



Reference: Section 4.7.1, Export Opportunity Service Rates XOS, pages 51 - 52,
paragraph 250

Request:

Please provide the underlying calculations in Excel spreadsheet format to support the allocation of 32% of the DTS operating reserve charge to exports.

Response:

The calculations were provided in Excel workbook format as Appendix H of the application. Tab "2008" contains the data for year 2008 and the formulae used in the calculations. Tab "Summary" lists the results.

Reference: Section 4.16, Amortized Customer Contribution Rider I, pages 58-62

Preamble: In their respective 2009-2010 general tariff applications (“GTAs”), AltaLink Management Ltd. (“AltaLink”) and ATCO Electric Ltd. (“ATCO”) each requested approval of a management fee on customer contributions.

Request:

Please prepare a table that includes an estimate of the total management fees that could be payable to each TFO over 10 years for customer contributions received from DTS and STS customers. For simplicity, assume no growth in contributions in future years. For contributions estimated to be held by AltaLink and ATCO, please apply the management fee proposed in their respective 2009-2010 GTAs. For contributions estimated to be held by other TFOs, please apply a management fee which is the average of the proposed AltaLink and ATCO Electric management fees.

Response:

The requested table is provided below:

TFO	Contribution Balance \$ 000 000	Equity Ratio %	Management Fee		
			Proposed %	Annual \$ 000 000	10 Years \$ 000 000
AltaLink	\$103.7	36%	6.19%	\$2.3	\$23.1
ATCO Electric Transmission	124.0	36%	6.83%	3.0	30.5
ENMAX Transmission	6.1	37%	6.51%	0.1	1.5
EPCOR Transmission	25.7	37%	6.51%	0.6	6.2
Lethbridge Transmission	1.7	37%	6.51%	0.0	0.4
Red Deer Transmission	-	37%	6.51%	-	-
TransAlta Transmission	0.1	36%	6.51%	0.0	0.0
Totals	\$261.2			\$6.2	\$61.6

The values in the table are based on the following assumptions:

- mid-year contribution balances for the TFOs from recent applications and filings as provided in information response AUC.AESO-011 (b);
- equity ratios approved in the 2009 Generic Cost of Capital Decision 2009-209; and
- management fee percentages for AltaLink and ATCO Electric as proposed in AltaLink’s 2009-2010 TFO Tariff Application and in ATCO Electric’s 2009-2010 General Tariff Application respectively, and for other TFOs the average of the AltaLink and ATCO Electric amounts.

As requested, no growth in contributions is assumed, and the 10-year management fee amount is simply 10 times the annual amount.

Reference: Section 8.2, Transmission Cost Causation Studies, page 261, paragraphs 595-596.

Preamble: In this section of its application, the AESO recognized that during consultation, some parties were concerned that the “transmission system had changed sufficiently over the past five years that it was no longer well-represented by the functionalization and classification of costs arising from the Transmission Cost Causation Study”. The AESO indicated that it did not share this concern as it considers that “a variety of system projects and connection projects have occurred over the past several years, such that the relative proportions resulting from the Transmission Cost Causation Study continue to be reasonably representative of the current transmission system.”

Request:

- (a) Please provide any analysis or reasoning that supports the claim that the Transmission Cost Causation Study is reasonably representative of the current transmission system.
- (b) Please provide a table that provides a list of all transmission system and connection projects in the last five years. Include in the table a description of the project including voltage level, the commissioning date, the total capital cost, and the total cost functionalized into bulk transmission, local transmission, and POD/POS cost categories. Provide amounts net of the customer contribution.

Response:

- (a) No detailed analysis was completed to indicate the level of shift between the functions over time since the first study was filed as part of the AESO’s 2006 tariff application and updated in the AESO’s 2007 tariff application. The reference quoted from the application is based on the AESO’s assessment of growth in the transmission system over the last few years. Based on the AESO’s experience over those years, transmission projects have not been predominated by bulk system, local system, or point of delivery projects, and have instead included all three types.
- (b) The AESO does not have such a table available, and in particular does not have project costs functionalized as bulk system, local system, and point of delivery. Assembling such a table would require significant effort and could not be accomplished in the time available for responding to information requests. The AESO will consider an update to the *Transmission Cost Causation Study* for its next comprehensive tariff application, as discussed in section 8.2 (pages 261-262) of the application.

Accurately updating the *Transmission Cost Causation Study* would involve significantly more work than simply adding the cost of new projects that have occurred over the last five years. The update would need to account for replacement and retirement of transmission facilities, capital maintenance, accumulated depreciation, unamortized

contributions, radial lines originally serving points of delivery that have since become local system, and other relevant factors. The *Transmission Cost Causation Study* was based on TFO property records which incorporates these considerations, and an update to the study will probably also rely on TFO property records.

Reference: Section 6.11.3, Facilities in Excess of Good Electric Industry Practice, pages 114-116
Section 6.11.8, Operations and Maintenance, pages 121-122
Appendix C, Transmission Operating and Maintenance Cost Study, sections 6.1.2 and 6.1.3, pages 21-22
AUC Decision 2007-106
AUC Decision 2009-105

Preamble: In Decision 2007-106 (page 106-107), the AESO was given the following direction:

Direction 20A instructed the AESO to conduct a study of incremental TFO O&M to be included in the AESO's 2008 GTA. However, as the AESO did not advance the completion of this direction in the Application, as it did with other aspects of the customer contribution policy (such as the AESO's advancement of the cost study used in support of the AESO's revised maximum investment function), the Board does not have any basis at this time to revise its finding in Decision 2005-096 that, on average, \$0.12 of incremental TFO O&M costs will be generated by each \$1.00 of capital investment in an interconnection facility. However, additional research into the relationship between incremental TFO O&M costs and POD capital costs remains valuable. Accordingly, the Board directs the AESO to respond to Direction 20A from Decision 2005-096 in its next GTA. (underlining added)

Request:

- (a) Please provide a copy of the AESO's evidence, information responses, Argument and Reply Argument in the review and variance application giving rise to Decision 2009-105 ("R&V").
- (b) With respect to the AESO's comments in paragraph 518 of Section 6.11.8, please provide an explanation of how each of the arguments presented by the AESO in the R&V have been eliminated or reduced by the contribution policy provisions proposed in this application.
- (c) With respect to the "frustrations" referred to in paragraph 518 of Section 6.11.8, does the AESO agree that these frustrations primarily related to the AESO's previously expressed view that "standard facilities" always meant one line and one transformer?
- (d) Please provide an estimate for 2010 of the amount of charges to STS and DTS customers from this new charge of 14.5% prepaid O&M applied to customer contributions in excess of the maximum investment level. In addition, please determine

what the charge would have been in 2008 and 2009 for customer contributions in excess of the maximum investment level.

- (e) If the Commission were to reject the AESO's proposal in Section 6.11.3 to use good electric industry (utility) practice as the basis for determining facilities in excess of those required, and either use the current policy or a policy based on something similar to the 24 configurations proposed in the AltaLink Consultation process, would the AESO continue to support the application of 14.5% prepaid O&M on amounts above the maximum investment level?
- (f) In the case of TFOs determining good electric industry practice, will such determinations be made for new or expanded connections of DFOs? If the DFO is affiliated with the TFO, does the AESO have any concerns with this arrangement?
- (g) Does the AESO intend to monitor, review and report on decisions being made by the TFOs regarding decisions on determining good electric industry practice? If not, why not?
- (h) Please provide a standard definition of an incremental cost analysis in the context of a cost study, citing the authoritative source for the definition.
- (i) Was the determination of 14.5% prepaid O&M based on an incremental cost analysis that meets the definition in (h) above? Please explain.
- (j) With respect to the Transmission O&M Cost Study, Appendix C, section 6.1.2, please provide a table that demonstrates how the present value of 1.23% at a discount rate of 6% calculates to 14.5% (rather than 14.1%).
- (k) With respect to the Transmission O&M Cost Study, Appendix C, section 6.1.2, please provide the assumptions that were used in the calculation of the \$8 billion replacement cost and the AESO's view of the accuracy of the cost derived from the calculation.
- (l) Please perform the same calculation used to derive the 1.23% as referred in (j) above but remove any O&M costs unrelated to normal interconnections with the transmission system such as operating costs for isolated generation from the \$98,028,000 in O&M costs for 2008.
- (m) With respect to the Transmission O&M Cost Study, Appendix C, section 6.1.3, please explain why an incremental calculation that included operations as well as maintenance was not calculated? Provide an incremental cost calculation of operations and maintenance for both transmission lines and points of connection.
- (n) In arriving at the decision to apply 14.5% prepaid O&M on amounts above the maximum investment level, please provide a complete description of the consultation process involved. Include a list of all parties consulted and their responses, if not confidential.

Response:

- (a) Please see Attachments TCE-Keystone.AESO-004 (a)-A and -B.
- (b) Please refer to information response AE.AESO-006 (b-c).

- (c) In paragraph 518 of its application, the AESO notes that the “frustrations” are those discussed in section 6.11.3 of the application, namely:
- disagreement between the AESO, market participants, and TFOs on what constituted good transmission practice or on what criteria and standards should apply;
 - the time and resources expended by the AESO, TFOs, and market participants on evaluating, debating, and estimating costs for standard facilities which are not and never will be constructed; and
 - a requirement to adhere to the “minimum facilities” connotation of the single line and single transformer language in the standard facilities definition.
- (d) There will be no O&M amount charged to market participants taking service under Rate STS, as the O&M charge is applicable only for service under Rate DTS as stated in subsection 9 of section 8 of the proposed tariff.

The AESO does not have an estimate of the cost of connection projects that will be completed in 2010. However, the AESO provides an analysis of the 32 projects in the POD cost function data set (in Appendix G of the application) for 2006 to 2009, years in which the standard facilities definition was in place in the AESO’s tariff. The analysis indicates that market participants would have paid an additional \$11.2 million of construction contributions, representing an additional 3% on project costs totaling \$322.7 million. Please see Attachment TCE.AESO-004 (d) for the analysis.

- (e) As discussed in information response AE.AESO-006 (c), the AESO considers that, on balance, the reduction of costs impacted by the AESO’s proposed O&M charge plus the removal of the frustrations summarized in part (c) above more than outweigh any remaining level of those concerns previously expressed by the AESO. If the frustrations are not removed, then the AESO would review the balance of remaining considerations in the context of the Commission’s determinations.
- (f) As discussed in information response AUC.AESO-018 (e-f), the AESO expects that all TFOs would consistently determine good electric industry practice for all connection projects.
- (g) The AESO does not intend to specifically monitor TFOs’ decisions with respect to facilities in excess of good electric industry practice. Please refer to information response AUC.AESO-019 (a) for additional information.
- (h) A common definition of marginal or incremental costs is provided by Leonard Saul Goodman in *The Process of Ratemaking* (1998), Vienna, Virginia, Public Utilities Reports, Inc.:

“Marginal costs” refer to the costs of producing another unit of output after accounting for current output. Since few companies can or do plan for single additions to output, but rather plan in blocks or increments of output, the “second-best” cost estimate involves “incremental” rather than marginal costs. Each increment will be the planning increment of investment, capacity, etc. that relates to the subject cost. [page 393]

Goodman later adds the following considerations:

Marginal costs are current or future, not past, costs. [page 394]

The preferred form of marginal costs, where the average extends over a reasonable planning period, is long-run marginal costs. [page 398]

Consistent with current economic thought, the Illinois commission required costing of competitive telecommunications services to include all “long-run service incremental cost of service.” It described such costs in the adopted rules as the, “costs to a carrier of providing a service or group of services on a prospective basis over a planning horizon long enough to have no sunk inputs or costs....” [page 399]

- (i) The 14.5% O&M charge would generally be considered to satisfy the requirements of an incremental (or marginal) cost study as defined in part (h) above. In particular, the charge was based on a long-run incremental approach, where costs are considered variable which might be considered fixed under a short-run approach.
- (j) The requested calculation is provided on the “Sum 5.0” sheet in the *Electric Transmission Operating and Maintenance Cost Workbook* filed as Appendix D to the application. The apparent difference arises because the filed calculation uses the mid-year balance to determine the present value for the O&M charge.
- (k) The calculation of the \$8 billion replacement cost was based on the multiplier determined in the *Transmission System Replacement Cost New Multiplier Workbook* filed as Appendix E to the application, and the 2008 mid-year gross property of the four largest TFOs analyzed in the *Transmission O&M Cost Study*.

The RCN multiplier was determined using vintaged surviving property balances for the largest transmission property accounts filed in AltaLink’s and ATCO Electric’s depreciation studies. Statistics Canada’s electric utility construction price indices applicable to each property account were applied to estimate the 2008 value of the surviving property balances for each year. The total 2008 value over all property accounts was divided by the original cost in all accounts to calculate and RCN multiplier. The AESO considers that this multiplier should be reasonably accurate. The vintaged surviving property balances should be very accurate. The electric utility construction price indices are average Canada values as Alberta-specific values are not available.

The mid-year gross property of the four largest TFOs to which the RCN multiplier was applied should also be very accurate.

The AESO does not believe any bias exists in the calculation.

- (l) If isolated generation fuel costs (\$8.2 million in 2008) and isolated generation operation and maintenance costs (\$5.9 million in 2008) are removed, the operating and maintenance cost for 2008 becomes \$83.9 million (\$98.0 million – \$8.2 million – \$5.9 million) which is 1.05% of the estimated RCN value of the electric transmission system. The present value of this amount over 20 years is 12.4%.

Please note that in the work completed to respond to this information request, an error was found in the *Transmission O&M Cost Workbook* in the “AT Sch 5.1” sheet that links to the isolated generation operation and maintenance cost. This error is corrected in the

revised *Appendix D - Transmission O&M Cost Workbook* that has been provided with these information responses.

- (m) The incremental maintenance costs based on existing maintenance programs for various components of an electric transmission system was completed in Section 6.1.3 providing an estimate of incremental maintenance costs. Incremental operations costs have not been defined, and there is no tracking of incremental operations costs by the TFOs with respect to various components of the electric transmission system. Therefore, the best estimate of operations and maintenance cost includes overheads and is shown in Section 6.1.2 of the *Transmission O&M Cost Study* provided as Appendix C to the application.
- (n) The removal of the concept of standard facilities from the AESO's tariff was discussed with the POD Cost Function and Investment Level Update Working Group during consultation on the AESO's 2010 tariff. That working group included representatives from AltaLink, DUC, ENMAX, IPCAA, TransCanada, and UCA. The working group received draft copies of the final recommendations filed as Appendix F to the application.

The development of the O&M charge was discussed with the TFO O&M Cost Causation Study Working Group. That working group included representatives from AltaLink, ENMAX, EPCOR, Statoil, and UCA. The working group discussed draft findings with respect to the O&M charge.

The AESO's proposal to apply the O&M charge on amounts above the maximum investment level was presented at a general stakeholder consultation meeting in early November 2009, where a slide stated, "With the removal of the use of standard facilities, the AESO proposes that O&M will apply to costs of facilities in excess of maximum investment." The O&M charge level had not been finalized at the time of that stakeholder meeting. The meeting was attended by about 40 stakeholders.

A few stakeholders expressed concerns about the AESO's proposed approach to the O&M charge, but most made no comment on the matter.