Director, Tariff Applications

Attachment

cc: Heidi Kirrmaier, Vice President, Regulatory, AESO