

**2007 GTA Terms & Conditions of Service
Stakeholder Consultation**

Edward Hucman, Regulatory
Telus Convention Centre, Glen Room 202-204 - Calgary
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Agenda

- **Article 1** – Definitions & Interpretation
- **Article 9** - Customer Contribution Policy
 - Prepaid O&M
 - Maximum investment level
 - Contract capacity increases
- **Article 14** – Reductions & Terminations of Contract Capacity
 - Lump sum payment components
- **EUB Directives**
 - AESO / DISCO Harmonization
- Other proposed updates to the terms & conditions
- Session wrap-up


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Article 1: Definitions & Interpretation

- “Substation Fraction”
 - DTS rate schedule & Article 9.6
- “Interconnection Requirements”
 - Definition expanded to specify all documents defined as interconnection requirements
- “Reliability Standards”
 - Replaces “RMS or “Reliability Management System”
 - Updated to reflect the compliance with standards, criteria, agreements or directives issued by WECC & NERC
 - Note that supplemental standards or criteria developed by the AESO are also included


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Article 9.4: Prepaid Operations & Maintenance

- June session: AESO position not finalized
- Application proposal:
 - Continue O&M charge on facilities in excess of AESO standard facilities
 - Remove O&M charge on AESO Standard Facilities
- Rationale:
 - AESO / DISCO harmonization
 - Intergenerational equity
 - General stakeholder support
 - Charge does not meet original intent of developing economic discipline & efficiencies


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Article 9.6: Maximum Investment Function (June 2006)

- Proposed investment function based upon project costs from both “greenfield” & “upgrade” projects
- Average cost function:
 - Generated from both “greenfield” and “upgrade” projects
 - Investment function slope:
 - Weighted average of “greenfield” & “upgrade” slope
 - Investment function y-intercept:
 - Average cost function of “greenfield” projects & average DTS Contract Capacity


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Article 9.6: Maximum Investment Function (September 2006)

- Developed new two part function representing:
 - Minimum costs that cannot be avoided by any project and;
 - Average cost function for “greenfield” project data
- Rationale
 - Statistical validity of data
 - Data sample representation
 - Significant “scatter” around average cost function
 - Higher costs may be attributed to customer than incurred
 - Greater impact now that the cost function is used as the basis for rate design

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Article 9.6: Maximum Investment Function (September 2006)

- Note project cost estimates have been updated
 - 12 project costs estimates revised (4 final costs)
 - Average cost function: $\$4.451\text{m} + (\$0.154\text{m}/\text{MW} \times \text{DTS Capacity})$
- Conducted envelope analysis to determine minimum cost function (factor: 0.5159)
 - $\$2.296\text{m} + (\$0.080\text{m}/\text{MW} \times \text{DTS Capacity})$

Greenfield Projects and DTS Capacities Envelope Analysis

The graph plots AESO Standard Costs (\$M) on the y-axis (0 to 14) against DTS Capacity (MW) on the x-axis (0 to 50). It features three lines and a set of data points: a grey line for the Average Cost Function, a black line for the Minimum Cost Function, and a blue line for the Ninth Decile Function. The data points, represented by black dots, are scattered around these lines, showing a general upward trend in cost as capacity increases.

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Article 9.6: Maximum Investment Function (September 2006)

- Minimum cost function test
- Firm-AESO-234 (b) COS least cost estimates for stand alone services **5MW or less**
- Detailed facilities review not performed for data sample
- Costs escalated to \$2007

Sample results:

- Projects: **12**
- Average DTS capacity: **1.28MW**
- Average project cost \$2007: **\$2.15m**
- Cost function = $\$2.141 + (\$0.007 \times \text{DTS MW})$

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Article 9.6: Maximum Investment Function (September 2006)

- Establish linear function to link - average project cost function & new minimum cost function
 - Average DTS capacity: 17 MW
 - $\$4.451\text{m} + (\$0.154\text{m/MW} \times 17 \text{ MW}) = \7.106m
 - $\$7.016\text{m} = \$2.296\text{m} + (\$x \text{ m/MW} \times 17 \text{ MW}) = \0.279m/MW
- Minimum intercept function:
 - $\$2.296\text{m} + (\$0.279\text{m/MW} \times \text{DTS Capacity})$
- Recommended cost function:
 - **$\$2.296\text{m}$**
 - **$+ (\$0.279\text{m/MW} \times \text{first 17 MW of DTS Capacity})$**
 - **$+ (\$0.154\text{m/MW} \times \text{DTS Capacity above 17MW})$**

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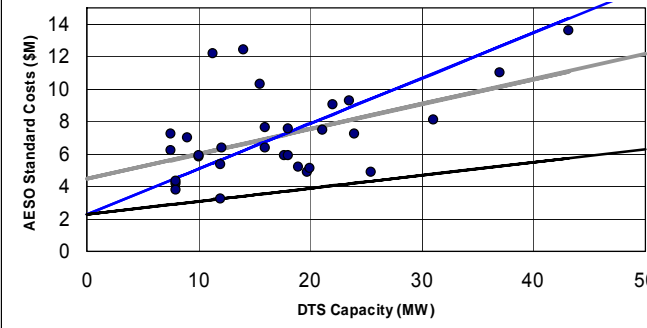
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Article 9.6: Maximum Investment Function (September 2006)


Raw Cost Function Derivation

— Average Cost Function
— Potential Cost Function

● Standard Facilities Cost
— Min Cost Function



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Article 9.6: Maximum Investment Function (September 2006)

- “80/20” multiplier
 - Multiplier: 1.299
 - \$2.985 + (\$0.363m/MW x first 17 MW of DTS Capacity + (\$0.200m/MW x DTS Capacity above 17 MW)
- Maximum investment assuming 20 year contract term:
 - \$149,250/year of contract term + (\$18,150/MW/year of contract term up to 17 MW) + (\$10,000/MW/year of contract term greater than 17MW)
 - 83.3% fully covered by investment

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Article 9.6: Maximum Investment Function (September 2006)

Proposed Investment Function

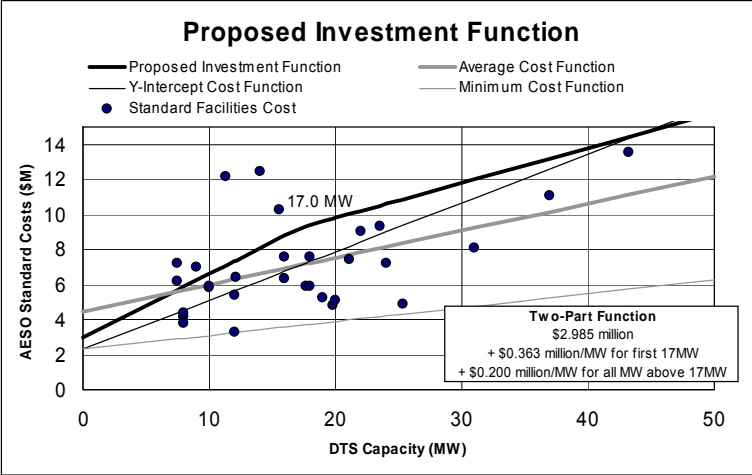
— Proposed Investment Function

— Y-Intercept Cost Function

• Standard Facilities Cost

— Average Cost Function


— Minimum Cost Function



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AESO Stakeholder Meeting

6



Articles 9.2, 9.7, 9.9: Contract Capacity Increases

- June proposal was to adjust customer contributions based upon the tariff at the time of the request

Issue:

- Increases in contract capacity that require the construction of new transmission facilities

Revised proposal

- Articles 9.9 & 9.10 customer contributions will be recalculated using the approved tariff used in the original calculation
- Contract capacity increases requiring new transmission facilities will receive the approved tariff at the time of the request

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Articles 9.2, 9.7, 9.9: Contract Capacity Increases


Rationale:

- New contract capacity increases not contemplated in original decision constitutes a new commercial decision, which requires new commercial terms
- Creates alignment between the costs incurred with the investment policy and rate design at the time of the request

Details:

- Article 9.2 updated to match the AESO's Commitment Determination business practice
- Articles 9.7 updated to match the intent of the proposed treatment
- Article 9.9 revised to clarify that recalculations for contract capacity increases will apply to only those increases that do not require new transmission facilities

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Article 14: Reductions & Terminations of Contract Capacity

- Article 14.4 – original proposal
 - Reductions: lump sum payment includes the PV of Billing Capacity charges
 - Terminations: lump sum payment includes the PV of both Billing Capacity and fixed components of the POD charge
- Article 14.1 – new proposal
 - Reductions & terminations: lump sum payment includes only the System Charge of the DTS rate schedule
 - Article 9.9 Changes in Customer Contribution – captures changes to customer POD related costs as customer materially changes their contract capacity

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EUB Directives: AESO / DISCO Harmonization

- AESO to prepare discussion paper
- Seek DISCO comment on discussion paper
- Determine next steps

Updated response:

- Harmonization from a tariff perspective has been achieved
- Remaining harmonization technical in nature
- AESO proposes to initiate “technical” discussions with the DISCOs regarding such things as:
 - Minimum service norms
 - Interconnection thresholds
 - “Standard facilities”

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Other Proposed Changes

- Article 6 – Security & Customer Agreements
 - Revised Article 6.2 (c)
 - Security not will be required from DISCOs for “AESO Standard Facilities”
 - Facilities in excess of standard, security must be provided
- Article 17 – Service Interruptions and Force Majeure
 - Update language to note that other events other than the events provided may cause a service interruption
- Article 21 - Miscellaneous
 - Notices have been expanded to include email as an acceptable form of notification

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- Information can be accessed on www.aeso.ca by following the path
 Tariff ► Current Consultations ► 2007 Terms & Conditions

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