



On December 8, 2005, the AESO held a consultation meeting with stakeholders to identify, review and prioritize terms and conditions issues to be addressed in the AESO's 2007 tariff application, followed by a discussion paper distributed on December 13, 2005. Stakeholders provided comments on the discussion paper, and in responding to those comments the AESO proposed to develop terms of reference for a Customer Contribution Study.

Information provided in the 2007 terms and conditions consultation and in the processes leading to approval of the AESO's 2006 terms and conditions can be found on the AESO's website at www.aeso.ca, by following the paths:

- Tariff ► Current Consultations ► 2007 Terms and Conditions
- Tariff ► Previous Applications ► 2005-2006 Tariff Second Refiling
- Tariff ► Previous Applications ► 2005-2006 Tariff Refiling
- Tariff ► Previous Applications ► 2006 Tariff Application

Background

The AESO proposed a number of changes to the Customer Contribution Policy as part of its 2005-2006 GTA. Following extensive discussion during the hearing, EUB Decision 2005-096 directed the AESO to make a number of revisions to Article 9 of the AESO's terms and conditions. The EUB considered that the maximum investment function proposed by the AESO was "overly simple. As a result, it does not achieve an appropriate balance between simplicity and appropriate economic signals." The EUB's concern was that the AESO proposal placed an emphasis on revenues as a function of the Customer Contribution, whereas the EUB's position was that cost was the appropriate starting point for establishing the investment policy. As such in Direction 13 the AESO was directed to adjust the investment levels to reflect the following:

- *A minimum investment allowance of \$2.5 million, and*
- *An additional investment of \$100,000 per MW of project capacity.*

Assuming 20 year contract terms, the AESO proposed investment levels of \$125,000/year of contract term plus \$5,000/MW/year of contract term.

In Decision 2005-096 the EUB also directed the AESO to conduct additional work on the Customer Contribution Policy and report back to the EUB with its results for the AESO's 2008 GTA:

- 13A. *In respect of the longer term beyond 2006, the Board directs the AESO to conduct further study so that it may devise a more comprehensive investment function proposal which avoids the Board's concerns with the AESO's 2006 Application and reflects the design principles described by the Board in this Decision. The Board considers that this task will involve several distinct steps, as reflected in the following list of Board directions:*

1. *The Board hereby directs the AESO to conduct a study for the purpose of devising a simplified maximum investment function. Such study to be completed in time for review no later than the 2008 GTA proceeding. The study should incorporate a sufficient number and diversity of data points to enable the study to consider the current costs of several different interconnection project sizes. Interconnection project costs for the purposes of the investment function study should only reflect the costs of standard facilities as described in the AESO Standard Facilities definition approved by the Board in this decision.*
2. *On the basis of the results of the study described in the preceding direction, the AESO shall recommend an investment function that represents the average cost per MW of capacity. The Board expects that the resulting interconnection cost function derived will exhibit significant economies of scale and, as a result, may be non-linear in nature. For the purposes of the remaining steps of the Board's maximum investment function directions, the average cost function derived in accordance with this step will be referred to as the "Raw Interconnection Project Cost Function".*
3. *In accordance with the notion of a tolerance as discussed in the argument of IPCAA, the Board directs the AESO to analyze the results of the above study for the purposes of determining an appropriate multiplier such that approximately 80% of the projects included have a cost greater than implied by the Raw Interconnection Project Cost Function fall within the selected tolerance multiplier.*

The Board directs the AESO to present the results of the above analysis for review no later than the time of filing its 2008 GTA, along with its proposal for an appropriate maximum investment formula. [p. 58]"

Prior to re-filing the responses to the directions outlined by the EUB in Decision 2005-096, the AESO conducted a pre-filing stakeholder session to discuss the investment level as outlined in Direction 13. The AESO presented analysis that suggested that the investment levels as identified in Direction 13 resulted in significantly higher contributions than the AESO's previously approved investment policy.

In an effort to aid the discussion, the AESO presented an investment level function based on initial results of a preliminary study, which had been detailed in the response to Direction 13A. During the discussions that ensued during the presentation, no parties voiced objections to the alternative higher investment level function in discussion during that presentation. However at

the conclusion of the consultation process, the AESO determined that due to the limited direction provided by the stakeholder community, along with some concerns raised regarding the data and analysis that went into the proposal, the AESO decided to implement the investment levels as directed (Article 9.6(a)(i) of the 2006 terms and conditions of service).

The AESO initiated its stakeholder consultation process for the 2007 GTA in December 2005. The AESO issued two discussion papers outlining various issues that the AESO intended to address in its 2007 GTA. It was also an opportunity to gauge stakeholder support and ascertain their positions on the various issues discussed in the materials provided. One of the areas in which stakeholders appeared to be in general agreement was that further study was required on the customer contribution investment levels, in order to further refine the currently approved investment policy. Stakeholders further suggested the work should be completed prior to the 2008 GTA, but not at the risk of producing poor research results.

As such, in a letter distributed by the AESO on January 12, 2006, the AESO informed the stakeholder community that the 2007 Phase II filing would be delayed to allow time to address the concerns raised by the stakeholder community. The letter also identified the AESO's intention of conducting a study to comply with Direction 13A and that the stakeholder community would be given the opportunity to comment on the Terms of Reference for the project.

Issues

Stakeholders along with the AESO have provided extensive comments regarding the customer contribution policy. In responding to Direction 13A the AESO intends to address the following issues raised by parties:

- The currently approved investment levels appear to be significantly lower than the previous AESO investment policy. Under the 2006 investment policy, about 40% of projects will require a customer contribution, compared to less than 10% under the AESO's previous investment policy.
- Concerns with the existing sample data provided by the AESO, including, for example, lack of thorough analysis of the data, definition consistency with rate design, and unexplained anomalies in the current data.
- Potential intergenerational equity concerns.
- Whether the target 80% of projects being covered by investment is determined based on the number of projects or the dollar value of projects.



- The combined effects of high transmission development costs, a reduction in investment levels, and increased number of projects required to pay a contribution create a barrier to new industrial load development.
- Balancing previously stated customer contribution principles and the evolution of the Alberta electric industry.

Terms of reference for the additional work were distributed to stakeholders on January 27, 2006, and stakeholders provided comments on February 8. The following information has been revised to reflect those comments, where appropriate.

Scope

The three components as outlined in Direction 13A will be the basis for the scope of this study. During the course of the study, the AESO will:

1. Incorporate a sufficient number and diversity of data points

The AESO considered three approaches that could satisfy the data requirements of the direction.

The proposed approach would entail the gathering of data for the most recently constructed substations for which the AESO has information (i.e. for the years 2000 to 2006) and deconstruct the project and cost information. Deconstruction of project costs would entail separating the facility project costs as follows:

- Transformer, transmission line and other costs
- Standard vs. optional facility costs and,
- System vs. customer related costs

Based on stakeholder input, the AESO has also committed to consider additional information during the course of the customer contribution study. The following information may also prove useful in the analysis of POD costs:

- Voltage level of the customer's interconnection;
- Single-customer, multi-customer or multi-use (DTS or STS) substation;
- Load factor at the substation; and
- Transformer size (MVA capacity).

The study will also attempt to identify whether the customer contribution was for optional facilities, or in excess of the maximum investment amounts.



The deconstructed project information will align with the definition of Point of Delivery (POD) as utilized in the AESO’s rate design and project costs will be updated to current dollars.

Criteria	Review of Recent Projects (2000-2006)	Random Sample of Existing Substations	Generic Substation Configurations
Actual project costs	Yes	No	No
Actual projects	Yes	Yes	No
Representative of future projects	Yes	Maybe	Maybe
Representative of AIES	Sample size limited	Yes	Yes
Availability of supporting planning decisions outcome	Sufficient	Limited	Sufficient
Sample size	Limited	Extensive	Extensive
Varying load sizes	Unknown	Yes	Yes
Costs updated to current dollars	Yes	Yes	Yes
Project can be deconstructed to meet defined rate term	Yes	Yes	Yes

The AESO proposes to undertake a detailed review of all the substations that went into service from 2000 through 2006. The AESO recognizes that the contract capacity distribution may be limited by the sample size, but the AESO feels information accuracy is of primary importance. The detail and accuracy of information available is far greater for actual projects (substations constructed during the period 2000 to 2006) compared to information surrounding the circumstances and drivers that impacted the development of an existing substation during the vertically integrated utility environment. For example, the AESO would not have information on the original contracted load at the substation, if and when upgrades were made to the substation, or contract capacity changes at the substation that may or may not have included facility expansion.

The AESO also intends to compare and test the data collected with projects that are expected to be constructed in the near future to further check that the projects are appropriately representative of the recent past.

2. Determine the Raw Interconnection Project Cost Function

The AESO will review the data as outlined above and will analyze the results in order to determine the Raw Interconnection Project Cost Function. The intent would be to recommend an



investment function that represents the average cost per MW of capacity but will investigate whether the data exhibits any significant economies of scale, if the relationship between contract capacity and cost is linear or non-linear in nature, or if relationships other than contract capacity and cost exist.

3. Determine an appropriate multiplier such that 80% of projects do not pay a contribution.

Once the Raw Interconnection Project Cost Function has been determined the AESO will investigate different multipliers to achieve an investment where 80% of projects do not pay a contribution.

Stakeholders have asked the AESO to review whether the “80/20 rule” is still an appropriate measure in determining the number of projects that should pay a customer contribution. The AESO feels the “80/20 rule” continues to be an appropriate rule of thumb and will review the impact of the multiplier to achieve the 80/20 investment level for the project from 2000 through 2006. The AESO will also compare and test the data collected with projects that are expected to be constructed in the near future for further verification.

The *Customer Contribution Study* will be conducted from February to April of 2006. A status report including preliminary results (where available) will be provided at the end of March and final results at the end of April. Stakeholders will be invited to comment on the preliminary and final results, and responses to stakeholder comments will be incorporated into the final report for the study, where appropriate.

Next Steps

The AESO intends to provide a summary of process and methodology used during the collection and analysis of the customer contribution study, and will provide preliminary results for stakeholder feedback.

If you have questions on the *2006 Customer Contribution Study* terms of reference discussed in this paper or on the 2007 terms and conditions consultation in general, please contact Ed Hucman at (403) 539-2469 or Lee Ann Leduc at (403) 539-2741 (both in Calgary) or by e-mail to ed.hucman@aeso.ca or leeann.leduc@aeso.ca.

The AESO expects to file its 2007 tariff application in May or June 2006, for rates to be effective on April 1, 2007.

All information on the 2007 rates consultation is available on the AESO’s website by following the path **Tariff ► Current Consultations ► 2007 Terms and Conditions**.