Title: Classification of Customer and System-related Costs

Preamble: The AESO has reserved for itself discretion to determine costs to be system related in certain circumstances. ATCO Electric wishes to understand how the AESO views the scope of the discretion it has retained.

Reference: Reference – AESO Terms and Conditions, Section 9.13

Request:

(a) In general, does the AESO consider 240kV Transmission lines, involving large capital expenditures, to be part of the backbone transmission system?

(b) In general, does the AESO consider transmission facilities serving numerous customers and a large aggregate load to be part of the backbone transmission system?

(c) In general, does the AESO consider it appropriate to classify the costs of large extensions to the backbone transmission system that serve multiple supply service requirements and demand service requirements, as system related costs? If not, why not?

(d) In what circumstances would the AESO consider it appropriate to classify such large extensions as system related? Please provide illustrative examples.

(e) In what circumstances would the AESO consider it appropriate to classify such large extensions as customer related? Please provide illustrative examples.

(f) Does the AESO have a set of defined criteria that guide the exercise of its discretion pursuant to s. 9.13. If so, please provide.

(g) Please provide past examples of where the AESO has exercised its discretion to classify facilities as system related that, under a strict application of the contribution policy, would have been customer related. Please include examples of various types of transmission facilities.

(h) Does the AESO agree that the transmission system development plans it establishes should take into account both known developments, as well as the potential future development in the area?

(i) Does the AESO consider potential future developments and needs in the exercise of its discretion under s. 9.13? If not, why not?
Response:

(a) Yes, in general, the AESO considers most of the 240 kV and all of the 500 kV transmission lines and substations to be part of the bulk system. The bulk transmission system may be thought of as moving power from generation surplus regions in Alberta to load regions as well as to and from outside systems. The portion of the system considered as the backbone consists primarily of two paths: Edmonton to the Northeast (Fort McMurray) and Edmonton to Calgary, although more recently the Edmonton to the Northwest path has also been considered part of the “backbone”.

For larger loads and generators connected to the transmission system, customer-related facilities, regardless of voltage, would not be considered “bulk system”. The differentiation between system and customer-related is therefore one of function, not voltage.

(b) In general, transmission facilities that are used in serving numerous system access service customers and aggregate loads in a large region of the province tend to be classified as part of the backbone transmission system. Please refer to (a) regarding the common use of the term “backbone”.

(c) Extensions from the backbone system that are generally used for interconnecting supply service or demand service customers to the transmission system are usually customer related. These dedicated transmission facilities only serve the purpose of connecting customers to the grid and generally are not used to move power from one region to the next.

(d-e) Sections 9.3 (a) and (b) of the AESO Terms and Conditions describe the circumstances where the cost of facilities, including one involving a large extension, would qualify as customer related costs. Section 9.3 (c) of the AESO Terms and Conditions describes the circumstances where the cost of facilities would qualify as system related costs. In circumstances that are not specifically addressed in section 9.3 of the Terms and Conditions, the AESO applies discretion. Guidance is taken from the intent of the specific terms provided in section 9.3. The following general principle expressed by the EUB in Decision 2005-096 (p. 49), provides additional guidance, as follows:

*The Board, however, considers that a general stance that system enhancement costs are customer costs unless demonstrated otherwise is consistent with the expectation that the AESO adopt a more proactive stance in respect of its overall system planning and transmission system upgrade responsibilities as detailed in the Transmission Regulation.*

(f) The AESO applies discretion in a manner that is consistent with the spirit and intent of the provisions of Section 9.3 of the Terms and Conditions, the EUB’s determinations, and the Transmission Regulation.

(g) To the AESO's knowledge, since 2003 there have been rare cases where the AESO classified some project costs as system-related which under strict application of the customer contribution policy would have been classified as customer-related. In the few cases, the reclassification primarily involved project costs associated with protection and communication equipment installed at neighboring substations. The costs of such facilities were relatively small compared to the entire interconnection project. Prior to
2003, the AESO is aware of only one case where what would be considered customer-related costs under the current tariff were classified as system-related. The project involved a transmission extension from the Dover substation to the Shell Albian facility. A majority of the radial line was classified as system-related, leaving only the portion of transmission line and substation facilities starting from the Athabasca River back to the customer’s facility classified as customer-related. Under strict application of today’s contribution policy, the entire line would have been considered customer-related, but according to records available, a large portion of the line was considered system-related for the following reasons:

- The customer versus system determination was performed under the 2000 customer contribution policy, where there was less clarity and greater latitude when defining customer versus system related costs.
- Negotiations to have Shell interconnect to Syncrude’s facilities failed. There was extensive pressure to interconnect Shell within the desired in service date.
- There were a number other loads expected to interconnect near the transmission facilities extending to the Shell Albian facility.

(h) Yes, insofar as system considerations are concerned. Customers are also expected to anticipate their future needs and are responsible for communicating all the necessary information in their system access service request.

(i) Yes. Please also refer to part (h) above.
Title: Classification of system and customer-related costs

Preamble: ATCO Electric wishes to understand the AESO's views regarding looped transmission facilities.

Reference: Reference – AESO Terms and Conditions, Section 9.3(i)

Request:

(a) Describe the circumstances under which the AESO considers it appropriate to incorporate "looped transmission facilities" into its Transmission Development Plans.

(b) In the AESO's view, does "looping" a transmission facility provide enhanced system reliability in circumstances where a number of supply service requirements and demand service requirements are being served by the subject facilities?

(c) In the AESO's view, can a transmission facility be considered "looped" when it increases the number of electrical paths serving multiple supply service requirements and demand service requirements?

(d) Does the AESO's current definition of the term "looped" preclude facilities from being considered looped, in the circumstances outlined in (c) above, unless there are at least two POCs? Does the AESO have any discretion regarding the interpretation of this definition?

(e) Would the cost of facilities that are looped to meet the requirements of the AESO's transmission development plans normally be considered system related?

Response:

(a) Looped transmission facilities are defined in the AESO tariff as “transmission facilities that increase the number of electrical paths between any two POCs other than the POC that serves the customer for whom the facilities are being or have been constructed”. Looped facilities are generally those that connect two points on the bulk system that are separated by some distance, and as such are considered appropriate to provide reliable service to a broader area or region, by interconnecting adjacent systems.

(b-c) As noted in (a) a facility is not considered looped, unless it increases the number of electrical paths between any two POCs on the bulk system, and can therefore contribute to providing reliable service to a broader area or region, by interconnecting adjacent systems. Part (b) of the question appears to use “looping” to mean “tying” together multiple new loads and generators on one transmission circuit, which itself is only connected to one point on the existing transmission system. The multiple lines of supply between the individual customers in this configuration would tend to provide enhanced reliability to the customers on the tied circuit, compared to, for example, a radial
configuration that ties them each separately to the point of interconnection to the existing system. This does not meet the definition of Looped.

(d) In general, a second line of supply to a single point of connection (load or generation) requested by the customer for the customer’s enhanced reliability requirements would be precluded from being considered a Looped, System facility. The AESO has discretion regarding the application of the Contribution Policy in accordance with section 9.13 of the Terms and Conditions, which includes discretion in its determinations respecting the classification of System and Customer-Related costs as discussed in AE.AESO-001(f).

(e) Yes, the cost of facilities that are Looped according to the description provided in parts (a) and (b) above would normally be considered System-related.
Title: Definition of AESO Standard Facilities

Preamble: The AESO's proposed Terms and Conditions include the following definition:

“AESO Standard Facilities” mean the least-cost interconnection facilities which meet good transmission practice including applicable reliability, protection, and operating criteria and standards, and generally consist of a single radial transmission circuit and a single transformer to supply an individual Point of Connection.”

Article 9.3(d) of the AESO's proposed Terms and Conditions states the following:

"Where the Customer requests an interconnection configuration that, in the sole opinion of the AESO, exceeds AESO Standard Facilities, the Customer must pay all customer and system costs in excess of AESO Standard Facilities."

Reference: Reference – AESO Terms and Conditions

Request:

(a) In circumstances where an existing Point of Delivery ("POD") is approaching its capacity limits, and new capacity is needed to serve load growth in the area, would the AESO expect the subject Distribution company to prepare and submit to the AESO an interconnection proposal that outlines several possible alternatives that have been evaluated?

(b) In such circumstances, would the AESO expect the Distribution company to examine alternatives that included: (i) an increase in the capacity at existing PODs, combined with distribution system improvements, and, (ii) the development of a new POD near the load centre?

(c) Would the AESO expect the proposal presented by the Distribution company to include an evaluation of the technical merits of each alternative, as well as, the long-term economic impacts, system losses and initial capital costs associated with each option?

(d) Assuming that the steps detailed in (a)-(c) above are followed ATCO Electric would like to get the AESO's views on a specific example, as follows:

"The Distribution Company has examined two options available to it, being: (i) an increase in capacity at an existing POD; and (ii) the construction of a 144kV transmission line and a new POD close to the load centre. Both are technically feasible, but option (ii) provides the most economic long-term solution to serve the area's growing load and provides the best technical solution as well."

In these circumstances:
(i) Would the AESO generally agree that pursuing option (ii) above results in the most prudent evolution of the electric system?

(ii) If the AESO considers the development of a new POD to be prudent, would the AESO's investment policy be applied based on the identified need for such a new POD? If not, why not?

(iii) Provide the details of the commercial treatment that this development would receive under the AESO's Customer and System Contribution Policy.

(iv) Does the AESO agree that "good transmission practice" encompasses the best overall electric system solution, whether those facilities are distribution or transmission?

(v) Would the AESO's "Point of Delivery" charges under its proposed DTS tariff apply to the new POD in the scenario outlined above?

(vi) Is the applicability of the "Point of Delivery" charges under the proposed DTS tariff reliant on the commercial treatment afforded this new POD under the Customer and System Contribution Policy?

(vii) Does the AESO agree that the application of the Customer and System Contribution Policy should encourage the responsible, efficient, and prudent evolution of both the integrated transmission and distribution systems?

(viii) Does the AESO agree that its policy should be interpreted and administered so as to encourage the development of transmission facilities that best meet the long-term needs of the Province?

Response:

(a-c) Yes, the AESO would expect the Distribution Facility Owner (DFO) to provide the AESO with its distribution plan for the subject area and in coordination with the Transmission Facility Owner (TFO), provide a list of alternatives (that includes transmission and/or distribution solutions), costs and a thorough evaluation.

The AESO in conjunction with the DFOs developed a number of interconnection guidelines for distribution point of delivery interconnections. The guidelines outlined below provide various interconnection solutions, information requirements, evaluation criteria along with other considerations. These guidelines were developed not only to increase the efficiency of the interconnection process, but were also developed to ensure consistent, transparent and effective communication and coordination between the AESO and the DFOs to derive lowest possible cost solutions to interconnections while meeting reliability, performance and safety requirements. The guidelines developed with the DFOs include:

- Distribution Point of Delivery Interconnection Process Guideline – Evaluation of Transmission versus Distribution Alternatives for Large Customers
- Distribution Point of Delivery Interconnection Process Guideline – New Point of Delivery Substations
• Distribution Point of Delivery Interconnection Process Guideline – Typical Supply Arrangements
• Distribution Point of Delivery Interconnection Process Guideline – Distribution Circuit Breaker Addition
• Distribution Point of Delivery Interconnection Process Guideline – Drivers of Need
• Distribution Point of Delivery Interconnection Process Guideline – Economic Evaluation
• Distribution Point of Delivery Interconnection Process Guideline – Upgrades to an Existing Substation
• Distribution Point of Delivery Interconnection Process Guideline – Standards of Service

These can be found on the AESO’s website at http://www.aeso.ca/rulesprocedures/7533.html.

(d)  (i) Yes, the AESO would generally agree that, based on the limited information, pursuing option (ii) may result in a prudent evolution of the electric system. However, the assumption that option (ii) is truly the best technical solution for long term development presumes that the proposed solution will satisfy an anticipated load growth forecast for the area. Therefore, if the DFO is confident in the long term load forecast in the area, the DFO should be willing to sign a long-term DTS contract based on their load forecast, which in turn necessitates the construction of a new POD. If, on the other hand, the DFO is unwilling to sign such a long-term contract, then the evaluation of different interconnection alternatives should only account for shorter term load requirements anticipated in the area.

(ii) If the evaluation of different interconnection alternatives to satisfy a system access service request clearly demonstrates that a new POD is required, the AESO will apply all components of Article 9 of the Terms and Conditions as appropriate.

(iii) If it is assumed that the recommended interconnection solution is the development of a new POD and the interconnection solution only includes AESO Standard Facilities (i.e. no facilities in excess of standard), Articles 9.3 through 9.6 will be applied to the project in order to determine the customer contribution and contractual requirements for the customer.

(iv) Good transmission practice along with good utility practice would generally ensure that the most effective overall solution to end user electricity needs at the lowest overall costs would be developed. The AESO along with the DFO would cooperate in the development of the appropriate interconnection solution, which would include giving due consideration to the reliability and operating standards of each party.

(v) Yes.

(vi) No.

(vii-viii) The AESO’s contribution policy and the application thereof should, in conjunction with the remaining components of the tariff, allocate the appropriate costs to customers for system access service. The price signals provided by the customer contribution
policy, in part, are intended to place economic discipline on siting decisions (in accordance with Decision 2000-1, and referenced by the EUB in Decision 2005-096, p. 43). The tariff provisions in aggregate should reflect the appropriate share of costs for the service received, and should not interfere with the responsible, efficient, and prudent evolution of transmission system.