

SECTION 6 PROPOSED REVISIONS TO 2007 TERMS AND CONDITIONS OF SERVICE

6.1 Overview of Changes to the Terms & Conditions of Service

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The following is a summary of changes the AESO proposes to its terms and conditions of service for 2007:

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(a) **Article 1** – Insert “Substation Fraction” definition as contained in the DTS rate schedule, revise the term “Interconnection Requirements” and replace “RMS” “Reliability Management System” with the term “Reliability Standards”;

(b) **Article 3** – Revise Article 3.1 to clarify the AESO’s obligation to provide service in excess of a customer’s Contract Capacity;

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(c) **Article 5** – Amend Article 5.1 and insert a new Article 5.2 to reflect the different interconnection processes developed through stakeholder consultation in 2005;

(d) **Article 7** – Update Article 7.1 and 7.5 to reference the AESO Measurement System Standard;

(e) **Article 9** – Several revisions to the customer contribution policy, including:

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- **Articles 9.2, 9.7 & 9.9** – Align tariff and AESO practices regarding which tariff is applied to system access requests. The date customer executes a Construction Commitment Agreement signifying commitment as per AESO practices, the approved tariff at the time of commitment will be applied to new system access requests or requests of DTS Contract Capacity increases that requires the construction of new transmission facilities;

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- **Article 9.4** – Provision to apply Prepaid Operations and Maintenance charge to only facilities in excess of Standard;

- **Article 9.5** – Amend the DTS/STS ratio to allocate interconnection costs between multiple services at a point of interconnection;

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- **Article 9.6** – Recommendation of an investment function with a proposed maximum local investment level of \$149,250/year of contract term multiplied by the Substation Fraction + (\$18,150/MW/year of DTS contract term up to 17MW) + (\$10,000/MW/year of DTS contract term greater than 17MW); DTS contract term = 5 to 20 years as determined by the customer plus insert the term Substation Fraction into the formula to match the proposed rate design;

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- **Article 9.14** – Amend discount rate formula to account for periodic updates of the generic cost of capital issued by the Board;

(f) **Article 13** – Revise article title and amend Article 13.4 requesting written notice of contract capacity increases and noting contract capacity increases will be accommodated assuming sufficient transmission capacity is available;

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(g) **Article 14** – Provide details and requirements in relation to the Regulated Generating Unit Connection Costs (RGUCC) charge (specifically early decommissioning of a regulated generating unit), enhance contract reduction and termination language along with remove references to contract increases as these provisions are contemplated in Article 13;

- (h) **Article 15** – Amend Article 15.1 to introduce a financial penalty for non-compliance rather than withholding or suspending System Access Service, and amend Article 15.8 to provide clarity regarding interest treatment on late payment charges; and
- (i) Other minor revisions and simplification throughout the terms and conditions.

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The specific changes and supporting rationale are described in more detail in the following sections. A blackline copy of the current 2006 terms and conditions with these changes added, is provided in **Appendix G**.

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6.2 Article 1 – Definitions & Interpretation

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The term “Substation Fraction” was introduced and approved as part of the AESO’s 2005/2006 GTA, specifically in rate schedule DTS. The term has been added to Article 9.6 Determination of Customer Contribution, to determine the fixed portion of the investment function for sites with multiple system access services at one Point of Connection (POC). The proposed definition is the same as provided in the currently approved DTS rate schedule.

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Proposed definition

“**Substation Fraction**” means the ratios of the Contract Capacities for the Point of Delivery to the sum of all Contract Capacities (for DTS and STS) at the substation at which the Point of Delivery is interconnected.

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The defined term “Interconnection Requirements” has been revised to include the various Transmission Interconnection Requirement documents made available on the AESO’s website.

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Currently approved definition

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“**Interconnection Requirements**” means the requirements contained in the documents titled Technical Requirements for Connecting to the Alberta Interconnected Transmission Grid in either Part 1: Technical Requirements for Connecting Loads or Part 2: Technical Requirements for Connecting Generators to the Alberta Interconnected Electric System, made available by the AESO, as amended from time to time.

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Proposed definition

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“**Transmission Interconnection Requirements**” means the requirements related to matters such as, but not limited to, protection, revenue metering, transmission lines, generators, loads, communications and SCADA, currently contained in the documents: Technical Requirements for Connecting to the Alberta Interconnected Transmission Grid; Part 1: Technical Requirements for Connecting Loads Rev. 1.0 (Dec. 29, 1999), Part 2: Technical Requirements for Connecting Generators to the

5 AIES Rev. 1.0 (Dec. 29, 1999); Part 3 Technical Requirements for Connecting
Transmission Facilities Rev. 1.0 (Dec. 29, 1999), AESO SCADA Standard Rev. 1.0
(Sept. 6, 2005), AESO Measurement System Standard (July 1, 2004), AIES
Protection Standard Rev. 0 (Dec. 1, 2004), Phasor Measurement Unit Requirements
Rev. 2.0 (July 6, 2005), Operational Voice Communication Standard Rev. 1.0 (Sept.
7, 2005), Wind Power Facility Technical Requirements Rev. 0 (Nov. 15, 2004),
Transmission Modeling Data Rev. 0 (April 29, 2003), Requirements for Model
Validation Reporting For Generators and Generator Control Systems Rev. 0
10 (November 16, 2005), all of which are prepared, published and may be amended or
supplemented by the AESO from time to time.

15 The term “RMS” or “Reliability Management System” has been replaced with the term
“Reliability Standards” to create more alignment between the tariff and the Transmission
Regulation. The proposed wording primarily relies on the definition as provided in the
Regulation.

Existing definition

20 “RMS” or “Reliability Management System” refers to the reliability management
system and all mandatory operating criteria required thereby adopted and enforced
by the WECC.

Proposed definition

25 “Reliability Standards” refers to the reliability standards, agreements, criteria and
directives of the WECC and the North American Reliability Council, or their
successor organizations, the reliability standards, agreements, criteria or directives
of any similar entity recognized by the ISO and reliability standards adopted by the
ISO to supplement those standards, criteria or directives thereby adopted and
30 enforced by the WECC or the ISO.

6.3 Article 3 – Provision of System Access Service

35 In the 2005/06 GTA process the AESO proposed a number of amendments to the terms and
conditions by simplifying the language and reorganizing articles. In Decision 2005-096 the
EUB approved a number of the proposed changes including article 3.1 provided below.

3.1 Provision of Service

40 Subject to Article 17, the AESO agrees to provide System Access Service, up
to and including the POD or POS, to all Customers who have executed a
System Access Service Agreement and abide by this Tariff. The AESO is not
obligated to provide service to a Customer in excess of 110% of the Contract
Capacity set out in the Customer’s System Access Service Agreement.



Article 3.1 outlines the general provisions under which the AESO provides service to customers that have executed a System Access Service Agreement. The discussion relating to providing service up to 110% was adapted from the AESO's previously approved tariff; specifically Article 15.3 provided below.

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- 15.3 (a) Subject to paragraphs (b) and (c), the Metered Demand for a Customer taking service under Rate Schedule DTS or Rate Schedule STS shall not exceed the lesser of:
- 10 (i) 110% of the Contract Capacity;
 - (ii) the Rated Capacity of any transmission facilities comprising its interconnection; or
 - (iii) the Physical Capacity of any transmission facilities comprising its interconnection.

15 In the event that the foregoing is not complied with, the AESO shall have the right to discontinue the applicable System Access Service until the Customer installs equipment to limit its Metered Demand.

- 20 (b) A DTS Customer may temporarily exceed the level stipulated in subparagraph 15.3(a)(i) to the extent it has in place a System Access Service Agreement for an Opportunity Service at the applicable POD.

25 In the AESO's experience in administering the tariff, Article 3.1 as currently written appears to be causing unintended confusion regarding the level of service which the AESO provides to its customers, and represents a misalignment between the operational considerations and planning practices the AESO utilizes in managing the Alberta Interconnected Electric System (AIES).

30 Article 3.1 has been interpreted to mean the AESO will provide service along with plan and build the AIES to be capable of providing 110% of the customer's contracted capacity regardless of any system operation conditions. The AESO acknowledges that the current wording may be open to that form of interpretation, but submits that misconstrues the intent of the article. As such the AESO proposes the following revisions to Article 3.1 (emphasis added) to clarify the level of service provided by the AESO and better align the tariff with its operational and planning practices.

35 Proposed Article 3.1

3.1 **Provision of Service**

40 Subject to Article 17, the AESO agrees to provide System Access Service, up to and including the POD or POS, to all Customers who have executed a System Access Service Agreement and abide by this Tariff. **The AESO will provide service up to the Customer's Contract Capacity as set out in the Customer's System Access Service Agreement contingent upon any applicable ISO Rules, OPPs or Abnormal Operating Conditions as defined in the Transmission Regulation.**

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The AESO submits the proposed wording provides the necessary clarity regarding the provision of service without altering the original intent of the article. Of additional note are the following points:

- 5 • The sizing of standard transmission facilities still inherently allows for some operational flexibility for customers as was intended by the original reference to the 110% value. However, tying operational flexibility to a specific number is inappropriate when customer interconnections and the AIES are designed in consideration of many variables;
- 10 • The system planning process is not as simple as taking customer contract capacities, adding 10% and building transmission facilities to that level of service. The AESO takes a number of other considerations into account such as load diversity on the system, actual system load along with contract capacity information when planning the system; and
- 15 • The revised wording creates alignment between the tariff, the AESO's ISO Rules, and OPPs which state the AESO will provide service up to the customer's contracted capacity but under a number of system contingencies service may be interrupted.

6.4 Article 5 – System Access Application

20 During the AESO's stakeholder consultation process for the 2007 GTA the AESO originally proposed to undertake a number of revisions to Article 5 to align the interconnection process practices with the tariff. Since that initial consultation the AESO has undertaken an additional stakeholder consultation process relating to business practices in respect of
25 interconnection queue management and compliance milestones which may have an impact on Article 5. As such, the AESO does not propose any many major changes at this time. The AESO proposes only minor refinements to Article 5 in this Application, and upon completion of the business practice consultation process, the AESO will include any necessary changes to Article 5 in a future update of its terms and conditions.

30 The AESO proposes to amend Article 5 in this Application to clarify the requirements for customers applying for new or expanded System Access Service. As noted in the AESO's 2005/2006 GTA and Decision 2005-096, the AESO and industry representatives cooperatively worked together to redesign the interconnection processes to meet the needs
35 of both customers and changes in the legislative landscape in the province. At the time the last GTA was filed, the project teams responsible for the final design, development and implementation of the redesigned interconnection processes had not yet completed their work. The AESO inserted wording into Article 5 based upon the best information that was available at the time. Now that the processes have been finalized, the language proposed
40 below provides transparency, alignment and more accurately represents the different interconnection processes utilized upon a request for System Access Service.

45 Previously approved Article 5.1 has been separated into two separate articles (5.1 & 5.2) in an effort to delineate the processes associated with distributor system access expansions within an existing Point of delivery (POD) versus a new POD respectively as was developed

during the consultation process. Wherever possible the terms utilized in the articles have also been updated to match the interconnection process business practices as provided on the AESO's website.

5 Proposed Articles 5.1, 5.2 & 5.3:

5.1 **Distributor's Application for System Access Service existing POD**

- 10 a) Subject to Article 5.3, applications for expanded System Access Service within an existing POD shall be made to the TFO. An interconnection proposal for the requested expansion is presented and reviewed by the AESO.
- 15 b) The AESO will work cooperatively with the Distributor and the TFO to determine the most cost effective manner to facilitate System Access Service for the Distributor's request for new System Access Service or for expanded System Access Service within an existing POD.
- c) The AESO will provide the Distributor or the TFO with the necessary approvals, conditional or otherwise, and other interconnection documentation required to facilitate System Access Service.
- 20 d) Subject to Article 5.3, if the Distributor proceeds with the recommended System Access Service solution, the Distributor is expected to provide the information and financial security required by the TFO and to enter into a Construction Commitment Agreement, if required by the TFO.

25 5.2 **Distributor's Application for New System Access Service**

- 30 a) Applications for new System Access Service shall be made to the AESO and include an interconnection proposal, prepared by the Distributor and TFO.
- b) The AESO will work cooperatively with the Distributor and the TFO to determine the most cost effective manner to facilitate System Access Service for the Distributor's request for new System Access Service or for expanded System Access Service within an existing POD.
- 35 c) The AESO will provide the Distributor or the TFO with the necessary approvals, conditional or otherwise, and other interconnection documentation required to facilitate System Access Service.
- d) Subject to Article 5.3, if the Distributor proceeds with the recommended System Access Service solution, the Distributor is expected to provide the information and financial security required by the TFO and to enter into a Construction Commitment Agreement, if required by the TFO.
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45 5.3 **Generator, Industrial Systems, and Industrial Load Applications for Service**

Customers may apply for new System Access Service or for expanded System Access Service within an existing POC.

- a) Applications for System Access Service shall be made to the AESO and subject to the associated fee set out in sub-paragraph (c).
- b) The Customer must work with both the AESO and the TFO who will cooperatively determine the most cost effective manner to facilitate System Access Service.
- c) Where required by the AESO, the Customer must pay the following refundable system access application fee. The AESO will refund such fee to the Customer within 90 days of energization of the Customer's Facilities.

<u>Project Size</u>	<u>Preliminary Assessment Fee</u>
≤ 15 MW	\$10,000
> 15 MW and ≤ 25 MW	\$20,000
> 25 MW	\$50,000

- d) The AESO will provide the Customer and the TFO with the necessary approvals, conditional or otherwise, and other interconnection documentation required to facilitate System Access Service.
- e) Subject to Article 5.3, if the Customer proceeds with the recommended System Access Service solution, the Customer is expected to provide the information and financial security required by the TFO and to enter into a Construction Commitment Agreement with the TFO.

6.5 Article 7 – Metering

The AESO proposes that Article 7 be updated to accurately reflect the details contained in the AESO's Measurement System Standard. The AESO's Measurement System Standard identifies the accountabilities and obligations of the AESO, Metering Service Providers, and Metering Data Providers. The standard applies to anyone who currently has a valid System Access Service agreement with the AESO. The current references to the E&GI Act have been removed and replaced with references to the AESO's Measurement System Standard because the Standard contains the necessary references and details regarding the customer's obligation to meet requirements of the E&GI Act and the Settlement System Code.

The AESO Measurement System Standard is reviewed every five years. The current Standard came into effect July 1, 2004. Prior to proposing and finalizing revisions to the AESO's Measurement System Standard the AESO conducts a consultation process with industry stakeholders to gather content and feedback on the different aspects of the Standard. The Standard is publicly available on the AESO's website.

Updating Article 7 is intended to simplify the tariff language along with clarify customers' responsibilities as they pertain to metering standards by referencing the AESO



Measurement System Standard which contains all the necessary details and requirements in relation to metering considerations.

Existing Article 7.1:

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7.1 Metering Standards

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All Customers must provide Metering Equipment that measures Metered Demand in fifteen minute intervals or such other interval as the AESO may require. The selection, use and calibration of Metering Equipment must comply with the E&GI Act, except where the AESO requires revenue meters to be accurate to within 0.5% for loads up to 10 MVA and 0.2% for loads above 10 MVA (the “System Accuracy Standard”).

Proposed Article 7.1:

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7.1 Metering Standards

All Customers must provide Metering Equipment that complies with the standards defined in the AESO Measurement System Standard.

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Existing Article 7.5:

7.5 Meter Data

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The Customer will make reasonable efforts to meet the requirements of the E&GI Act, the AESO Measurement System Standard, and the Settlement System Code established by the AESO. Revenue class meters will be used for billing purposes, energy purchases and sales, and Ancillary Services purchases.

Proposed Article 7.5:

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7.5 Meter Data

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All Customers must provide Metering Data that complies with the standards defined in the AESO Settlement System Code and the AESO Measurement System Standard. Metering Data will be used for billing purposes, energy purchases and sales, and Ancillary Services purchases.

6.6 Article 9 - Customer Contribution Policy

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6.6.1 Applicable Tariff for System Access Requests & Customer Contribution Calculations

The AESO is proposing additions to articles 9.2 “Payment of Contributions”, 9.7 “Staged Loads” and 9.9 “Changes to Customer Contribution”, to provide stakeholders transparency and ensure consistent customer contribution treatment.

5 Currently Articles 9.7 and 9.9 outline the details and circumstances in which the customer contribution for an interconnection project may be recalculated. The AESO's current practice when implementing the above mentioned articles has been to adjust the customer contribution based upon the tariff which was approved at the time the original interconnection was constructed. The majority of the events identified in articles 9.9 and 9.10 "Shared Facilities" are largely outside the customer's control and primarily impact the original interconnection facilities built to accommodate the original system access request. Therefore, the AESO suggests that the current approach of adjusting the original customer contribution using the contribution policy at the time of the original system access request for the events outlined in articles 9.9 and 9.10 continues to be reasonable.

10 The AESO has encountered situations where a customer requests an increase in contract capacity that is incremental to the original system access request and necessitates the construction of new transmission facilities to accommodate the contract capacity increase. The manner in which these situations are handled is not currently explicitly addressed in the terms and conditions. The AESO proposes when a customer requests an increase in contract capacity which necessitates the construction of new transmission facilities, that the approved tariff at the time of project commitment for the new contract capacity request, should be used in order to determine the customer contribution and contract term. While this is not clear in the T&Cs, it is nonetheless consistent with the AESO's current business practices.

15 Accordingly, the AESO proposes to update Articles 9.2, 9.7 and 9.9 have been updated to articulate the above mentioned proposal.

20 In general, the updated terms and conditions in this section are intended to capture the following principles:

- 25 • The maximum available investment for facility upgrade construction driven by load increases requested by the customer should be determined based on the investment policy in effect at the time of the load change request;
- 30 • For load changes not involving construction, customer contributions will be recalculated based on the tariff that was in place at the time of the initial interconnection project. If the recalculation results in an additional customer contribution amount, the customer may opt to extend the original DTS commitment term to be eligible for further AESO investment; and
- 35 • To be eligible for the fixed component of the investment function the customer must contract for at least 1.0 MW for each year of the contracted term. The contracted term available will be the difference between the commitment term determined for the original system access request and the maximum 20 year commitment term allowed in the customer contribution policy. For those projects where the original commitment term is not known (e.i. typically the case with contracts dating back prior to the mid 1990's) the maximum available commitment term available for the fixed
- 40 portion of the investment function will be 5 years.
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As noted above the proposed revisions are intended to create transparency, clarity and consistency in customer treatment but are also proposed in response to the following considerations:

- In Decision 2005-096, the EUB emphasized the need to align the customer contribution policy and rates, and that there should be a tighter link between the principles of cost causation and fair cost recovery among different customers; and
- Stakeholders expressed concern that the current approach employed the AESO may unduly harm customers if there is significant disparity in investment levels between different approved tariffs.

In the case of incremental contract capacity requests that drive the need for new transmission facilities that were not contemplated in the original interconnection request, the AESO submits these constitute new commercial decisions which therefore require a new commercial arrangement. On that basis, in such circumstances, the customer contribution calculation using the tariff in place at the time of the request for additional capacity should be applicable.

Conversely, continuing to apply the contribution policy in place at the time of the original interconnection for these kinds of future additions to a POC would cause a misalignment between rates and the customer contribution, would send the wrong economic signal to the customer, and would be at odds with the efforts to otherwise align evolving policies and rates.

The proposed clarification therefore creates stability and clarity for efficient customer decision making.

In response to stakeholder perceptions that the apparent historical variability in customer contribution and investment levels will unduly harm customers under this approach, the AESO offers the following. In Section 6.5.3 of this application, a review of the contribution policies over the past several years is provided, and indicates that the concern may be valid for the 2006 tariff, but if the 2007 proposed investment level is approved, the investment level would return to a level generally on par with previous investment functions. As such, the AESO submits if the investment level stabilizes at the proposed level there should be little to no negative impact to the customer regardless of the tariff being applied.

Existing Article 9.2

9.2 Payment of Contributions

All Customer Contributions and System Contributions required under this Article 9 must be paid by the Customer before the start of construction of transmission facilities to provide the requested service. Payment must be made by way of electronic funds transfer or wire transfer to the bank account specified by the AESO.

Proposed Article 9.2 (emphasis added)

9.2 **Payment of Contributions**

All Customer Contributions and System Contributions required under this Article 9 **as determined at the time the Customer executes a Construction Commitment Agreement signifying commitment as per the AESO's interconnection processes**, must be paid by the Customer before the start of construction of transmission facilities to provide the requested service. Payment must be made by way of electronic funds transfer or wire transfer to the bank account specified by the AESO.

Existing Article 9.7

9.7 **Staged Loads**

- (a) Local investment for projects with expected material increases or decreases in contract load will be determined at the start of the project by taking the present value of the local investment in the incremental load for the remaining contract term.
- (b) If the material increases or decreases in contract load do not occur as expected an adjusted customer contribution may be recalculated in accordance with Article 9.9.
- (c) The discount rate used in the present value calculation of Article 9.7(a) shall be determined in accordance with Article 9.14.

Proposed Article 9.7 (emphasis added)

9.7 **Staged Load & Contract Capacity Increases**

- (a) **Where material increases or decreases in Contract Capacity are contemplated at a POC and contracted for in the original System Access Service Agreement then:**
 - (i) Local investment for projects with expected material increases or decreases in contract load will be determined at the start of the project by taking the present value of the local investment in the incremental load for the remaining contract term.
 - (ii) If the material increases or decreases in contract load do not occur as expected an adjusted customer contribution may be recalculated in accordance with Article 9.9.
 - (iii) The discount rate used in the present value calculation of Article 9.7(a) shall be determined in accordance with Article 9.14
- (b) **For increases in Contract Capacity contracted prior to the expiration of the original System Access Service Agreement which requires the construction of new transmission facilities after the original interconnection then:**

- (i) **The approved tariff at the time of the Customer executes a Construction Commitment Agreement signifying commitment for the new Contract Capacity will be used in the customer contribution calculation**
- (ii) **Only the incremental contracted capacity will be used in the customer contribution calculation**

Existing Article 9.9

9.9 Changes to Customer Contribution

Certain material events may, in the AESO's sole opinion, result in an adjusted Customer Contribution and as appropriate, payments by the AESO to the Customer or by the Customer to the AESO. Either the Customer or the AESO may initiate a recalculation of the Customer Contribution at any time prior to the expiration of the twenty year refund period as set out in Article 9.10. The circumstances giving rise to contribution adjustments include, but are not limited to, those in which:

- (a) a Customer materially increases or decreases its Contract Capacity or contract term prior to the expiration of its original DTS System Access Service Agreement;
- (b) the actual Contract Capacities and/or incremental revenues turn out to be materially different, on a sustained basis, than originally projected;
- (c) a facility that had been classified as system-related under Article 9.3(c) is reclassified as Customer-related due to load growth or the addition of a new POC;
- (d) a material error is detected in the original calculation;
- (e) there is a material difference between the estimated costs of the project and the actual costs of the project;
- (f) the AESO subsequently deems that all or part of a Customer's Facilities have subsequently become system-related; or
- (g) the period of advancement as set out in Article 9.3(c) is materially reduced.

Proposed Article 9.9 (emphasis added)

Certain material events may, in the AESO's sole opinion, result in an adjusted Customer Contribution and as appropriate, payments by the AESO to the Customer or by the Customer to the AESO. Either the Customer or the AESO may initiate a recalculation of the Customer Contribution at any time prior to the expiration of the twenty year refund period as set out in Article 9.10. The circumstances giving rise to contribution adjustments include, but are not limited to, those in which:

- (a) **a Customer materially increases its Contract Capacity or contract term prior to the expiration of its original DTS System Access Service Agreement and does not necessitate the construction of new transmission facilities;**

- (b) a Customer materially decreases its Contract Capacity or contract term prior to the expiration of its original DTS System Access Service Agreement;
- (c) the actual Contract Capacities and/or incremental revenues turn out to be materially different, on a sustained basis, than originally projected;
- (d) a facility that had been classified as system-related under Article 9.3(c) is reclassified as Customer-related due to load growth or the addition of a new POC;
- (e) a material error is detected in the original calculation;
- (f) there is a material difference between the estimated costs of the project and the actual costs of the project;
- (g) the AESO subsequently deems that all or part of a Customer's Facilities have subsequently become system-related; or
- (h) the period of advancement as set out in Article 9.3(c) is materially reduced.

6.6.2 Prepaid Operations and Maintenance

The application of a 12% prepaid Operations and Maintenance (O&M) charge on costs of AESO Standard Facilities and facilities in excess of standard was approved in Decision 2005-096. The AESO submits the charge on facilities in excess of standard should be maintained, but proposes the 12% charge on AESO Standard Facilities be removed.

The Board cited two primary considerations in determining on what basis the O&M charge could be applied to both standard facilities and facilities in excess of standard for DTS customers. On pages 66 and 67 of Decision 2005-096 the EUB highlighted the following considerations:

- The Board considers that the prepaid O&M charge may be beneficial from the standpoint of economic efficiency and from the standpoint of the desire to send appropriate economic siting and facility development signals through the contribution policy. (page 66)*
- The Board is particularly concerned that, in applying the proposed DTS customer pre-paid O&M charge only to the deemed "optional facility costs" of a new interconnection, the AESO appears to be implicitly assuming that the combined amount of the pre-paid O&M costs associated with the "non-optional" local interconnection facilities and the cost of the non-optional facilities themselves will fall below the level permitted under the maximum investment allowance. However, the Board considers that this should not be presumed, particularly in light of the adjustments to the maximum investment function ordered by the Board in Section 6.1.4 above. (page 67)*

The Board noted above that it was inappropriate for the AESO to presume that the combination of standard facility costs and the O&M charge would be covered by the investment level. The AESO acknowledges the Board position but suggests that such a

principle only applies if the customer contribution policy has a set investment level. If the investment level was set at a specific value and was not based upon the number of projects that are not required to pay a contribution - which is not how the current and proposed investment policies are structured (i.e. 80% of projects are not to pay a contribution per Board Directive 13A in Decision 2005-056) - the number of customers that would be required to pay a contribution would increase. But as noted the investment level is required to meet the criterion that 80% of projects do not pay a contribution. If the O&M charge was continued to be apply to standard facilities, the cost function would increase but so would the investment level function so as to maintain the target of 80% of projects not having to pay a customer contribution. As such, the AESO is of the view that the benefit to economic siting and facility development originally intended by the Board by including the O&M charge is very limited.

The AESO also suggests that the O&M charge on standard facilities does not achieve the economic efficiencies intended by the Board. The O&M charge would create additional accounting treatment concerns and infrastructure requirements for Transmission Facility Owners (TFO). Additional time and resources will be required to modify current processes and accounting infrastructure to effectively separate and track capital costs of the transmission facilities as compared to traditional expense treatment for O&M. New procedures and processes would also be required to ensure O&M costs are being recovered correctly and are not recovered in other components of the TFOs revenue requirement.

The AESO is concerned it will also reduce the efficiencies and harmonization efforts undertaken by the AESO and the Distribution Companies (DISCO). The DISCOs include an O&M charge only on optional facilities, the application of the O&M charge on standard facilities by the AESO creates further misalignment between the AESO and the DISCO tariffs.

Other considerations supporting the removal the O&M charge include:

- Correcting the mismatch between the expenses incurred versus the capital expenditure associated with the facility that occurs by applying the O&M charge;
- Avoidance of intergenerational inequity, as customers prior to 2006 were not required to pay for such a charge;
- Prevention of additional tariff complexity, which may require the need for additional articles to clarify the application of the charge in circumstances where the customers contract terms may be less than 20 years; and
- AESO stakeholder consultation suggests that stakeholders are opposed to the charge on standard facilities and have asked the AESO to remove the provision citing similar reasons as outlined above.

Based upon the above rationale, the AESO proposes the O&M charge only apply to facilities in excess of standard. The proposed changes to Article 9.4 along with the currently approved Article 9.4 are provided below.

Existing Article 9.4:

9.4 **Prepaid Operations and Maintenance**

For customers taking service under Rate DTS, a prepaid operations and maintenance charge of 12% will be added separately to the costs of:

- (a) AESO Standard Facilities required to provide service to the customer where these costs are eligible for Local Investment determined in accordance with Article 9.6; and
- (b) facilities which exceed the AESO Standard Facilities required to provide service to the Customer.

Proposed Article 9.4:

9.4 **Prepaid Operations and Maintenance**

For customers taking service under Rate DTS, a prepaid operations and maintenance charge of 12% will be added to the costs of facilities which exceed the AESO Standard Facilities required to provide service to the Customer.

6.6.3 Determination of Customer Contribution

The AESO proposes to amend the Customer Contribution Policy in this Application. The proposal is primarily the result of responding to the EUB's directions in Decision 2005-096.

In the AESO's 2005/2006 GTA, the AESO proposed a change to the investment level value and corresponding form as outlined in Article 9, on the basis that the investment level was not meeting the intended goals as outlined by the EUB in Decision 2001-06. Following extensive discussion during the hearing process, in Decision 2005-096 the Board provided direction on the form and value of the maximum Local Investment function as outlined in Direction 13 provided below.

Direction 13 – Amend Maximum Local Investment Formula

Notwithstanding the Board's suggestion to review the merits of a non-linear maximum investment function and provide its findings at the next GRA, the Board notes that the notion of a non-linear function was discussed only at a conceptual level during the Application proceeding. As such, the Board considers that a linear maximum investment function must continue to be utilized in the short term. Accordingly, the Board hereby directs the AESO to amend Article 9.4 of the Terms and Conditions proposed for the Application such that a minimum investment allowance reflects:

- A minimum investment allowance of \$2.5 million; and
- An additional investment of \$100,000 per MW of project capacity [pp. 57-58]

In Decision 2005-096 the Board also instructed the AESO to conduct further research on the topic of customer contribution investment levels and present a proposal by its 2008 GTA as outlined in Direction 13A provided below.

5 **Direction 13A – Conduct Further Study for Investment Function Proposal**

10 *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:*

- 15 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.*
- 20 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”.*
- 25 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.*
- 30 35

40 *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]*

45 As described in section 8 of this Application, the AESO conducted extensive stakeholder consultation for the 2007 GTA, a large component of which was to address the refinement of the contribution policy and achieved compliance with Direction 13A. During this consultation, stakeholders expressed their concerns regarding the change in the investment

function in 2006 and its impact on customers, but were not willing to support the proposed changes in the AESO's 2005/2006 refiling as there were concerns regarding the validity of the data used in the refiling analysis. The AESO understood from stakeholders it was important to set the contribution policy at the appropriate level sooner rather than later.

5

To that end, the AESO embarked on the development of a Customer Contribution Policy Study, which was to form the basis for its next proposed maximum investment function. In this study, in accordance with Directive 13A, the AESO endeavored to:

10

1. *Incorporate a sufficient number and diversity of data points*
2. *Determine the Raw Interconnection Project Cost Function*
3. *Determine an appropriate multiplier such that 80% of projects do not pay a contribution.*

15

Prior to initiating the study the AESO distributed a Terms of Reference outlining the scope of the study and requested input from stakeholders. To comply with the first requirement of Directive 13A, three approaches were offered:

20

- a. Gather and deconstruct data on substations constructed for the years 2000 through 2006
- b. Gather a random sample of existing substations and attempt to deconstruct project costs, or
- c. Develop a number of generic substation configurations of varying load sizes and estimate the cost of each component of the project.

25

While some stakeholders saw value in investigating b and c above, a majority of stakeholders supported the gathering of data from projects constructed in 2000 through 2006. The AESO supported this position and cited the following rationale:

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- The AESO's Customer Contribution Policy is forward looking in nature as it is applied to projects that are going to be constructed in the future. Reviewing project data from the recent past (i.e. previous five or six years) should provide a suitable representation of projects that that will be constructed in the near future.
- The AESO's Customer Contribution Policy is applied to projects that no longer fall under the vertically-integrated utility regime that existed before 1995. As such, reviewing and basing a forward looking policy on historical projects that were developed under that regime would be an inappropriate foundation for the contribution policy
- The 2000-2006 sample data should provide more accurate information rather than relying on pre-deregulation practices and policies
- The Customer Contribution Policy is a shorter term forward looking mechanism, while the AESO's rates continue to manage both historical and current transmission system cost recovery. As long as there is general alignment between the investment function and rates, key principles such as cost recovery and economic signaling are maintained
- Continuing to apply the "80/20 rule" in determining the investment level will ensure intergenerational equity

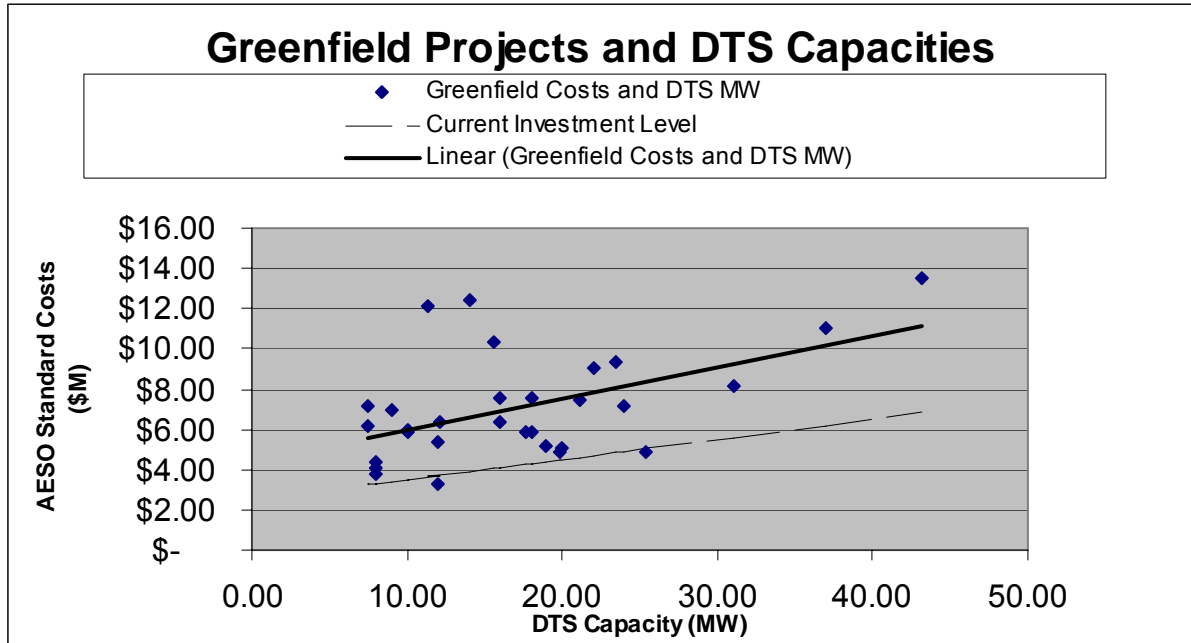
5 The AESO issued the preliminary results of the Customer Contribution Study to stakeholders on May 12, 2006. The preliminary results addressed the first two components of Direction 13A. Stakeholders raised several concerns and the AESO endeavored to address those concerns in the next version of the study. For instance, the AESO:

- conducted a review of the data and determined several data points contained some anomalies and were corrected;
- replaced the existing Transmission Construction Price Index with the Alberta Consumer Price Index for project cost inflation rates in an effort to recognize Alberta's economic activity; and
- conducted further analysis of the transmission line information to reflect only transmission line costs associated with project construction, and revision of DTS contract capacities at some substations to reflect the current contracted amount, which would account for staged load contracts or contract increases resulting from load growth.
- included the collection of additional data ("Upgrade" facilities) and extensive detailed analysis in an attempt to develop the final average cost function and multiplier to achieve the Board directed "80/20 rule of thumb

20 Prior to filing the GTA the AESO held a stakeholder session and provided details on the proposed investment function for the 2007 GTA. The information presented to stakeholders included a revised report and report data along with a proposed investment function.

25 The study analyzed the various components of the deconstructed costs for projects constructed in 1999 through 2006. Costs associated with construction of new substations and corresponding transmission lines to interconnect to the AIES were included in the average cost function. Figure 1 below reproduces the "Greenfield" function and compares it to the current investment function of \$2.5 million investment allowance for new PODs, and the additional \$100,000 per MW of project capacity. The line equation representing the average costs is $y = \$4.451 + (\$0.154M \times DTS)$, and has correlation of $r^2 = 0.261$. Note that under the current investment policy, only 2 of 30, or 6% of projects would be fully covered by investment.

30 **Figure 1**



5 With the average cost function established, one approach to the maximum investment function would have been to simply multiply it by a number such that it complies with the EUB directive to achieve the 80/20 criterion (i.e. such that 80% of projects are covered by the maximum investment). The approach was rejected by stakeholders due to the following considerations:

- 10
- 1) The data sample may not be entirely up to date as project cost estimates may have changed since the inception of the study
 - 2) Using Alberta Consumer Price Index for project cost inflation rates may be inadequate representation of current project cost escalation
 - 3) Although there was significant work in collecting and verifying the data, the average cost functions as outlined in the Study still revealed no single function that is representative of all interconnection projects, and that even subsets of projects exhibit significant variation which limits how well project costs can be represented by a single linear function; and
 - 15 4) Stakeholders also expressed concerns about the robustness of a single linear function in representing project costs i.e.:
 - 20 a) The sample contained a limited number of data points for it to be statistically valid and,
 - b) The sample did not represent smaller projects i.e. projects that were +/-5MW or less

25 The AESO acknowledges the stakeholders concerns and is proposing the following positions, remedies and alternatives that still comply with the EUB's Directive and is responsive to stakeholder concerns.

In response to point 1) above, the AESO reviewed the sample data and updated the data set with the most recent cost information (Q3 2006 - Transmission System Projects Quarterly Report – posted on the AESO website July 13, 2006).

5 In response to point 2) the AESO submits that if the proposed investment function methodology is acceptable and that the 80/20 rule of thumb (i.e. where 80% of projects would not pay a contribution) is still valid, the debate on how project costs should be escalated is not necessary. The proposed investment function was developed using cost data from the most recent projects and as such the AESO expects it will continue to be a reasonable indication of project costs for the near future. To verify this supposition, the AESO can review the application of the investment policy in several years to determine if the “80/20 rule” is being achieved. If that review determines that more than 20% of projects are paying a customer contribution the AESO proposes it should then update the multiplier to realign the investment level to meet the Board directed criterion.

15 In response to points #3 and #4 the AESO suggests that the fixed component of the cost function should represent minimum, rather than average, project costs. The AESO notes that project costs exhibit significant “scatter” around any single linear cost function, and an average fixed component could attribute significant costs to a project which were not actually incurred. (This becomes even more of a concern when the cost function is used as the basis for rates, as is the result of the alignment to costs of both investment policy and rates directed in Decision 2005 096.)

25 As such, the AESO developed a two-part cost function to represent both minimum costs for smaller projects and average costs for larger projects. The two-part cost function is developed as follows.

(a) As provided above in Figure 1, the average cost function for the recent project data set is determined to be:

$$\text{Average Cost} = \$4.451 \text{ million} + (\$0.154 \text{ million/MW} \times \text{DTS Capacity}) \text{ eq. 1}$$

35 (b) The average cost function is then reduced to a level that represents the lowest threshold below which no project costs were recorded. This is accomplished by multiplying the average cost function by a single factor of 0.4885. The y-intercept of this minimum cost function is considered to represent the minimum fixed cost for any projects. The complete minimum cost function is:

$$\text{Minimum Cost} = \$2.296 \text{ million} + (\$0.080 \text{ million/MW} \times \text{DTS Capacity}) \text{ eq. 2}$$

40 (c) A linear function (\$/M) is then established which is equivalent to the average project cost function when applied in conjunction with the fixed component from the minimum cost function. The average project cost is \$7.106 million with an average DTS Capacity of 17.2 MW:

$$\begin{aligned} \$7.106 &= \$2.296 \text{ million} + (x \text{ million/MW} \times 17.2 \text{ MW}) \quad \text{eq. 3} \\ x &= \$0.279 \text{ million/MW} \quad \text{eq. 4} \end{aligned}$$

The complete minimum intercept function is therefore:

$$\text{Minimum Intercept} = \$2.296 \text{ million} + (\$0.279 \text{ million/MW} \times \text{DTS Capacity}) \quad \text{eq. 5}$$

For simplicity, the AESO rounded down the average DTS Capacity from 17.2 MW to 17.0 MW for the remainder of the analysis:

- (d) The average cost function (eq. 1) and the minimum intercept function (eq. 5) intersect at the average DTS Capacity of approximately 17 MW, since both functions represent an average over all project costs. The AESO recommends that the **minimum intercept** function be used to represent the costs of projects **up to** the average DTS Capacity (17 MW), and the **average cost** function be used to represent the costs of projects **above** the average DTS Capacity (17 MW).

The AESO recognizes that such a two-part function, if applied mechanically to all project capacities, would not total the sum of all project costs since the minimum intercept function would under-represent the costs of smaller projects. However, the cost function will be scaled to represent total costs whether used to set an investment level or in rate design, and total costs will therefore ultimately be fully represented.

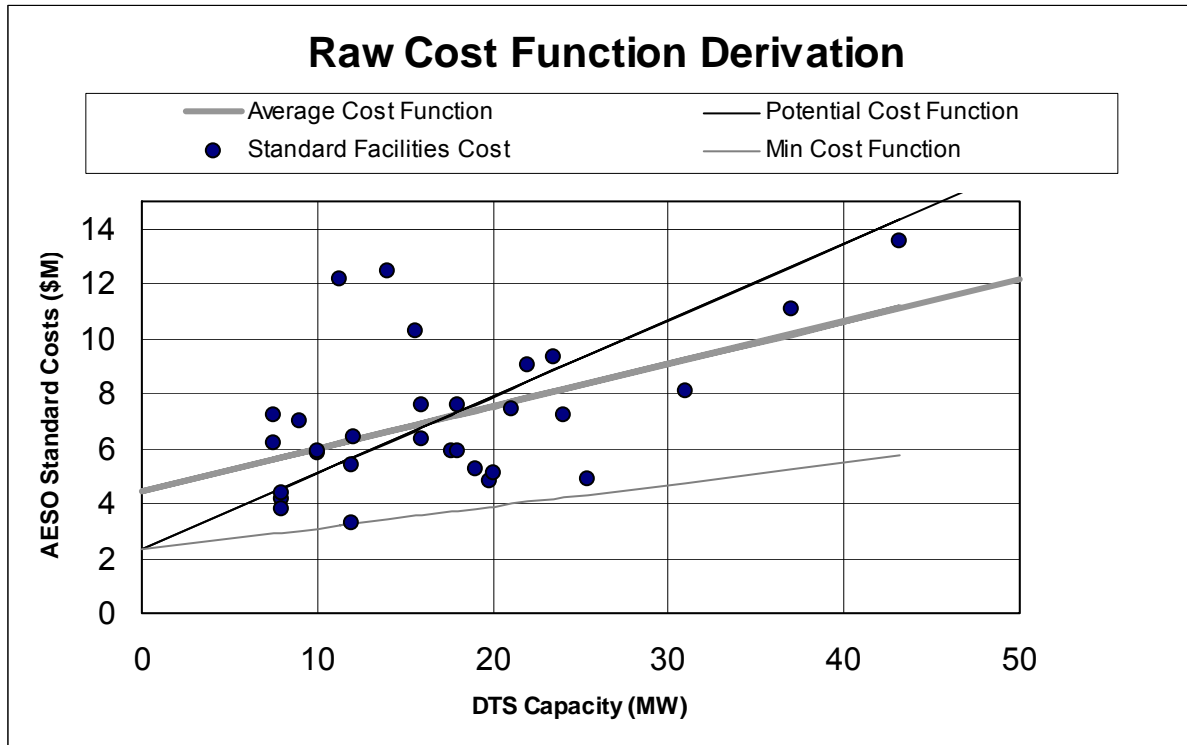
The AESO also notes that the average DTS Capacity for all current services is 18.2 MW, which is reasonably close to the average DTS Capacity represented by the recent project data set. The AESO therefore considers that the cost functions described above would be representative of all DTS projects currently interconnected.

The AESO therefore recommends the following “raw” cost function:

$$\begin{aligned} \text{Recommended Cost} &= \$2.296 \text{ million} \quad \text{eq. 6} \\ &+ (\$0.279 \text{ million/MW} \times \text{first 17 MW of DTS Capacity}) \\ &+ (\$0.154 \text{ million/MW} \times \text{DTS Capacity above 17 MW}) \end{aligned}$$

The AESO considers the recommended “raw” cost function (eq. 6) to appropriately reflect project costs for the purposes of establishing investment levels and for rate design in the AESO’s tariff. Figure 2 below illustrates the above logic, where eq. 1 is labeled “Min Cost Function”, eq. 5 is the “Potential Cost Function” and the last component of eq. 6 is the “Average Cost function”.

Figure 2



5 The AESO recommends the cost function of equation 6 for several reasons. Primarily, the AESO considers it appropriate to establish the fixed component of the cost function through a minimum intercept analysis as performed above. A fixed component represents a cost a customer cannot avoid regardless of what decisions the customer makes; that cost should therefore be the minimum cost associated with a project rather than the average cost. Minimum intercept analysis is frequently used to determine the fixed component of a utility's rates. The AESO also notes that data scatter appears greatest for smaller projects, which increases concern with applying an average cost function to those projects.

10 The AESO also recognizes that costs included in the recent project data set reflect standard facilities potentially sized for reasons beyond meeting the customer's load requirements. For example, equipment sizes are standardized for inventory and maintenance efficiencies, projects may be interconnected to nearby facilities at higher voltages than required, and equipment larger than needed to supply the customer's load may be installed in expectation of future load growth or additional services at the substation. The project cost may accordingly be higher than the minimum cost which could be incurred to interconnect the load, and should not unfairly result in a high fixed component over which the customer can exhibit little control.

20 However, using a minimum intercept analysis to establish the fixed component of the cost function results in relatively higher costs reflected through the demand component, and this



may unduly impact larger projects. The use of the average cost function (with a lesser “slope”) for larger projects mitigates that effect and recognizes there are typically economies of scale with larger projects.

5 The final effect of the recommended cost function is to result in a smaller fixed component and a larger demand component in the cost function relative to the current tariff structure, which however aligns better with cost functions inherent in the design of investment levels and rates the AESO prior to 2006, of other utilities in Alberta, and of transmission system operators in other jurisdictions.

10 The AESO also conducted a reasonableness test of the cost function for projects 5MW discussed above. The AESO reviewed and updated costs estimates for small projects provided during the AESO’s 2005/2006 GTA. Project estimates as prepared as part of the analysis of Customer-Owned Substation Credits provided in response to Information Request AESO.FIRM-234(b) contained 12 least cost estimates for stand-alone services to serve DTS loads of 5 MW or less and were updated to 2007 values. The following table outlines the result of the analysis (the information below is available in the MS Excel workbook provided in **Appendix E**):

20 **Analysis of Estimated Projects With DTS Capacity of 5 MW or Less
 From AESO 2005-2006 GTA IR Response FIRM.AESO-234(b)**

Substation Name	In-Service Date	DTS Capacity MW	Least Cost Estimate \$000,000	Least Cost Estimate 2007 \$000,000
Bear Creek	Nov 2002	0.1	1.75	1.98
Carseland Cogen	Jul 2001	0.1	1.75	2.04
Namaka	Jul 2001	2.0	1.98	2.31
Nexen #1	Sep 2001	2.0	1.83	2.14
Foster Creek	Jan 2003	1.6	1.98	2.14
Cowley Ridge	Jul 2003	0.66	1.55	1.68
Oldman River	Jul 2003	1.0	2.58	2.79
Magrath 226S	Jul 2004	0.43	2.29	2.44
McBride Lake	Feb 2003	0.88	2.13	2.30
Eyehill 514S BP Hayter	Aug 2000	1.0	2.32	2.77
Express Hardisty	Aug 2000	4.6	1.74	2.08
Wabamun Standby	Oct 2004	1.0	1.05	1.12
Average		1.28	1.91	2.15

25 The linear cost function of the data provided above:
 Slope: 0.007
 Y Intercept: 2.141
 Cost: \$2.141 + (\$0.007 x DTS MW)



Of the 12 small projects, 9 of project costs are \$2 million or greater. The average project cost is \$2.15 million. The cost function for these least cost estimates indicates a y-intercept of \$2.141 million and an almost flat slope of \$0.007 million/MW, which is quite comparable to the AESO's proposed minimum cost function of \$2.296 million plus \$0.080 million/MW.

5 The final component of the Direction 13A, determine an appropriate multiplier such that 80% of projects do not pay a contribution is discussed below as well in the report provided in **Appendix E**.

10 The AESO notes that the EUB agrees that the 80/20 criterion is appropriate for the design of the maximum investment formula. In EUB Decision 2001-6, the AESO's predecessor (EAL) introduced this criterion, noting that setting an investment level in this manner would have the effect of minimizing intergenerational inequities. The AESO continues to agree that the 80/20 rule is adopted in order to best harmonize with DISCO contribution policies,
15 preserving the balance between new customers and existing customers. The criterion supports the principle that most new customers will not see a different cost of system connection than existing customers, and existing customers should not bear any extraordinary costs of system expansion.

20 Thus the final step in arriving at a maximum investment function is to establish a multiplier to apply to the recommended raw cost function that results in 80% of projects not being required to pay a contribution.

25 The AESO determined applying a multiplier of 1.30 to the raw cost function would meet this objective.

$$y = 1.30 \times [\$2.296 \text{ million} + (\$0.279 \text{ million/MW} \times \text{first } 17.0 \text{ MW of DTS Capacity}) + (\$0.154 \text{ million/MW} \times \text{DTS Capacity above } 17.0 \text{ MW})]$$

30 results in a function of:

$$y = \$2.985 \text{ million} + (\$0.363 \text{ million/MW} \times \text{first } 17.0 \text{ MW of DTS Capacity}) + (\$0.200 \text{ million/MW} \times \text{DTS Capacity above } 17.0 \text{ MW})$$

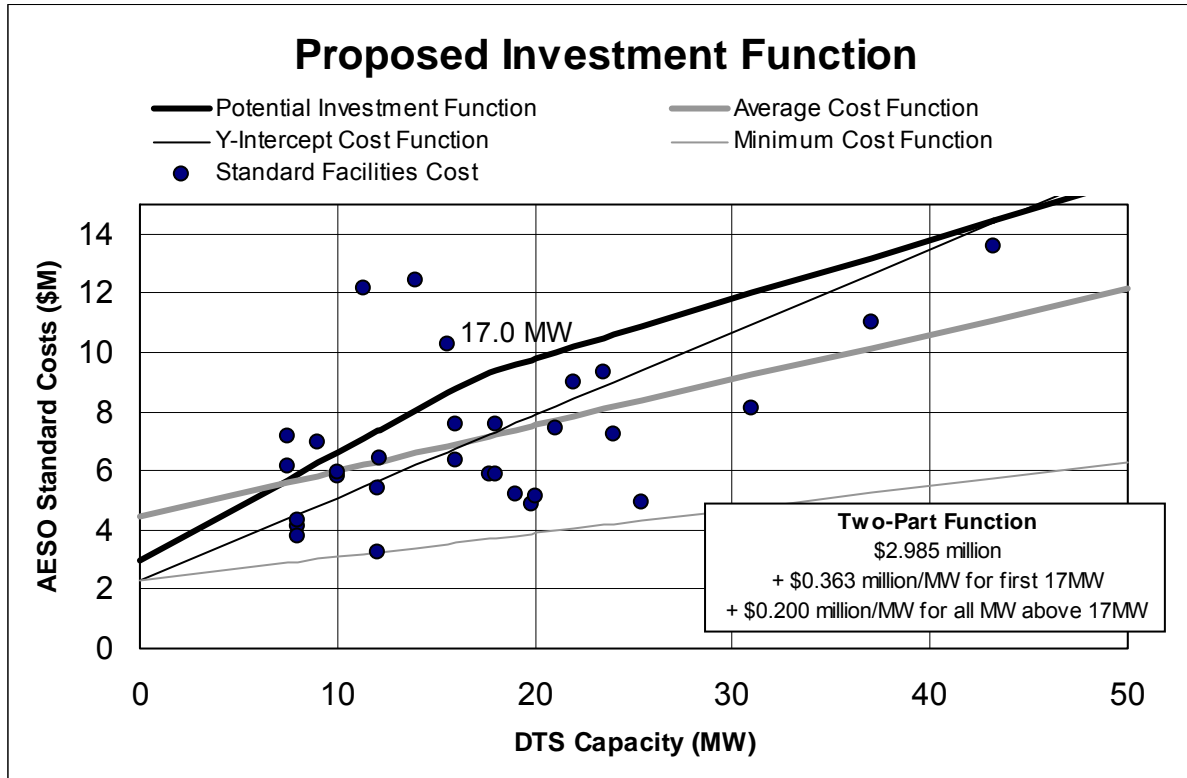
35 such that 25 of the 30, or 83.3% of projects are fully covered by investment, as demonstrated in the figure below.

40 The resulting equation assumes contract terms of 20 years. Therefore, the per year investment level is:

$$\text{Maximum Investment} = \$149,250/\text{year of contract term} + (\$18,150/\text{MW}/\text{year of contract term up to } 17\text{MW}) + (\$10,000/\text{MW}/\text{year of contract term greater than } 17\text{MW})$$

45 The following graph illustrates the various components of the analysis as well as the proposed maximum investment function.

Figure 3



5

The AESO submits the proposed maximum investment function effectively manages the inter-generational equity concerns by returning customer contribution results on par with predecessor policies. The proposed policy also re-establishes rate stability all the while adhering to principles such as the 80/20 rule of thumb and customer fairness that were considered appropriate by the Board in previous decisions.

The following review of the investment policies employed by Gridco, ESBI / the Transmission Administrator of Alberta and the AESO over the period of 1999 to present day supports these conclusions.

The following table provides the 1999 to 2000 approved customer contribution policy where investment was based upon \$/KW of Contract Capacity/year formula.

20

Capital Credit per KW of Minimum Capacity	Minimum Term
\$115	5 years

\$200	10 years
\$265	15 years
\$310	20 years

From 2001 to 2005 AESO's investment or "roll-in" policy comprised two components; a commitment term amount and a revenue-related amount. The commitment term amount was \$400,000 for every one-year commitment term past the first five-year period, up to a maximum of \$6 million. The revenue-related amount was equal to three times the levelized annual revenue (based on contract capacity at the time of the calculation).

On January 1, 2006, the AESO's approved investment policy changed to \$125,000 per year for new PODs, and \$5,000/MW/year for incremental capacity.

To demonstrate the effect of the different investment policies, the AESO considered a new project and applied each of the policies to determine the effect on the customer contribution required.

The table illustrates the effect on a new project incurring \$7.5 million dollars in construction costs, with a DTS contract of 15MW for 20 year contract terms.

	Policy A (1999)	Policy B (2001-2005)	Current Policy (2006)	Proposed Policy (2007)
Project Costs	\$7.5M	\$7.5M	\$7.5M	\$7.5M
AESO Investment	(\$310,000/MW x 15MW) =\$4.65M	(\$6.00M + \$1.83M revenue- related amount) =\$7.83M	(\$2.50M + \$1.50M) =\$4.00M	(\$2.98M + \$5.45M) =\$8.43m
Customer Contribution	\$2.85M	\$0.0M	\$3.50M	\$0.0

The above table appears to support customer concerns over the substantial instability in the tariff, since in some years, a contribution of \$2.8M or more would be required, while in other years no customer contribution would be required. However, if the same analysis was done taking into account inflation - i.e. the cost of the same project would increase and not remain constant over time - the outcome changes with only the current 2006 investment function showing a significant departure from all the other investment functions. The original \$7.5M project cost was inflated by 3.0% and the resulting customer contribution outcomes are provided below:

	Policy A (1999)	Policy B (2001-2005)	Current Policy (2006)	Proposed Policy (2007)
--	----------------------------	---------------------------------	----------------------------------	-----------------------------------

Project Costs	\$7.5M	\$8.4M	\$9.2M	\$9.5M
AESO Investment	\$4.6M	\$7.8M	\$4.0M	\$8.4M
Customer Contribution	\$2.8M	\$0.6M	\$5.2M	\$1.1M

Along with the proposed maximum investment function, Article 9.6 has been revised to include a provision to allocate the appropriate level of the fixed portion of the Local Investment function project that has multiple services at one Point of Delivery. Inclusion of the “Substation Fraction” in the investment function was necessary to reflect the alignment between the investment available at the multiple-service Point of Delivery and the Point of Delivery portion of the rate paid by the customer in rate schedule DTS. .

Proposed Article 9.6:

9.6 **Determination of Customer Contribution**

Customers may be required to contribute toward demand-related costs. The Customer’s contribution to demand-related costs will be determined in accordance with this Article 9.6. Otherwise, the Customer must pay all demand-related costs.

The Customer’s contribution to the demand-related costs will be calculated as follows:

Customer Contribution = Demand-related costs less the Local Investment

Where:

- (a) for a Customer taking service under Rate DTS:
 - (i) the maximum Local Investment =
 - **(\$149,250/year** of DTS contract term multiplied by the Substation Fraction) for new PODs; plus
 - **\$18,150/MW** of DTS Contract Capacity/year of DTS contract term for capacity for the first 17MW; **plus \$10,000/MW** of DTS Contract Capacity/year of DTS contract term for capacity greater than 17MW for both new PODs and increases in capacity of or improvements to the service to an existing POD.
 - (ii) the Local Investment will not exceed the demand-related costs determined in Article 9.5(b) or, if applicable, the cost of the most economic option determined in Article 9.1(b); and
 - (iii) the DTS contract term = 5 to 20 years, as determined by the Customer;

and

- (b) for a Customer taking service under any other rate, the maximum Local Investment = \$0.

6.6.4 Discount Rate

The AESO proposes to modify the discount rate formula set out in Article 9.14(a) to accommodate the Board's annual generic return on equity orders that may vary from time to time.

Proposed Article 9.14(a):

9.14 Discount Rate

The discount rate applicable to payments due under this Article 9 will be determined as follows:

- (a) For unassigned transmission facilities, for transmission facilities supplied to the AESO by an investor owned Transmission Facility Owner or for facilities supplied to the AESO by an income tax paying municipally owned Transmission Facility Owner:

$$[0.67 \times (\text{GCB} + 1\%)] + [(0.33 \times R) \div (1-T)]$$

where GCB is equal to the yield on 30-year Government of Canada bonds; R is equal to the EUB approved generic rate of return on common equity, as amended from time to time; and T is equal to the combined federal and provincial income tax rate for investor owned TFOs.

- (b) For transmission facilities supplied to the AESO by a non income tax paying municipally owned Transmission Facility Owner:

the yield on 30-year Government of Canada bonds plus 1.9 percent.

6.6.5 Dual-Use Ratio

The AESO complied with Board Direction 14 (in Decision 2005-096) by implementing the dual-use ratio in Article 9.5. While the dual-use ratio was originally designed to apportion Point of Connection (POC) installation costs between supply and demand customers at one site, the AESO is proposing that it also apply to other multiple use POC (i.e. POD and / or POS) situations. For example, where two demand customers or one dual-use customer and one demand customer share a POC.

Existing Article 9.5

9.5 Determination of Supply-Related and Demand-Related Costs

For each Customer at a POC, Customer-related costs will be classified as either supply-related or demand-related as follows:

- (a) supply-related costs shall be calculated as $\text{STS}_{\text{customer}} / (\text{STS}_{\text{total}} + \text{DTS}_{\text{total}})$,
and
(b) demand-related costs shall be calculated as $\text{DTS}_{\text{customer}} / (\text{STS}_{\text{total}} + \text{DTS}_{\text{total}})$

where STS and DTS are the STS and DTS Contract Capacities, respectively, at the POC. All supply related costs shall be paid by the Customer. The Customer's contribution to demand related costs shall be in accordance with Article 9.6.

5

6.7 Article 13 - Contract Capacity Increases & Allocation

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During the AESO's stakeholder consultation process for the 2007 GTA, the AESO originally proposed to make a number of revisions to Article 13 to align AESO business practices with the tariff. Since that initial consultation the AESO has undertaken an additional stakeholder consultation process relating to business practices in respect of interconnection queue management and compliance milestones which may have an impact Article 13. As such the AESO does not propose any many major changes to this Article at this time. The AESO proposes only two minor revisions to Article 13, and upon completion of the business practice consultation process, the AESO will propose any further changes to Article 13 in a future update of its terms and conditions.

20

Article 13 has been renamed to **Contract Capacity Increases and Allocation** which more closely represents the contents of the article.

25

The provisions associated with contract capacity increases outlined in Article 13.4 have also been amended, requesting written notice for contract capacity increases and notes that contract capacity increases will be granted as long there is sufficient transmission capacity and no operational concerns accompany the request.

30

The AESO's ability to meet the customers requested contract capacity is dependent upon the capacity of the existing transmission system. Although the AESO does not require five year notice for contract capacity increases in practical terms, the greater the notice provided by a customer, the greater the chance the request can be accommodated. This allows the AESO to effectively plan for contracted load additions, and ensure long lead time transmission facilities are constructed to meet customers' in service date requests.

35

Existing Article 13.4

13.4 Increase of Contract Capacity

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In the event that a Customer desires to increase the Contract Capacity at an existing POD or POS, the Customer must execute an amended System Access Service Agreement. If new facilities or upgrades are required to provide the new service or to provide the amended service level, the requirements for a Customer Contribution and Security will apply.

Proposed Article 13.4

13.4 Notice of Contract Capacity Increases

- 5
- 10
- a) In the event that a Customer desires to increase the Contract Capacity at an existing POD or POS, the Customer must provide written notice to the AESO and execute an amended System Access Service Agreement.
 - b) If new facilities or upgrades are required to provide the requested new service or to provide the incremental service level, the requirements for a Customer Contribution and project security as outlined in Articles 9 & 6 respectively will apply.
 - c) Increases will be effective upon execution of the System Access Service agreement assuming sufficient transmission capacity can accommodate the requested Contract Capacity increase.

6.8 Article 14 - Reductions or Termination of Contract Capacity

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The AESO submits further clarity for situations where customers reduce their contract capacity or terminate their system access service is required. The proposed changes to this article include:

- 20
- 25
- a) details on how a lump sum payment for a reduction or termination of service are to be calculated;
 - b) the lump sum payment charge will include the system charge but exclude the Point of Delivery (POD) related portion of the DTS rate schedule;
 - c) the discount rate used in the calculation will the same one as outlined in Article 9.14;
 - d) the opportunity for the AESO to revisit the calculation if there are material differences between the requested contract capacity and actual contract capacity

30

During the stakeholder consultation process for the 2007 GTA, the AESO proposed to include extension provisions in cases where customers have requested an extension to their 5 year notice period. Due to limited stakeholder support the proposed provisions have been withdrawn. The AESO will continue its current practice of reviewing such requests on a case by case basis and acting reasonably will exercise discretion in the application of the tariff where considered appropriate.

35

Prior to finalizing the revisions to Article 14 the AESO reviewed Article 14 in conjunction with the five year notice period. The AESO submits the principles, rationale and importance of the five notice period as discussed and supported by the EUB in Decision 2005-096 respecting the 2005/2006 GTA continue to be reasonable and therefore proposes the notice provisions for any reductions or terminations in contract capacity be retained.

40

45

The AESO proposes to provide additional clarity regarding the components that should be included in the lump sum payment. As noted in point b) above the AESO proposes the lump sum payment calculation include only the System Charge contained in the DTS rate schedule and exclude the Point of Delivery (POD) related charge. Since the POD related portion of the charge is effectively captured by the provisions in article 9.9 Changes to

Customer Contribution the POD portion of the DTS rate is not necessary to include in the lump sum payment in lieu of providing notice. As provided for in article 9.9, if there is a material reduction in the customer's contract capacity, the AESO will revisit the customer's contribution calculation and may charge an additional contribution to reflect the reduced investment available for the reduced contract capacity.

The AESO proposes to rewrite Article 14 as follows:

Proposed Articles 14.1 through 14.4

14.1 Eligibility

In order to reduce the Contract Capacity at an existing POD or POS, a Customer must execute an amended System Access Service Agreement and pay any associated Customer Contribution, as determined by the AESO.

14.2 Notice of Reduction or Termination

In order to terminate or reduce the Contract Capacity, a Customer must provide written notice to the AESO. Terminations or reductions in Contract Capacity will be effective 5 years from the notification date.

14.3 Excursions During the Notice Period

The Contract Capacity immediately following the five year notice period will be the maximum of:

- (a) the pre-notice Contract Capacity less the reduction of Contract Capacity requested by the Customer; or
- (b) the highest Metered Demand during the five year notice period less the reduction of Contract Capacity requested by the Customer.

Customers may provide an additional notice of reduction after an excursion so Contract Capacity will be reduced to previous notice levels.

Separate written notice must be provided reductions or terminations of Contract Capacity at each respective POD and POS at a single transmission station; no net reductions will be accepted or effected.

14.4 Payments in Lieu of Notice

Customers reducing or terminating their System Access Service Agreements may choose to pay out the Contract Capacity as a lump sum payment:

- a) Contract Capacity reduction or termination lump sum payment charges will be based upon the present value of the System Charge as provided in the rate schedule DTS;
- b) The discount rate is as outlined in Article 9.14;
- c) The AESO may re-assess the payment if there are material differences between the requested Contract Capacity and actual capacity.

The following is an example calculation used to determine the lump sum payment required as a result of a reduction in a customers Contract Capacity.

A customer notifies the AESO of a 4.0 MW contract capacity reduction (i.e. from 8.0MW to 4.0MW) at a specified Metering point. The notice date of the reduction was January 1, 2006 and the effective date of the reduction is January 1, 2011. To determine the lump-sum payment, the AESO calculates the present value of the Billing Capacity charges using the following information:

Notice Provided: 1-January-2006
Reduction Effective: 1-January-2011
Buydown Effective: 1-July -2007

Tariff Applied: Proposed 2007 GTA

Pre-Notice Capacity: 8.00 MW
Post-Notice Capacity: 4.00 MW
Reduction: 4.00 MW
Metered Demand July 1, 2007: 4.00 MW
Discount Rate: 7.92%
No ratchet incurred prior to notification of termination

Assumed Billing Capacity Charge: \$1,395/MW/month
Fixed portion of Point of Delivery charge is not charged

The lump-sum payment is the present value of Billing Capacity charges for the 42 month period beginning 1-July-2007, the last month in the period being December 2011. The difference between the notice period Billing Capacity versus the early buy down Billing Capacity multiplied by the billing demand components of the DTS rate will determine the lump sum payment. In this case the Billing Capacity used in the calculation is the [notice period Billing Capacity (90% of 8.0 MW = 7.2 MW) less early buy down period Billing Capacity [highest 15 minute Metered Demand = 4MW) = 3.2 MW]. In this case, the customer would be required to pay a lump-sum payment of approximately \$141,000 (excluding GST). As noted above there are no ratchets incurred during the notice period. If there was a ratchet incurred during the notice period, the ratchet would also be accounted for in the lump sum payment.

As noted in the proposed Article 4.4 the AESO reserves the right to recalculate the lump-sum payment and collect any difference from the customer if actual demand differs materially from the demands used in the buy down calculation.

The AESO also proposes additional clarification in Article 14.5 regarding the applicability of the Regulated Generating Unit Connection Cost (RGUCC) in the STS rate for situations

where a Regulated Generating Unit terminates service prior to the date defined as the Base Life in Appendix B of the AESO's Terms and Conditions.

5 The genesis of the RGUCC is primarily contained in two EUB Decisions (2000-1 and 2002-048), which established the RGUCC to recognize that new generators were subject to full interconnection costs, while incumbent, previously regulated generators' interconnection costs were embedded in transmission costs. The RGUCC was therefore introduced as a proxy interconnection cost for previously regulated units, to "level the playing field" for the competitive energy market, which all generators are required to operate in. The AESO suggests that the RGUCC therefore serves no economic purpose after a previously regulated generator is no longer producing energy and selling to the energy market, or pool.

10 Based on the AESO's understanding of the original intent of the RGUCC, the AESO believes the RGUCC should not continue to apply after a unit has been decommissioned and is no longer providing energy to the market, and thus proposes to clarify this in the tariff.

15 The AESO proposes a new Article 14.6 which provides for the following:

- 20 • The RGUCC will no longer have to be paid if a unit stops generating energy;
- In order for the charge not to apply the facility has to be physically dismantled, not simply shut down; and
- In case the regulated unit power up again, or a new unit on the same site using the same interconnection facilities powers up, the RGUCC will be applied up to the Base Year as in Rate Schedule Appendix A

25 Currently approved Article 14.5

30 **14.5 Regulated Generating Units**

- 35 (a) System Access Service Agreements between the AESO and Customers who operate Regulated Generating Units will terminate on the PPA Effective Date, with the exception of Regulated Generating Units that are not sold at the PPA auction and the Regulated Hydro Generating Units outlined in Appendix B.
- (b) System Access Service Agreements with an effective date after the PPA Effective Date between the AESO and Customers who operate Regulated Generating Units or who have entered into a Power Purchase Arrangement with the owner of a Regulated Generating Unit will terminate at the end of the base life year of the Regulated Generating Unit as outlined in Appendix B with the exception of the following Regulated Generating Units listed below:
 - 40 (i) Rosedale Units 8, 9 and 10's deemed base life year shall be 2003; and
 - (ii) Rainbow Units 1, 2 and 3's deemed base life year shall be 2005.

45 Proposed Article 14.6 (previously Article 14.5) – emphasis added

14.6 Regulated Generating Units

- 5 (a) System Access Service Agreements between the AESO and Customers who operate Regulated Generating Units will terminate on the PPA Effective Date, with the exception of Regulated Generating Units that are not sold at the PPA auction and the Regulated Hydro Generating Units outlined in Appendix B.
- 10 (b) System Access Service Agreements with an effective date after the PPA Effective Date between the AESO and Customers who operate Regulated Generating Units or who have entered into a Power Purchase Arrangement with the owner of a Regulated Generating Unit will terminate at the end of the base life year of the Regulated Generating Unit as outlined in Appendix B.
- 15 (c) **Subject to 14.6 (c) i) & ii) the RGUCC as outlined in rate schedule STS will not apply to Customers after their Regulated Generating Units are decommissioned, even if this occurs prior to end of the base life year as outlined in Rate Schedule Appendix A**
- 20 i) **The Customer sufficiently demonstrates to the AESO the Regulated Generating Unit has been decommissioned and no longer makes use of the existing interconnection facilities and no longer requires system access service.**
- 25 ii) **If the Regulated Generating Unit is re-energized prior to the base year, the RGUCC in rate schedule STS will be charged to the Customer requesting System Access Service.**
- 30 iii) **If a customer with a non-regulated Generating Unit makes use of the existing interconnection facilities previously used to provide system access service to a Regulated Generating Unit, the RGUCC on rate schedule STS will be charged to the Customer requesting System Access Service to the end of the base year of the Regulated Generating Unit previously using those interconnection facilities.**

6.9 Article 15 – Financial Security, Billing and Payment Terms

35 The AESO proposes changes to Article 15.1 and 15.2 in order to provide additional clarity around credit requirements for customers. In accordance with the tariff, Section 15.1 (b), the AESO may obtain financial security from a customer for up to three months in advance for System Access Service. The AESO is concerned that in situations where additional financial security is required as per Article 15.1 (c) and the customer does not comply, the only remedy is to withhold or suspend service. The AESO feels that the current treatment for non-compliance (Article 15.2) in such cases may be unnecessarily punitive to the customer. As such the AESO proposes a financial penalty as a reasonable intermediary step prior to withholding service. The proposed financial penalty is intended to resemble the financial penalties assessed a customer when a customer fails make payment to the AESO on the due date of such payment.

45 Existing Article 15.1

15.1 Credit Requirements

- 5 (a) The Customer must comply with the AESO's financial security requirements. Prior to receiving service, the Customer must provide the AESO with all financial information that the AESO reasonably requests in order to establish the financial security required from the Customer.
- 10 (b) If requested by the AESO, the Customer must provide financial security in an amount of up to three months' payment in advance for System Access Service. The amount of the financial security will be estimated by the AESO at its sole discretion based on the Customer's historic use or on an estimate where actual use is not available. Such security must be in a form satisfactory to the AESO including but not limited to a guarantee, cash deposit, or an irrevocable letter of credit from a Canadian Chartered Bank, credit union, trust company, or other financial institution with a minimum senior unsecured long-term debt A- credit rating or equivalent as determined by Standard & Poor's or equivalent credit rating agency.
- 15 (c) The AESO may request, at its sole discretion, at any time after initial granting of service, additional or replacement security based on the AESO's estimate of the appropriate security required. Required additional or replacement security must be provided to the AESO within two business days of such request. Customers must report any event of default for borrowed funds or material adverse changes in their financial position to the AESO within two business days of such event.
- 20

The AESO proposes the following additional points to Article 15.1:

25

- (d) The AESO, at its sole discretion, may invoke a financial penalty, noted under 15.1 (e), where security has not been provided two business days after the AESO's request for new or additional security.
- 30 (e) Where the Customer has failed to provide the required security to the AESO under 15.1 (c), the financial penalty will be calculated at the Toronto Dominion Canadian prime rate plus 6%; until such time as the security has been provided to the AESO. The penalty will be added to the Customer's next issued Statement of Account.
- 35

Proposed Article 15.2 (emphasis added)

15.2 Effect of Non-Compliance

40 If the Customer fails to provide adequate security as required by Article 15.1 (**subject to Article 15.1 (e)**), the AESO may immediately withhold or suspend the Customer's System Access Service. Any such withholding or suspension will not relieve the Customer from its obligation to pay any rate, charge or other amount that has accrued, or is accruing, to the AESO.

The AESO is also proposing to amend Article 15.8 to provide clarity. The existing wording below (emphasis added) can incorrectly be interpreted to mean that the full 1.5% late payment charge would apply even in circumstances where payment is late for less than one month. The proposed wording is intended to outline the calculation method and amount of the late payment charge, where the customer would not be charged the full weight of the charge but rather a charge commiserate with number of days the payment is not received.

Existing Article 15.8

15.8 Late Payment Charge

Late payments by the Customer are subject to a late payment charge of 1.5% per month for each month or part thereof for which such payment is late. The AESO will also assess the defaulting Customer for all administrative and collection costs relating to the recovery by the AESO of amounts owed. The AESO, at its sole discretion, may suspend System Access Service and realize upon any security provided by the defaulting Customer if the Customer is not in compliance with Article 15.7 in full or partial satisfaction (as the case may be) of all amounts owing to the AESO. System Access Service to the Customer will not be re-instated until the Customer has paid all amounts owing to the AESO in full and has restored or secured its credit facility in a manner satisfactory to the AESO, at the AESO's sole discretion. (Emphasis added.)

Proposed Article 15.8

15.8 Interest and Other Charges

In the event of non-payment under the terms of Article 15.7, interest and late payment penalties will be charged to defaulting customers.

- (i) Where non-payment exists, interest charges will be calculated on the day following the applicable Transmission settlement date. The interest will be calculated at the Toronto Dominion Canadian prime rate plus 6%. Interest will be calculated from the due date to the date on which bank value is received.
- (ii) In addition to the interest charge, a penalty charge will be assessed based on 2 days interest on the outstanding amount owing and calculated at the Toronto Dominion Canadian prime rate plus 6%.

The AESO will also assess the defaulting Customer for all administrative and collection costs relating to the recovery by the AESO of amounts owed. The AESO, at its sole discretion, may suspend System Access Service and realize upon any security provided by the defaulting Customer if the Customer is not in compliance with Article 15.7 in full or partial satisfaction (as the case may be) of all amounts owing to the AESO. System Access Service to the Customer will not be re-instated until the Customer has paid all

amounts owing to the AESO in full and has restored or secured its credit facility in a manner satisfactory to the AESO, at the AESO's sole discretion.

6.10 Other Changes to the Terms and Conditions of Service

5

Definitions and Interpretation (Article 1) — Revisions are discussed in Section 6.1. Other revisions can be reviewed via the blackline copy of the current 2006 terms and conditions as provided in Appendix G.

10

Application of Tariff (Article 2) — The content of this article remains unchanged.

Provision of System Access Service (Article 3) — Material amendments to this article are discussed in section 6.2. Article 3 has also been updated to include revisions to defined terms as outlined in Section 6.1.

15

Customer Interconnection Requirements (Article 4) — Article 4.4 has been updated to include the term “Reliability Standards”.

System Access Application (Article 5) — Revisions are discussed in Section 6.3.

20

Security and Customer Agreements (Article 6) — Article 6.2 (c) is revised to clarify that the AESO will not require security for AESO Standard Facilities from distributors but will require security for facilities in excess of standard. The remainder of the article remains unchanged in intent and content.

25

Metering (Article 7) — Revisions are discussed in Section 6.4.

Provision of Information by Customers (Article 8) — The content of this article remains unchanged.

30

Customer and System Contribution Policy (Article 9) — Revisions are discussed in Section 6.5.

35

Demand Opportunity Service (Article 10) — Article 10 has been updated to reflect changes to the DOS rate. In addition, Article 10.1 has been revised to include language outlining that there must also be sufficient transmission “capacity” available in order to grant DOS service to the customer.

40

Ancillary Services (Article 11) — The content of this article remains unchanged.

Under-Frequency Load Shedding (Article 12) — The content of this article remains unchanged.

45

Contract Capacity Allocation (Article 13) — Revisions are discussed in Section 6.6.



Reductions or Termination of Contract Capacity (Article 14) — Article 14 has been expanded to include the provision for RGUCC requirements and greater clarity regarding contract reductions or terminations. This is discussed in Section 6.7.

5 **Financial Security, Billing, and Payment Terms** (Article 15) — Revisions are discussed in Section 6.8.

Peak Metered Demand Waiver (Article 16) — The content of this article remains unchanged.

10 **Service Interruptions and Force Majeure** (Article 17) — Proposed amendments to Article 17.1 do not change the intent of the article but rather clarify that there may be events other than what is described which may cause a disruption in service. The remainder of the article remains unchanged in intent and content.

15 **Limitation of Liability** (Article 18) — The content of this article remains unchanged.

Dispute Resolution (Article 19) — The content of this article remains unchanged.

20 **Confidentiality** (Article 20) — The content of this article remains unchanged.

Miscellaneous (Article 21) — Article 21.4 contains two revisions. Department reference has been changed from Customer Relations to Customer Services. Notices have been expanded to include email as an acceptable form of notification. The remainder of the article remains unchanged in intent and content.

25 **Metering Equipment Information** (Appendix A) — The content of the Appendix remains unchanged.

30 **Regulated Generating Units** (Appendix B) — Removed from the terms and conditions and combined with the existing information in Rate Schedule Appendix A.

35 **System Access Service Agreement Proformas** (Appendix C) — Will now be renamed as Appendix B, the export proformas are updated to accommodate the proposed export rates and the system access service agreement for demand opportunity service is also provided as the removal of the agreement was an unintended omission during the AESOs 2005/2006 GTA refiling.

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SECTION 7 2007 TERMS AND CONDITIONS OF SERVICE

Number	Description
Article 1	Definitions and Interpretation
Article 2	Application of Tariff
Article 3	Provision of System Access Service
Article 4	Customer Interconnection Requirements
Article 5	System Access Application
Article 6	Security and Customer Agreements
Article 7	Metering
Article 8	Provision of Information by Customers
Article 9	Customer Contribution Policy
Article 10	Opportunity Service
Article 11	Ancillary Services
Article 12	Under-Frequency Load Shedding
Article 13	Contract Capacity Allocation
Article 14	Reductions or Termination of Contract Capacity
Article 15	Credit, Billing, and Payment Terms
Article 16	Peak Metered Demand Waiver
Article 17	Service Interruptions and Force Majeure
Article 18	Limitation of Liability
Article 19	Dispute Resolution
Article 20	Confidentiality
Article 21	Miscellaneous
Appendix A	Metering Equipment Information
Appendix B	System Access Service Agreement Proformas
	System Access Service Agreement: Demand Transmission Service
	System Access Service Agreement: Supply Transmission Service
	System Access Service Agreement: Import Opportunity Service
	System Access Service Agreement: Export Service – BC / Saskatchewan
	Interties
	System Access Service Agreement: Export Service – Alberta / Montana
	Intertie
	System Access Service: Demand Opportunity Service
	Construction Commitment Agreement

ARTICLE 1 DEFINITIONS AND INTERPRETATION

1.1 The following terms shall have the following meanings in this Tariff:

“**Act**” means the Electric Utilities Act, S.A. 2003, c. E-5.1 and regulations made thereunder, as amended from time to time.

“**AESO**” means Alberta Electric System Operator, and is a trade name under which the ISO carries on business in fulfillment of its roles, responsibilities, and duties pursuant to the Act.

“**AESO Measurement System Standard**” means the standards contained in the document titled *Alberta Electric System Operator Measurement System Standards*, made available by the AESO, which defines the accountabilities and obligations of the AESO, metering service providers, and metering data providers in respect of the provision and operation of the measurement system required for the measurement, acquisition, processing, and delivery of measurement data, as amended from time to time.

“**AESO Person**” means “Independent System Operator person” and has the meaning ascribed to it in the Act.

“**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.

“**AIES**” means Alberta’s “Interconnected Electric System” and has the meaning ascribed to it in the Act.

“**Affiliate**” has the meaning ascribed to it in the Business Corporations Act (Alberta), S.A. 1981, c. B-15, as amended.

“**Ancillary Services**” has the meaning ascribed to it in the Act.

“**Apparent Power**” means the product of the volts and amperes, comprising both real and reactive power, usually expressed in kilovoltamperes (“kVA”) or megavoltamperes (“MVA”).

“**Application Fee**” means the refundable interconnection application fee a Customer pays to the AESO when the Customer submits a request for interconnection to the AIES. Application Fees are set out in Article 5.

“Area Control Error” means the instantaneous difference between actual and scheduled interchange, taking into account the effects of frequency bias (and time error or unilateral inadvertent energy, if automatic correction for either is part of the AGC).

“Automatic Generation Control” or **“AGC”** means equipment that automatically adjusts a Control Area’s generation to maintain its frequency or interchange schedule plus or minus frequency bias.

“Automatic Voltage Regulator” or **“AVR”** means automatic control equipment that changes the Generating Unit excitation level to maintain voltage levels.

“Billing Capacity” has the meaning ascribed to it in Rate Schedule DTS.

“Billing Period” means a period of time starting on the first day of each calendar month at 00:00 hours and ending on the last day of the same calendar month at 24:00 hrs, during which a Customer is supplied with System Access Service.

“Business Day” means a day other than a Saturday, a Sunday, a Statutory Holiday, or a Monday when a Statutory Holiday occurs on a Saturday or Sunday and the following Monday is a day during which financial banking privileges are suspended.

“Commercial Operation” means the date upon which a load or Generating Unit begins to operate on the transmission system in a manner which is acceptable to the AESO and which is expected to be normal for it to so operate, after energization and Commissioning.

“Commissioning” means those limited activities (as approved in advance by the AESO and subject to written agreement) conducted after interconnection which are required to ensure that a facility can satisfactorily enter Commercial Operation and that a facility meets the AESO’s requirements. The term of such written agreement will not extend beyond a three month period unless otherwise agreed to by the AESO.

“Confidential Information” means information provided to the AESO that has been specifically identified as being confidential in nature by the provider of such information and information provided pursuant to Article 8 of these Terms and Conditions of Service.

“Constrained On” means a condition where a Generating Unit has been dispatched on load while Out of Merit, as a result of a Dispatch Instruction by the AESO.

“Construction Commitment Agreement” means a financial security agreement made between the Customer and the TFO or between the Customer and the AESO

prior to arrangements for new facilities required to accommodate the provision of System Access Service to the Customer or an increase thereto.

“Contract Capacity” means the peak demand or supply capability (expressed in MW), as set out in the System Access Service Agreement.

“Control Area” means a geographic area comprised of an electric system or systems, bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other control areas, and contributing to frequency regulation of the interconnection, such as the AIES.

“Customer” is an Eligible Person who takes, or applies to take, System Access Service from the AESO and satisfies the conditions provided in Article 3.1 below.

“Customer’s Facilities” or **“Customer Facilities”** means all facilities interconnecting with the AIES on the Customer’s side of the POD or POS.

“Customer Contribution” means the amount required to be paid by a Customer taking service under Rate Schedule DTS or Rate Schedule STS pursuant to Article 9 hereof.

“Demand Customers” are load customers and generation customers, the latter for the purposes of obtaining their back up supply.

“Demand Opportunity Service Business Practices” means the business practices contained in the Business Practices – Demand Opportunity Service (DOS) document, made available by the AESO, as may be amended from time to time in accordance with the provisions of Article 10 below.

“Direct Loss or Damage” has the meaning ascribed to it in the Act.

“Dispatch Instruction” means in respect of any Generating Unit, all dispatch instructions issued by the AESO from time to time, designating such unit to provide Ancillary Services, by changing the output or manner of operation of a unit, or by another method or procedure, and giving any necessary details as to the service to be provided.

“Dispute” means any dispute, claim, or difference that arises in respect of the Tariff between the AESO and the Customer.

“Distributor” means a party providing “Distribution Access Service”.

“Distribution Access Service” has the meaning ascribed to it in the Act.

“DOS” or **“Demand Opportunity Service”** means service under either Rate Schedule Demand Opportunity Service (DOS 7 Minutes) or Demand Opportunity Service (DOS Term).

“DTS” or **“Demand Transmission Service”** means service under Rate Schedule Demand Transmission Service.

“E&G Act” means the Electricity and Gas Inspection Act (Canada) and regulations made thereunder, as amended from time to time, or such replacement legislation as may be enacted.

“Eligible Person” means any of the following: the owner of a Generating Unit; the owner of an electric distribution system; an importer or exporter; the owner of an industrial system; a direct access customer, or the purchaser of a PPA.

“Emergency” means, as declared by the AESO, either: any abnormal system condition which requires immediate manual or automatic action to prevent abnormal system frequency deviation, abnormal voltage levels, equipment damage, or tripping of system elements which might result in cascading effects; or a state in which the AESO lacks sufficient Ancillary Services.

“Energy Transfer” shall mean the quantity of energy transfer attributable to a transaction for service under Export Rate Schedules (XTS, XTS 1 hour, XTS 1 month, MTS, MTS 1 hour & MTS 1 month) or Rate Schedule Import Opportunity Service, based on the capacity at a Point of Interconnection and allocated to a Customer.

“EUB” means the Alberta Energy and Utilities Board.

“Force Majeure” means: acts of God; strikes; lockouts or other industrial disturbances; vandalism; wars; riots; epidemics; landslides; lightning; earthquakes; explosions; fires; storms; intervention of federal, provincial, or local government (or from any of their agencies or boards); the order or direction of any court; inability to obtain, interruption, suspension, curtailment or other diminution of, supply of materials, utilities, or services from any supplier (including, without limitation, TFOs, Ancillary Service Providers or the AESO) and any other causes, whether of the kind herein enumerated or otherwise, not within the control of the AESO and which by the exercise of due diligence the AESO is unable to prevent or overcome. Notwithstanding the foregoing, a decision, direction, or order made by the EUB in the normal course of it exercising its authority shall not be an event of force majeure.

“Generating Unit” has the meaning as ascribed to it in the Act.

“Governor” or **“Governor System”** means automatic control equipment with speed droop characteristics to control Generating Unit speed and/or electric power output.

“**ISO**” or “**Independent System Operator**” has the meaning ascribed to it in the Act.

“**ISO Rules**” has the meaning ascribed to it in the Act.

“**Looped**” refers to 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.

“**Losses**” means the energy that is lost through the process of transmitting electric energy.

“**Maximum TMR Compensation**” means the maximum amount to be paid by the AESO for Transmission Must-Run (TMR) service that would result in the recovery of fixed, operating, and maintenance costs, including a reasonable rate of return for the TMR service provider, based on the following components determined monthly:

- (a) Undepreciated Capital Investment (UCI) reflecting the Customer’s property, plant, and equipment for the specific generating asset providing the TMR service less accumulated depreciation for the specific generating asset;
 - (b) amortization and depreciation amounts associated with the Customer’s investment in the generating asset providing TMR service over the economic life of the asset and consistent with amounts reported in the Customer’s audited financial statements;
 - (c) capital structure reflecting debt, equity, or other financing of the Customer’s investment in the generating asset at a deemed capital structure of 70% debt and 30% common equity;
 - (d) a 12% rate of return on equity and an interest rate on debt equal to a 10-year Government of Canada Bond interest rate plus 0.5%;
 - (e) income tax costs reflecting the marginal income tax rates for both federal and provincial portions of income tax;
 - (f) a prorated share of total return costs reflecting one-twelfth of the sum of:
 - annual amortization and depreciation amounts,
 - the product of UCI times the debt percentage of capital structure times the interest rate,
 - the product of UCI times the equity percentage of capital structure times the rate of return on equity, and
 - the product of the tax rates times the equity return amount determined above,
-

unless the generating asset is at or near the end of its life and the UCI amount is at zero, in which case total return costs will reflect a reasonable minimum return amount and;

where the prorated share is based on the number of hours of TMR service compared to the total of hours of TMR service and a reasonable portion of hours in-merit in the energy market;

- (g) total operation and maintenance costs reflecting direct as well as a prorated share of indirect or fixed operation and maintenance costs associated with the generating asset, where the prorated share is based on the number of hours of TMR service compared to the total of hours of TMR service and a reasonable portion of hours in-merit in the energy market;
- (h) total fuel costs reflecting direct as well as a prorated share of indirect or fixed fuel costs associated with the generating asset, where the prorated share is based on the number of hours of TMR service compared to the total of hours of TMR service and a reasonable portion of hours in-merit in the energy market;
- (i) a prorated share of credits for common costs, if applicable, reflecting revenues or benefits attributable to a service in addition to the TMR service and associated with the generating asset where the prorated share is based on the number of hours of TMR service compared to the total of hours of TMR service and a reasonable portion of hours in-merit in the energy market; and
- (j) adjustment for partial use of the generating asset where the asset is only partially directed for TMR service and the remainder of the unit's capacity is available to provide other electric services.

"MCR" or **"Maximum Continuous Rating"** is the maximum net power output that can be sustained by a generator over a long period.

"Metered Demand" means the rate at which electric energy is delivered to a POD, or from a POS, expressed in MW, averaged over a 15-minute, 1-minute, or other interval as deemed necessary by the AESO.

"Metered Energy" means the quantity of energy, expressed in MWh, reflected by the relevant Metering Equipment as having been transferred in a particular period of time.

"Metering Equipment" means any current transformers, potential transformers, interconnecting wiring, meters, remote metering communication facilities, and records used by the owner of the Metering Equipment in connection with these Terms and Conditions to measure Metered Demand.

“Non-Dispensated Metering Equipment” means Metering Equipment installed after May 31, 1998 which is not the subject of a waiver or dispensation by Industry Canada of requirements under the E&GI Act.

“Non-Recallable Service” means System Access Service pursuant to Rate Schedule DTS or Rate Schedule STS.

“Opportunity Capacity” means the incremental amount of transmission capacity that is available under a System Access Service Agreement for Demand Opportunity Service to provide capacity in addition to Contract Capacity for DTS.

“Opportunity Service” means System Access Service offered to any Customer who can establish to the AESO’s satisfaction that it would not take System Access Service pursuant to Rate Schedule DTS and with respect to which, therefore, the service requirement presents the opportunity for incremental revenue with which the AESO can offset transmission costs.

“Opportunity Service Customers” means those Customers that meet the criteria for Opportunity Service, as defined.

“Physical Capacity” means the maximum amount of electric power that a transmission facility, as rated by a TFO, is able to transmit.

“POC” or **“Point of Connection”** means a point at which electric energy is transferred between the Customer’s facility and the AIES. A Point of Connection may be a Point of Supply (POS), a Point of Delivery (POD), or both.

“POD” or **“Point of Delivery”** means the point at which electric energy is transferred from the AIES to a Customer’s Facilities.

“Point of Interconnection” means the point at which electrical energy is transferred from the AIES to a neighbouring jurisdiction and where the electric energy so transferred is measured.

“Pool Price” shall have the meaning ascribed to that term in the Act, and when used in the context of a particular hour, shall mean the pool price for that hour.

“POS” or **“Point of Supply”** means the point which electric energy is transferred from a Customer’s Facilities to the AIES.

“Power Factor” means the ratio of Real Power to Apparent Power.

“PPA” or **“Power Purchase Arrangement”** has the meaning ascribed to it in the Act.

“**PPA Effective Date**” means January 1, 2001 or such other dates as the Power Purchase Arrangement becomes effective.

“**PSC**” or “**Primary Service Credit**” means the credit set forth in Rate Schedule Primary Service Credit.

“**PSS**” means power system stabilizer.

“**Radial**” facilities are those transmission facilities that are not Looped.

“**Ratchet Level**” has the meaning ascribed to it in Rate Schedule Demand Transmission Service.

“**Rate Schedules**” means the schedules attached to and forming part of the Tariff, which set out the respective rates to be charged, and credits to be attributed, for each type of System Access Service.

“**Rated Capacity**” means the maximum amount of electric power which a transmission facility is rated by the manufacturer to be able to transmit.

“**Reactive Power**” means the portion of electricity that establishes and sustains the electric and magnetic fields of alternating current equipment, expressed in megavars (“MVAR”).

“**Real Power**” means the rate of producing, transferring, or using electrical energy, expressed in megawatts (“MW”).

“**Regulated Generating Unit**” is a generating unit listed in Appendix B.

“**Reliability Standards**” refers to the reliability standards, agreements, criteria and directives of the WECC and the North American Reliability Council, or their successor organizations, the reliability standards, agreements, criteria or directives of any similar entity recognized by the ISO and reliability standards adopted by the ISO to supplement those standards, criteria or directives thereby adopted and enforced by the WECC or the ISO

“**Representatives**” means the directors, officers, employees, consultants, and agents of the AESO.

“**Statutory Holiday**” means New Year’s Day, Family Day, Good Friday, Victoria Day, Canada Day, Heritage Day, Labour Day, Thanksgiving Day, Remembrance Day, Christmas Day, and Boxing Day.

“**STS**” or “**Supply Transmission Service**” means the service provided under Rate Schedule Supply Transmission Service.

“STS Capacity” means the Contract Capacity as set out in the System Access Service Agreement for Supply Transmission Service.

“System Access Service” has the meaning ascribed to it in the Act.

“Substation Fraction” means the ratios of the Contract Capacities for the Point of Delivery to the sum of all Contract Capacities (for DTS and STS) at the substation at which the Point of Delivery is interconnected.

“System Access Service Agreement” means an agreement, in the form made available by the AESO, entered into between the AESO and a Customer for System Access Service.

“System Contribution” means the amount required to be paid by Customers taking service under Rate Schedule STS pursuant to Article 9.11 hereof.

“System Security” means the ability of the AIES to withstand events such as electric short circuits, unanticipated loss of AIES components, and switching operations without experiencing cascading loss of AIES components or uncontrolled loss of load.

“Tariff” means these Terms and Conditions and Appendices attached hereto and the Rate Schedules as approved by the EUB.

“TFO” or **“Transmission Facilities Owner”** has the meaning ascribed to it in the Act.

“TMR” or **“Transmission Must-Run”** means Constrained On dispatch of a Generating Unit to a specific level in accordance with a Dispatch Instruction issued to maintain System Security.

“Transmission Interconnection Requirements” means the requirements related to matters such as, but not limited to, protection, revenue metering, transmission lines, generators, loads, communications and SCADA, currently contained in the documents: Technical Requirements for Connecting to the Alberta Interconnected Transmission Grid; Part 1: Technical Requirements for Connecting Loads Rev. 1.0 (Dec. 29, 1999), Part 2: Technical Requirements for Connecting Generators to the AIES Rev. 1.0 (Dec. 29, 1999); Part 3 Technical Requirements for Connecting Transmission Facilities Rev. 1.0 (Dec. 29, 1999), AESO SCADA Standard Rev. 1.0 (Sept. 6, 2005), AESO Measurement System Standard (July 1, 2004), AIES Protection Standard Rev. 0 (Dec. 1, 2004), Phasor Measurement Unit Requirements Rev. 2.0 (July 6, 2005), Operational Voice Communication Standard Rev. 1.0 (Sept. 7, 2005), Wind Power Facility Technical Requirements Rev. 0 (Nov. 15, 2004), Transmission Modeling Data Rev. 0 (April 29, 2003), Requirements for Model Validation Reporting For Generators and Generator Control Systems Rev. 0

(November 16, 2005), all of which are prepared, published and may be amended or supplemented by the AESO from time to time.

“**Transmission Regulation**” means the Transmission Regulation, A.R. 174/2004, as amended from time to time.

“**UFLS**” or “**Under-Frequency Load Shedding Credit**” means the under-frequency load shedding provisions as set forth in Rate Schedule Demand Under-Frequency Load Shedding and the credits therefor.

“**Western Interconnection**” means the area comprising those states and provinces, or portions thereof, in Western Canada, Northern Mexico, and the Western United States in which members of the WECC operate synchronously connected transmission systems.

“**WECC**” means the Western Electricity Coordinating Council and any successor organization.

- 1.2 Unless otherwise expressly provided, any definition of a word or expression in the Act shall apply to the use of such word or expression in this Tariff.
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ARTICLE 2 APPLICATION OF TARIFF

2.1 **Tariff Application**

This Tariff sets forth the rates and Terms and Conditions of Service under which the AESO will provide System Access Service to its Customers. By accepting service from the AESO, a Customer is deemed to have accepted this Tariff. In the event of any conflicts between the Terms and Conditions and the Rate Schedules, the Terms and Conditions govern.

2.2 **EUB Approval**

This Tariff has been approved by the EUB, defines service to be delivered by the AESO and binds all of the AESO's Customers. This Tariff defines the basic rights of the AESO and all its Customers with respect to all services provided by the AESO.

2.3 **Effective Date**

This Tariff becomes effective on the later of January 1, 2006 or the first day of the month after the EUB approves it and remains in effect until replaced or amended pursuant to Section 124 of the Act.

2.4 **Powers Under the Act**

Nothing in this Tariff shall in any way restrict or limit the powers, duties, and responsibilities of the AESO as described in the Act.

ARTICLE 3 PROVISION OF SYSTEM ACCESS SERVICE

3.1 Provision of Service

Subject to Article 17, the AESO agrees to provide System Access Service, up to and including the POD or POS, to all Customers who have executed a System Access Service Agreement and abide by this Tariff. The AESO will provide service up to the Customer's Contract Capacity as set out in the Customer's System Access Service Agreement contingent upon any applicable ISO Rules, OPPs or Abnormal Operating Conditions as defined in the Transmission Regulation.

3.2 Withholding Service

The AESO, at its sole discretion, may withhold, limit, or discontinue System Access Service if the Customer fails to abide by this Tariff. If requested by the Customer, the AESO will provide a written explanation for withholding, limiting, or discontinuing System Access Service. Any such withholding, limiting, or discontinuing will not relieve the Customer from its obligation to pay any rate, charge, or other amount that has accrued, or is accruing, to the AESO.

3.3 Reliability Standards

The AESO will maintain the reliability of the AIES and the Western Interconnection in accordance with the Reliability Standards.

3.4 Reasonable Exercise of Discretion

Where the AESO or a Customer is granted any discretion pursuant to these terms and conditions (whether with respect to granting its consent or withholding its consent to a particular matter or otherwise), the AESO, the Customer or both will, in every instance, exercise its discretion acting reasonably.

ARTICLE 4 CUSTOMER INTERCONNECTION REQUIREMENTS

4.1 Compliance

All Customers must comply with the Interconnection Requirements.

4.2 Customer Facilities

All facilities interconnecting with the AIES on the Customer's side of the POD or POS are the responsibility of the Customer and the AESO has no responsibility in respect of service provided over Customer Facilities.

4.3 Use of Service

No Customer or any other person may rearrange, disconnect, remove, interconnect with, or otherwise interfere with any transmission facility without the AESO's prior written consent.

4.4 Generating Units

Any Customer whose facilities include a Generating Unit which is operated in parallel to the electric system, whether connected at a transmission voltage or a distribution voltage, must have, for all hours in which the Generating Unit is operating, a PSS in service and an AVR operated in a voltage control mode. Any Customer that has a Generating Unit connected to the electric system without a PSS in service, or that has an AVR operating in any condition other than Voltage control, must notify the AESO of those conditions. The Customer must report to the AESO on a monthly basis, no later than the 5th Business Day of the month following the month to which the report relates, the AVR operation (voltage control or other) and PSS in-service periods for the preceding month. In the event that the AESO becomes aware of a failure to comply with this requirement, the AESO shall report the non-compliance to the WECC and any penalties assessed by the WECC that result from the non-compliance will be borne by the relevant Customer. Article 4.4 does not apply to Generating Units that are exempt from PSS requirements in accordance with WECC policy.

If the AESO requires PSS or AVR to be added to a currently regulated generator in the future, the AESO will pay any costs prudently incurred in the installation of the PSS or AVR and will recover prudently incurred costs from tariff(s) approved by the EUB. In the event the EUB determines that costs incurred by the currently regulated generators in the installation of the PSS or AVR cannot be recovered in rates charged by the AESO, then the Customer who has received the benefit of such amounts shall reimburse the AESO for such amounts. If the excitation system of an existing regulated or unregulated generator to which Article 4.4 does not apply is rebuilt or replaced, the new excitation system must be suitable for PSS, and a PSS/AVR must be installed.

4.5 Effect of Non-Compliance

Failure to comply with the Interconnection Requirements or Reliability Standards may result in the AESO withholding, suspending or terminating System Access Service. Where non-compliance with the Interconnection Requirements, Reliability Standards or the requirements of Article 4.4 would not have a detrimental affect on system reliability, the AESO may, in its sole discretion, waive compliance therewith for any existing Customer for whom, in the AESO's reasonable opinion, the imposition thereof would create severe hardship or unnecessary costs.

ARTICLE 5 SYSTEM ACCESS APPLICATION

- 5.1 **Distributor's Application for System Access Service existing POD**
- a) Subject to Article 5.3, applications for expanded System Access Service within an existing POD shall be made to the TFO. An interconnection proposal for the requested expansion is presented and reviewed by the AESO.
 - b) The AESO will work cooperatively with the Distributor and the TFO to determine the most cost effective manner to facilitate System Access Service for the Distributor's request for new System Access Service or for expanded System Access Service within an existing POD.
 - c) The AESO will provide the Distributor or the TFO with the necessary approvals, conditional or otherwise, and other interconnection documentation required to facilitate System Access Service.
 - d) Subject to Article 5.3, if the Distributor proceeds with the recommended System Access Service solution, the Distributor is expected to provide the information and financial security required by the TFO and to enter into a Construction Commitment Agreement, if required by the TFO.
- 5.2 **Distributor's Application for New System Access Service**
- a) Applications for new System Access Service shall be made to the AESO and include an interconnection proposal, prepared by the Distributor and TFO.
 - b) The AESO will work cooperatively with the Distributor and the TFO to determine the most cost effective manner to facilitate System Access Service for the Distributor's request for new System Access Service or for expanded System Access Service within an existing POD.
 - c) The AESO will provide the Distributor or the TFO with the necessary approvals, conditional or otherwise, and other interconnection documentation required to facilitate System Access Service.
 - d) Subject to Article 5.3, if the Distributor proceeds with the recommended System Access Service solution, the Distributor is expected to provide the information and financial security required by the TFO and to enter into a Construction Commitment Agreement, if required by the TFO.
- 5.3 **Generator, Industrial Systems, and Industrial Load Applications for Service**
- Customers may apply for new System Access Service or for expanded System Access Service within an existing POC.
- a) Applications for System Access Service shall be made to the AESO and subject to the associated fee set out in sub-paragraph (c).
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- b) The Customer must work with both the AESO and the TFO who will cooperatively determine the most cost effective manner to facilitate System Access Service.
- c) Where required by the AESO, the Customer must pay the following refundable system access application fee. The AESO will refund such fee to the Customer within 90 days of energization of the Customer's Facilities.

<u>Project Size</u>	<u>Preliminary Assessment Fee</u>
≤ 15 MW	\$10,000
> 15 MW and ≤ 25 MW	\$20,000
> 25 MW	\$50,000

- d) The AESO will provide the Customer and the TFO with the necessary approvals, conditional or otherwise, and other interconnection documentation required to facilitate System Access Service.
- e) Subject to Article 5.3, if the Customer proceeds with the recommended System Access Service solution, the Customer is expected to provide the information and financial security required by the TFO and to enter into a Construction Commitment Agreement with the TFO.

5.4 **Application to the AESO**

At the sole discretion of the AESO and only in exceptional circumstances, the Customer may proceed with the application for System Access Service through the AESO and, in conjunction therewith, must provide the information, financial security, and Construction Commitment Agreement required by the AESO.

5.5 **Loss Factor Calculations and Other Studies**

A Customer or potential Customer that requests a preliminary loss factor calculation (only) must complete a loss factor calculation application form and pay the AESO a non-refundable fee of twenty-five hundred dollars (\$2,500). For additional services requested by the Customer that the AESO agrees to perform, the Customer must pay the AESO's actual costs to prepare and provide the requested information. The AESO will conduct all detailed studies in the order that payment is received.

5.6 **Facility Changes**

The AESO is not liable to any Customer or potential Customer for changes to the actual or planned facilities that occur between the date upon which the TFO or the AESO, as the case may be, issues the Project Specifications and the date upon which the Customer commits, in writing, to construction of the applied-for System Access Service.

5.7 **System Application Disputes**



Disputes in respect of a Customer System Application must be referred to the AESO, in writing. The AESO will review the dispute and provide the Customer and any other affected parties with a proposed resolution within 30 Business Days of receipt thereof. In the event mutual agreement cannot be reached, any of the affected parties may then enter into the Dispute Resolution process as set out in Article 19 of this Tariff.

ARTICLE 6 SECURITY AND CUSTOMER AGREEMENTS

6.1 Construction

The AESO will arrange construction of new facilities only after the Customer has satisfied all necessary requirements in Article 5 and this Article 6.

6.2 Security for New Transmission Facilities

- (a) If requested by the AESO, the Customer must provide security in an amount determined by the AESO, which amount will not exceed the estimated cost of construction. Security must be in the form of a guarantee, cash deposit, or an irrevocable letter of credit from a Canadian chartered bank, credit union, trust company, or other financial institution with a minimum A- credit rating as determined by Standard & Poor's or equivalent credit rating agency. The security must be satisfactory to the AESO, at its sole discretion, in form, substance, and amount.
- (b) The AESO may request, at its sole discretion, at any time after execution of the Customer Commitment Agreement, additional or replacement security based on the AESO's estimate of the appropriate security required. Required additional or replacement security must be provided to the AESO within two business days of such request. Customers must report any event of default for borrowed funds or material adverse changes in their financial position to the AESO within two Business Days of such event.
- (c) Security will not be required for AESO Standard Facilities requested by distributors regulated by the EUB.

6.3 Effect of Non-Compliance

If the Customer fails to provide adequate security as requested by the AESO, the AESO may immediately withhold or suspend the Customer's System Access Service pursuant to Article 3.2. Any such withholding or suspension will not relieve the Customer from its obligation to pay any rate, charge or other amount that has accrued, or is accruing, to the AESO.

6.4 Cancellations

- (a) If new transmission facilities are no longer required for any reason after the Construction Commitment Agreement is executed, the Customer must pay to the AESO all costs incurred in the procurement and construction of facilities as of the termination date, all cancellation costs, penalties, and other related costs including those for material salvage and reclamation of the construction site. If the Customer fails to make payment on the payment due date, the AESO at its discretion may realize on any security provided by the Customer.
 - (b) The AESO may, but is not required to, deduct any amounts owing by the AESO to the Customer under any agreement between the AESO and the Customer on partial or full (as the case may be) satisfaction of such costs, penalties or other claims. Such amounts may include, but are not limited to,
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debts, liquidated demands, unliquidated demands, damages or other obligations.

6.5 System Access Service Agreement

Prior to Commissioning of new facilities, the Customer for whom the transmission facilities were built must execute a System Access Service Agreement for each POD or POS. The AESO will provide System Access Service during Commissioning at the Rate Schedule named in the System Access Service Agreement.

ARTICLE 7 METERING

7.1 **Metering Standards**

All Customers must provide Metering Equipment that complies with the standards defined in the AESO Measurement System Standard.

7.2 **Meter Testing**

- (a) The Customer may request that the AESO arrange for any Metering Equipment testing including, at the Customer's cost, the calibration of any Non-Dispensated Metering Equipment to the System Accuracy Standard. If the Customer requests a test and the meter is subsequently found to be accurate within the System Accuracy Standard, then the Customer will pay for the cost of the testing as invoiced in its next Statement of Accounts.
- (b) The AESO may require testing of Metering Equipment at any time. If the Metering Equipment meets the System Accuracy Standard, the AESO will bear the cost of such testing. Otherwise, the Customer will pay for the cost of testing and any necessary recalibration.

7.3 **Access**

The Customer must allow the AESO, including its Representatives, access to enter the Customer's premises, at any reasonable time and at the Customer's cost, to read or install Metering Equipment thereon.

7.4 **Direction to Install Metering**

The AESO may require the Customer to install Metering Equipment on the Customer's premises, at the Customer's sole cost. If the Customer fails to comply with such requirement in a timely manner, the AESO may, at the Customer's sole cost, enter and install Metering Equipment on the Customer's premises.

7.5 **Meter Data**

All Customers must provide Metering Data that complies with the standards defined in the AESO Settlement System Code and the AESO Measurement System Standard. Metering Data will be used for billing purposes, energy purchases and sales, and Ancillary Services purchases.

7.6 **Metering Signals**

Metering signals in the form of energy pulses, reactive energy pulses, and analog values of energy and reactive energy can be provided to the Customer, upon written request and at the Customer's cost. This cost will be included in the Customer's Statement of Accounts.

7.7 **Effect of Non-Compliance**

Notwithstanding Article 3.2, the AESO will not withhold, suspend or terminate System Access Service unless and until:



- (a) the metering non-compliance has first been referred to the dispute resolution procedures found in Article 19,
- (b) the Customer has failed to adhere to any resolution mutually achieved or the decision of an arbitrator, as the case may be, in a timely manner, and
- (c) the AESO has provided the Customer with five days prior written notice of its intention to withhold, suspend, or terminate System Access Service.

ARTICLE 8 PROVISION OF INFORMATION BY CUSTOMERS

8.1 System Access Information

Customers must provide, upon request, all information that the AESO requires in order to discharge its duties and functions under the Act or in compliance with any external agency's reporting requirements. Such information includes, but is not limited to:

- (a) information required by the AESO in respect of new or expanding System Access Service;
- (b) technical information during construction and prior to energization (pre-commissioning information requirements can be obtained from the AESO); and
- (c) Metering Equipment information outlined in Appendix A.

8.2 Forecast Information

On October 1st of each calendar year and whenever new information arises, all Customers must provide the AESO with:

- (a) a copy of the Customer's operating procedures;
- (b) a schedule of planned or maintenance outages for the following two calendar years; and
- (c) forecast information for the following five years, including:
 - (i) forecast Maximum Contract Capacity by POD or POS by month,
 - (ii) the location and size of any new POD and POS required, and
 - (iii) the name and location of existing POD and POS which may no longer be required.

The appropriate forms for provision of forecast and update information can be obtained from the AESO.

8.3 Effect of Non-Compliance

Failure to provide information that may have an impact on safety or system security will result in suspension, termination or delay of System Access Service until such time that the information is provided to the AESO.

The AESO is not responsible for any delay, interruption, damage or other problems caused by a delay in the provision of information required from a Customer.

ARTICLE 9 CUSTOMER AND SYSTEM CONTRIBUTION POLICY

9.1 Service Requirements

In considering requests to provide service to a new POC, or to increase the capacity of or improve the service to an existing POC, the AESO will determine the appropriate means of delivering the requested service.

- (a) If the Customer's request primarily represents a shift of supply or demand from an existing POC, then the Customer will pay the full cost of the transmission upgrade or extension ("the project")
- (b) If the AESO determines that the most economic option for providing service to a Customer is a facility other than a transmission facility (such as a distribution-level extension or isolated generation), then the customer will pay the difference in cost between the most economic option and the transmission upgrade or extension in addition to any customer contribution required under Articles 9.3 through 9.6.

Otherwise:

- (c) for a Point of Delivery Customer, the Customer's contribution to project costs will be determined in accordance with Articles 9.3 through 9.6, and
- (d) for a Point of Supply Customer, the Customer's contribution to project costs will be determined in accordance with Articles 9.3 through 9.6, and the Customer's System Contribution will be determined in accordance with Article 9.11.

9.2 Payment of Contributions

All Customer Contributions and System Contributions required under this Article 9 as determined at the time the Customer executes a Construction Commitment Agreement signifying commitment as per the AESO's interconnection processes, must be paid by the Customer before the start of construction of transmission facilities to provide the requested service. Payment must be made by way of electronic funds transfer or wire transfer to the bank account specified by the AESO.

9.3 Classification of System and Customer-Related Costs

The AESO will classify project costs as either system-related costs or Customer-related costs, as follows.

- (a) For a Point of Delivery Customer, subject to Article 9.3(c), Customer-related costs are those costs of a contiguous project in respect of Radial transmission extensions and enhancements at existing adjacent substations. Such costs will normally include the point of interconnection, new transmission line, communication at the point of interconnection, communication enhancements at adjacent substations, a new breaker at an existing substation if required, and other enhancements required to complete the customer's interconnection.
 - (b) For a Point of Supply Customer, subject to Article 9.3(c), Customer-related costs are those costs of a contiguous project in respect of Radial
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transmission extensions. Such costs will normally include the point of interconnection, new transmission line, communications at the point of interconnection back to the existing system, and a new breaker at an existing substation if required.

- (c) System-related costs are those project costs associated with:
- (i) Looped transmission facilities;
 - (ii) Radial transmission extensions if the transmission development plan (as that plan exists on the date the project is Commissioned) proposes that the Radial transmission extension becomes Looped within five years. The Customer will pay the cost of advancing that part of the project from the date established in the transmission development plan, calculated as the difference between the present values of the capital costs of the advanced and as-planned projects using the discount rate as determined under Article 9.14; and
 - (iii) Where, in the sole opinion of the AESO, economics or system planning dictate that a facility larger than that required to serve the Customer is to be installed, then the AESO will classify that portion of the project deemed to be in excess of the Customer's needs as system-related costs. As the need to serve additional POCs arises, these system-related costs may be reclassified as Customer-related costs and allocated to the new Customers. The capacity between the Customer's requirements and the minimum size of facilities required to serve the Customer is not considered to be in excess of the Customer's requirements.
- (d) 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.

9.4 **Prepaid Operations and Maintenance**

For customers taking service under Rate DTS, a prepaid operations and maintenance charge of 12% will be added to the costs of facilities which exceed the AESO Standard Facilities required to provide service to the Customer.

9.5 **Determination of Supply-Related and Demand-Related Costs**

For each Customer at a POC, Customer-related costs will be classified as either supply-related or demand-related as follows:

- (a) supply-related costs shall be calculated as $STS_{customer} / (STS_{total} + DTS_{total})$,
and
- (b) demand-related costs shall be calculated as $DTS_{customer} / (STS_{total} + DTS_{total})$

where STS and DTS are the STS and DTS Contract Capacities, respectively, at the POC. All supply related costs shall be paid by the Customer. The

Customer's contribution to demand related costs shall be in accordance with Article 9.6.

9.6 Determination of Customer Contribution

Customers may be required to contribute toward demand-related costs. The Customer's contribution to demand-related costs will be determined in accordance with this Article 9.6. Otherwise, the Customer must pay all demand-related costs.

The Customer's contribution to the demand-related costs will be calculated as follows:

Customer Contribution = Demand-related costs less the Local Investment

Where:

- (a) for a Customer taking service under Rate DTS:
 - (i) the maximum Local Investment =
 - \$149,250/year of DTS contract term for new PODs; plus
 - \$18,150/MW of DTS Contract Capacity/year of DTS contract term for capacity for the first 17MW; plus \$10,000/MW of DTS Contract Capacity/year of DTS contract term for capacity greater than 17MW for both new PODs and increases in capacity of or improvements to the service to an existing POD.
 - (ii) the Local Investment will not exceed the demand-related costs determined in Article 9.5(b) or, if applicable, the cost of the most economic option determined in Article 9.1(b); and
 - (iii) the DTS contract term = 5 to 20 years, as determined by the Customer;

and

- (b) for a Customer taking service under any other rate, the maximum Local Investment = \$0.

9.7 Staged Loads

- (a) Staged Load & Contract Capacity Increases
 - (a) Where material increases or decreases in Contract Capacity are contemplated at a POC and contracted for in the original System Access Service Agreement then:
 - (i) Local investment for projects with expected material increases or decreases in contract load will be determined at the start of the project by taking the present value of the local investment in the incremental load for the remaining contract term.
 - (ii) If the material increases or decreases in contract load do not occur as expected an adjusted customer contribution may be recalculated in accordance with Article 9.9.

- (iii) The discount rate used in the present value calculation of Article 9.7(a) shall be determined in accordance with Article 9.14
- (b) For increases in Contract Capacity contracted prior to the expiration of the original System Access Service Agreement which requires the construction of new transmission facilities after the original interconnection then:
 - (i) The approved tariff at the time of the Customer executes a Construction Commitment Agreement signifying commitment for the new Contract Capacity will be used in the customer contribution calculation
 - (ii) Only the incremental contracted capacity will be used in the customer contribution calculation

9.8 **Changes to Project Costs**

The cost estimate used in the calculation of project costs will be based on certain assumptions including, but not limited to, assumptions about the method of construction, the routing of facilities, and the approvals and rights of way required to serve the Customer in accordance with the Customer's requests. In the sole opinion of the AESO, where a request for service is changed by a Customer or any assumptions are changed for reasons beyond the reasonable control of the AESO or the TFO, and a variance in the cost of the required facilities over the original estimate results, then:

- (a) subject to (b), where there is an increase in the Customer Contribution, this amount is immediately payable to the AESO, or
- (b) if feasible, the Customer and the AESO may modify the DTS System Access Service Agreement to adjust the contract term and/or the Contract Capacity, or
- (c) the Customer will have the right to cancel the request for service by paying to the AESO, and/or the TFO, all costs then incurred or required to be incurred to discharge the AESO, and/or the TFO, of all obligations and to satisfactorily cancel the request for System Access Service.

9.9 **Changes to Customer Contribution**

Certain material events may, in the AESO's sole opinion, result in an adjusted Customer Contribution and as appropriate, payments by the AESO to the Customer or by the Customer to the AESO. Either the Customer or the AESO may initiate an **adjustment** of the Customer Contribution at any time prior to the expiration of the twenty year refund period as set out in Article 9.10. The circumstances giving rise to contribution adjustments include, but are not limited to, those in which:

- (a) a Customer materially increases its Contract Capacity or contract term prior to the expiration of its original DTS System Access Service Agreement and does not necessitate the construction of new transmission facilities;
 - (b) a Customer materially decreases its Contract Capacity or contract term prior to the expiration of its original DTS System Access Service Agreement;
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- (c) the actual Contract Capacities and/or incremental revenues turn out to be materially different, on a sustained basis, than originally projected;
- (d) a facility that had been classified as system-related under Article 9.3(c) is reclassified as Customer-related due to load growth or the addition of a new POC;
- (e) a material error is detected in the original calculation;
- (f) there is a material difference between the estimated costs of the project and the actual costs of the project;
- (g) the AESO subsequently deems that all or part of a Customer's Facilities have subsequently become system-related; or
- (h) the period of advancement as set out in Article 9.3(c) is materially reduced.

Customer Contribution adjustments will generally be determined in accordance with the tariff in effect at the time the changes due to the material events are identified, with the exception of the circumstances in 9.9 (d) & (e).

9.10 Shared Facilities

- (a) If the AESO installs facilities to serve a Customer that is required to pay a contribution, and then uses those facilities to serve other Customers within 20 years of their Commissioning, the AESO will adjust the original Customer's contribution and assess each of the new Customers a contribution, as follows:
 - (i) the DTS contract terms of the original and new Customers;
 - (ii) the Contract Capacities of the original and new Customers;
 - (iii) the extent of shared facilities; and
 - (iv) the time interval between the Commissioning of the original and new Customers.
- (b) If the interval described in (a)(iv) is not greater than five years, then the original Customer is eligible for the full amount of the adjustment. If the interval is greater than five years, then for the remaining 15 years the adjustment will be determined on a straight-line, declining-balance basis.
- (c) Commencing in year 11 any project whose remaining contribution adjustment is less than \$50,000 shall be deemed to have an adjustment balance of zero, and no further refunds shall be due.
- (d) An adjustment as described above will also apply to situations in which the AESO subsequently deems that all or part of an original Customer's facilities have become system-related.

9.11 Determination of System Contribution

- (a) In addition to the Customer Contribution determined in Articles 9.3 through 9.6, a Customer taking service under Rate STS is required to pay a System Contribution for:
 - (i) new STS Capacity requirements at a new Point of Supply, and

- (ii) new STS Capacity requirements at an existing Point of Supply where such additional requirements are the result of the addition of a new Generating Unit.
- (b) The System Contribution is the sum of the following:
 - (i) \$10,000/MW multiplied by the amount of new STS Contract Capacity, plus
 - (ii) \$40,000/MW multiplied by the amount of new STS Contract Capacity multiplied by the Customer's System Contribution Factor. System Contribution Factors will be determined by the AESO for areas of the transmission system where generation exceeds load in accordance with Section 17 of the Transmission Regulation, and will be made publicly available by the AESO in advance of their effective dates.
- (c) System Contributions are not required for STS Capacity requirements for which a System Access Service Agreement was signed before January 1, 2006.

9.12 Refund of System Contribution

- (a) A Customer's System Contribution will be refunded to the Customer if the Customer's generating unit meets the ISO Rules regarding satisfactory annual performance, in accordance with the provisions of this Article 9.12.
 - (b) The System Contribution will be refunded in annual amounts within a maximum of 10 calendar years following the date it was paid, but not before the planned Commercial Operation date of the generating unit. The planned Commercial Operation date is the date requested by the Customer and agreed to by the AESO at the time of payment of the System Contribution. The planned Commercial Operation date may be adjusted due to delays in the availability of System Access Service clearly attributable to matters for which the AESO or the TFO is reasonably accountable.
 - (c) A base amount will be determined by dividing the System Contribution by the number of years in the "Refund Period". The Refund Period is the period from January 1 following the planned Commercial Operation date of Article 9.12(b) to December 31 of the tenth calendar year after the System Contribution was paid.
 - (i) The annual amount in the first half of the Refund Period will be 50% of the base amount.
 - (ii) The annual amount in the last half of the Refund Period will be 150% of the base amount.
 - (iii) Where the Refund Period includes an odd number of calendar years, the annual amount in the mid-point year will be 100% of the base amount.
 - (d) If Commercial Operation of the generating unit is delayed for any reason beyond December 31 of the year of the planned Commercial Operation date of Article 9.12(b), then for each calendar year or fraction thereof during the Refund Period that Commercial Operation is delayed, the annual amount for that year or fraction thereof will be forfeited.
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- (e) For each calendar year or fraction thereof during the Refund Period in which the ISO Rules regarding satisfactory annual performance are met after Commercial Operation of the generating unit, the Customer will receive a refund of the annual amount determined in (c) for that year or fraction thereof. If the ISO Rules regarding satisfactory annual performance are not met, the annual amount for that year or fraction thereof will be forfeited.
- (f) For each year of the Refund Period, the Customer must report the unit's annual performance to the AESO by January 31 of the following year.
- (g) For each year of the Refund Period where the Customer has reported annual performance and where the ISO Rules regarding satisfactory annual performance are met, the AESO will pay the System Contribution refund annual amount to the Customer by February 28 of the following year.

9.13 Limitations

The AESO reserves the right to exercise its discretion, acting reasonably, in the application of the contribution policy. Without limiting the generality of this discretion, the AESO may:

- (a) Determine costs to be system-related in certain circumstances that might, under strict application of the foregoing, have been classified as Customer-related.
- (b) Determine that a refund of a Customer Contribution or a System Contribution may not be given or that a refund may be deferred pending the attainment of certain specified conditions. Upon attainment of the specified conditions, the Customer may be eligible for a full or partial refund.
- (c) Determine that a refund of a Customer Contribution or a System Contribution must be returned to the AESO where it is demonstrated that an error was made or that an inappropriate refund was given.

9.14 Discount Rate

The discount rate applicable to payments due under this Article 9 will be determined as follows:

- (a) For unassigned transmission facilities, for transmission facilities supplied to the AESO by an investor owned Transmission Facility Owner or for facilities supplied to the AESO by an income tax paying municipally owned Transmission Facility Owner:

$$[0.67 \times (\text{GCB} + 1\%)] + [(0.33 \times R) \div (1-T)]$$

where GCB is equal to the yield on 30-year Government of Canada bonds; R is equal to the EUB approved generic rate of return on common equity, as amended from time to time; and T is equal to the combined federal and provincial income tax rate for investor owned TFOs.

- (b) For transmission facilities supplied to the AESO by a non income tax paying municipally owned Transmission Facility Owner:

the yield on 30-year Government of Canada bonds plus 1.9 percent.

9.15 **Miscellaneous**

- (a) Where relocation of transmission facilities is required, the AESO will ensure that all reasonable costs in relocating any transmission facilities are paid for by the Customer.
 - (b) Where new facilities between adjacent Control Areas are required, the cost of such facilities will be shared equally between the AESO and the party responsible for costs in the other Control Area.
 - (c) The Customer must pay the cost of any Customer requested facilities that, in the sole opinion of the AESO, exceed the AESO Standard Facilities required to provide service to the Customer.
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ARTICLE 10 DEMAND OPPORTUNITY SERVICE

10.1 Eligibility

To qualify for Demand Opportunity Service, the Customer must meet the commercial eligibility criteria and submit the required applications as set out in the Demand Opportunity Service Business Practices. The AESO must be satisfied that the Customer's use of the Demand Opportunity Service would not proceed on any other applicable rate. Eligibility is also contingent upon sufficient transmission capacity and suitable system operation conditions capable of accommodating the request.

10.2 Fees

In conjunction with the DOS Stage 2 application, which must be submitted at least 30 days prior to taking Demand Opportunity Service, the Customer must pay a non-refundable \$5,000 fee to the AESO for evaluation of the Customer's commercial eligibility for DOS.

10.3 Recallable Service

Demand Opportunity Service is recallable:

- (a) in accordance with the Rate Schedules;
- (b) in accordance with the provisions of Article 17; and
- (c) whenever sufficient transmission system capacity becomes temporarily or permanently unavailable.

10.4 Metered Energy

Any Metered Energy taken by the Customer in a Billing Period that exceeds the aggregate Metered Energy allowed under the Customer's Demand Opportunity Service System Access Service Agreements will be added to the Customer's DTS Metered Energy in the same Billing Period. Where the Customer has not executed a System Access Service Agreement for DTS services, the Customer will be deemed to have executed such an agreement effective with the beginning of the relevant Billing Period.

10.5 Effect of Disqualification

From time to time, the AESO may audit the Customer's eligibility for Demand Opportunity Service. If the AESO finds that the Customer no longer qualifies for Demand Opportunity Service, the Customer will be deemed to have executed an agreement for Non-Recallable Service effective on the date of disqualification and the AESO will terminate billing under a DOS Rate Schedule. The AESO may, in its sole discretion, recover retroactive amounts for the period during which such Customer did not qualify for, but was billed under, a DOS Rate Schedule.

ARTICLE 11 ANCILLARY SERVICES

- 11.1 During a state in which the AES lacks sufficient Ancillary Services and for the purposes of maintaining system security, the AESO may require a Customer to operate its generating unit to provide Ancillary Services. For the period during which the conscription persists, Customers required by AESO to provide Ancillary Services shall be compensated as provided in Article 11.2 or Article 11.3, whichever is applicable. Notwithstanding the foregoing, the compensation shall not exceed the Maximum TMR Compensation.
- 11.2 If at the time the Customer is directed to provide Ancillary Services the Customer has an existing contract with the AESO, either directly or indirectly, to provide the Ancillary Services in question from the directed facility (the "Existing Contract"), then the amount to be paid to the Customer by the AESO for the Ancillary Services shall be determined according to the terms of the Existing Contract.
- 11.3 If at the time the Customer is directed to provide an Ancillary Service, the Customer does not have an Existing Contract, then the amount to be paid to the Customer by the AESO in respect of each Ancillary Service provided shall be the greater of the following monthly amounts. Each amount is the sum for the month of hourly compensation amounts.
- (a) The product of the MW hour directed and the highest price paid in the hour to Customers providing the same Ancillary Service pursuant to Article 11.2 provided the service was not a TMR service and that the Existing Contract was the result of a competitive process conducted in the prior 12 months; or
 - (b) For thermal units, the sum of the following:
 - (i) An out-of-merit payment, when Pool Price is less than the Benchmark Price; (Benchmark Price minus Pool Price) multiplied by the energy generated (MWh) in compliance with the directive; plus
 - (ii) A capacity payment equal to Average Monthly Fixed cost multiplied by Directed Out-of-Merit Ratio as defined below.
 - (c) The verifiable net opportunity cost related to foregone electricity sales incurred by the Customer to supply the directed Ancillary Services taking into account all offsetting revenues from any source, such as pool energy receipts.
- 11.4 For the purposes of this Article, MW directed means the amount of an Ancillary Service (expressed in MW) that is provided by the Customer in response to a direction by the AESO.
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Defined Terms:

Benchmark Price (\$/MWh) equals (Heat Rate multiplied by Fuel Cost) plus Variable STS Charges plus Variable O&M Proxy where:

Heat Rate (GJ/MWh) equals the actual heat rate of the Customer's generating unit during the period when the unit was complying with the directive.

Fuel Cost for a gas generating unit is Market Gas Price (\$/GJ) is the "Daily Spot Price at AECO C and NIT", excluding weekends, as published in Canadian Gas Price Reporter, for natural gas on the applicable day.

Fuel Cost for a coal generating unit will be provided by the Customer.

Variable STS Charges (\$/MWh) is the actual cost of all variable charges from Rate Schedule STS of the AESO's applicable tariff, including the applicable loss factor charge or credit.

Variable O&M Proxy (\$/MWh) is the all in cost, fixed at \$4/MWh, of providing incremental output from the unit, excluding fuel costs and STS charges.

Directed Out-of-Merit Ratio (%) is the ratio for all hours of the month, including hours when TMR service was not directed, of (1) the number of hours in the month when TMR service was directed and the Benchmark price exceeded the pool price; to (2) the sum of the number of hours in (1) above, and the number of remaining hours in the month that the pool price exceeded the average benchmark price for the month. The number of hours in the month that the pool price exceeds the average benchmark will be reasonably adjusted to reflect the physical characteristics of the Customer's unit and its ability to capture the "in-merit" hours.

Average Monthly Fixed Cost is equal to the maximum amount of TMR compensation as defined for purposes of Section 23 of the Transmission Regulation, before prorating for joint use, and less the variable portion of such costs, a portion of all of which may be included in the Benchmark Price.

ARTICLE 12 UNDER-FREQUENCY LOAD SHEDDING

12.1 Requirement to Supply

From and after the effective date of the Tariff, certain Customers may be eligible and required to provide under-frequency load shedding. The provisions with respect to those requirements, and the credits therefore, are set out in Rate Schedule Under-Frequency Load Shedding (UFLS).

12.2 Effect of Non-Compliance

Failure by any Customer to whom UFLS applies to comply with the requirements thereof may cause the AESO to, at its sole discretion, withhold, limit or discontinue System Access Service to such Customer. Nothing in this paragraph affects or derogates from the right of the WECC to levy penalties or the obligation of the Customer, if any, to pay such penalties as a result of failure to provide Under-Frequency Load Shedding to the AESO.

ARTICLE 13 CONTRACT CAPACITY ALLOCATION

13.1 Available Capacity

- (a) The AESO will Allocate Contract Capacity for a new or expanding POC according to available AIES capacity as of the date the Customer executes a related Construction Commitment Agreement, as set out in Article 5. The AESO will inform the Customer of any AIES constraints in respect of a new or expanding POC.
- (b) For the purposes of this Article 13, "Allocate Contract Capacity" means that the AESO will deem the Customer's project to be on the system in priority with other projects as of the date set out in paragraph (a), above.

13.2 Requirement of Customer to Act

- (a) The AESO and the Customer, in conjunction with the TFO, will agree on critical milestones with respect to project completion.
- (b) For STS customers, milestones will include but not be limited to payment of the System Contribution determined under Article 9.11:
 - (i) within 90 days after EUB approval of the local interconnection facilities required to facilitate the interconnection of the STS Capacity; or
 - (ii) if construction of local interconnection facilities is not required to facilitate the interconnection of the STS Capacity at an existing POS, within 90 days after execution of an amended System Access Service Agreement for the POS.
- (c) If the Customer fails to meet such milestones, the AESO may:
 - (i) cancel, and require the Customer to resubmit, the Customer's application for System Access Service;
 - (ii) re-Allocate the subject Contract Capacity to another applicant with an in-service date prior to the Customer's revised in-service date; or
 - (iii) proceed, with no modification to the allocated Contract Capacity, with the Customer's original application for System Access Service on the basis of amended milestones, as agreed by the AESO.

13.3 Limit to Contract Capacity

The Contract Capacity for a new POS established by the AESO may not exceed the sum of the MCR of all generators connected to the AIES by the new POS less the sum of all gross loads that offset the energy delivered to the AIES from that POS under normal operating conditions.

13.4 Notice of Contract Capacity Increases

- a) In the event that a Customer desires to increase the Contract Capacity at an existing POD or POS, the Customer must provide written notice to the AESO and execute an amended System Access Service Agreement.
 - b) If new facilities or upgrades are required to provide the requested new service or to provide the incremental service level, the requirements for a
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Customer Contribution and project security as outlined in Articles 9 & 6 respectively will apply.

- c) Increases will be effective upon execution of the System Access Service agreement assuming sufficient transmission capacity can accommodate the requested Contract Capacity increase.

13.5 Metered Demand Limitations

- (a) Subject to paragraphs (b) and (c), the Metered Demand for a Customer taking service under Rate Schedule DTS or Rate Schedule STS shall not exceed the lesser of:
 - (i) the Rated Capacity of any transmission facilities comprising its interconnection; or
 - (ii) the Physical Capacity of any transmission facilities comprising its interconnection.

In the event the foregoing is not complied with, the AESO shall have the right to discontinue the applicable System Access Service until the Customer installs equipment to limit its Metered Demand.

- (b) A DTS Customer may temporarily exceed the level stipulated in subparagraph 13.5(a)(i) only where it has in place a System Access Service Agreement for an Opportunity Service at the applicable POD.
- (c) Subject to paragraph 13.3, an STS customer may temporarily exceed the level stipulated in subparagraph 13.5(a)(i), with the AESO's consent obtained on a minimum twenty-four hours' notice, provided that the AESO determines that the transmission system can safely accommodate the proposed energy without risk of disturbance to other AESO customers.

ARTICLE 14 REDUCTIONS OR TERMINATION OF CONTRACT CAPACITY

14.1 Eligibility

In order to reduce the Contract Capacity at an existing POD or POS, a Customer must execute an amended System Access Service Agreement and pay any associated Customer Contribution, as determined by the AESO.

14.2 Notice of Reduction or Termination

In order to terminate or reduce the Contract Capacity, a Customer must provide written notice to the AESO. Terminations or reductions in Contract Capacity will be effective 5 years from the notification date.

14.3 Excursions During the Notice Period

The Contract Capacity immediately following the five year notice period will be the maximum of:

- (a) the pre-notice Contract Capacity less the reduction of Contract Capacity requested by the Customer; or
- (b) the highest Metered Demand during the five year notice period less the reduction of Contract Capacity requested by the Customer.

Customers may provide an additional notice of reduction after an excursion so Contract Capacity will be reduced to previous notice levels.

Separate written notice must be provided reductions or terminations of Contract Capacity at each respective POD and POS at a single transmission station; no net reductions will be accepted or effected.

14.4 Payments in Lieu of Notice

Customers reducing or terminating their System Access Service Agreements may choose to pay out the Contract Capacity as a lump sum payment:

- a) Contract Capacity reduction or termination lump sum payment charges will be based upon the present value of the System Charge as provided in the rate schedule DTS;
- b) The discount rate is as outlined in Article 9.14;
- c) The AESO may re-assess the payment if there are material differences between the requested Contract Capacity and actual capacity.

14.5 Regulated Generating Units

- (a) System Access Service Agreements between the AESO and Customers who operate Regulated Generating Units will terminate on the PPA Effective Date, with the exception of Regulated Generating Units that are not sold at the PPA auction and the Regulated Hydro Generating Units outlined in Appendix B.
 - (b) System Access Service Agreements with an effective date after the PPA Effective Date between the AESO and Customers who operate Regulated Generating Units or who have entered into a Power Purchase Arrangement
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with the owner of a Regulated Generating Unit will terminate at the end of the base life year of the Regulated Generating Unit as outlined in Appendix B with the exception of the following Regulated Generating Units listed below:

- (i) Rossdale Units 8, 9 and 10's deemed base life year shall be 2003;
and
- (ii) Rainbow Units 1, 2 and 3's deemed base life year shall be 2005.

14.6 Regulated Generating Units

- (a) System Access Service Agreements between the AESO and Customers who operate Regulated Generating Units will terminate on the PPA Effective Date, with the exception of Regulated Generating Units that are not sold at the PPA auction and the Regulated Hydro Generating Units outlined in Appendix B.
- (b) System Access Service Agreements with an effective date after the PPA Effective Date between the AESO and Customers who operate Regulated Generating Units or who have entered into a Power Purchase Arrangement with the owner of a Regulated Generating Unit will terminate at the end of the base life year of the Regulated Generating Unit as outlined in Appendix B.
- (c) **Subject to 14.6 (c) i) & ii) the RGUCC as outlined in rate schedule STS will not apply to Customers after their Regulated Generating Units are decommissioned, even if this occurs prior to end of the base life year as outlined in Rate Schedule Appendix A**
 - i) **The Customer sufficiently demonstrates to the AESO the Regulated Generating Unit has been decommissioned and no longer makes use of the existing interconnection facilities and no longer requires system access service.**
 - ii) **If the Regulated Generating Unit is re-energized prior to the base year, the RGUCC in rate schedule STS will be charged to the Customer requesting System Access Service.**
 - iii) **If a customer with a non-regulated Generating Unit makes use of the existing interconnection facilities previously used to provide system access service to a Regulated Generating Unit, the RGUCC on rate schedule STS will be charged to the Customer requesting System Access Service to the end of the base year of the Regulated Generating Unit previously using those interconnection facilities.**

ARTICLE 15 FINANCIAL SECURITY, BILLING, AND PAYMENT TERMS

15.1 Credit Requirements

- (a) The Customer must comply with the AESO's financial security requirements. Prior to receiving service, the Customer must provide the AESO with all financial information that the AESO reasonably requests in order to establish the financial security required from the Customer.
- (b) If requested by the AESO, the Customer must provide financial security in an amount of up to three months' payment in advance for System Access Service. The amount of the financial security will be estimated by the AESO at its sole discretion based on the Customer's historic use or on an estimate where actual use is not available. Such security must be in a form satisfactory to the AESO including but not limited to a guarantee, cash deposit, or an irrevocable letter of credit from a Canadian Chartered Bank, credit union, trust company, or other financial institution with a minimum senior unsecured long-term debt A- credit rating or equivalent as determined by Standard & Poor's or equivalent credit rating agency.
- (c) The AESO may request, at its sole discretion, at any time after initial granting of service, additional or replacement security based on the AESO's estimate of the appropriate security required. Required additional or replacement security must be provided to the AESO within two business days of such request. Customers must report any event of default for borrowed funds or material adverse changes in their financial position to the AESO within two business days of such event.
- (d) The AESO, at its sole discretion, may invoke a financial penalty, noted under 15.1 (e), where security has not been provided two business days after the AESO's request for new or additional security.
- (e) Where the Customer has failed to provide the required security to the AESO under 15.1 (c), the financial penalty will be calculated at the Toronto Dominion Canadian prime rate plus 6%; until such time as the security has been provided to the AESO. The penalty will be added to the Customer's next issued Statement of Account.

15.2 Effect of Non-Compliance

If the Customer fails to provide adequate security as required by Article 15.1, the AESO may immediately withhold or suspend the Customer's System Access Service. Any such withholding or suspension will not relieve the Customer from its obligation to pay any rate, charge or other amount that has accrued, or is accruing, to the AESO.

15.3 Billing Procedures

- (a) The AESO issues Statements of Account which may include:
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- (i) amounts determined on an initial basis in the month following energy flow and no later than fifteen (15) Business Days after the end of the Billing Period;
 - (ii) amounts determined on an interim basis in the third month following energy flow; and
 - (iii) amounts determined on a final basis in the seventh month following energy flow.
- (b) From time to time the AESO may review a Statement of Account issued in accordance with Article 15.3(a) and may issue a new Statement of Account following that review.
- (c) The AESO may choose not to issue Statements of Account on an interim or final basis that result in a charge or refund of less than \$1,000.
- (d) The AESO may use estimated values to produce a Statement of Account when Metered Demand or Metered Energy data is not available or is incomplete, when Metering Equipment fails, or when the data is under Dispute. The AESO may also use estimated values to produce a Statement of Account if the AESO's billing and settlement system is unable to produce a Statement of Account. In the event that a Statement of Account is based on estimated values, an adjustment will be made on a subsequent Statement of Account issued in accordance with Article 15.1(a) or 15.1(b) to reflect the use of actual or more appropriate estimated values.
- (e) The AESO may, but is not required to, deduct from the Statements of Account any amounts owing by the AESO to the Customer or its Affiliates.

15.4 **Totalized Billing**

Effective January 1, 2002, where a Customer is an industrial facility with multiple POCs, the AESO may totalize the POCs and produce one Statement of Account for the Customer. The AESO will base its decision to totalize on a review of the economics of providing more than one POC, reclassification of the site as an EUB designated industrial system, or the existence of a credible transmission bypass alternative.

15.5 **Adjustments**

When a Customer requests that a Statement of Account issued in accordance with Article 15.3 be recalculated and reissued forty-five (45) days or more after end of the applicable billing period as a result of:

- (i) unavailable or incomplete meter data, or
- (ii) inaccurate estimates of meter data,
- (iii) reconciliation with updated estimates of meter data,

the AESO will recover the cost of recalculating and reissuing the affected Statement of Account from the Customer taking service from the relevant Metering Equipment. The Customer must pay to the AESO \$1,000 for each recalculated and reissued Statement of Account.

15.6 **Request for Billing Data**

Data required to verify any billing information provided by the AESO may be made available to Customers during regular business hours and the Customer will be responsible to pay for all of the costs of retrieval and provision of the data.

15.7 Payment Terms

Notwithstanding any unresolved Dispute between the AESO and the Customer, the Customer must pay the entire amount due, as shown on the Statement of Account, no later than the twentieth Business Day after the end of the Billing Period. Payment must be made by way of electronic funds transfer or wire transfer to the bank account specified by the AESO.

15.8 Interest and Other Charges

In the event of non-payment under the terms of Article 15.7, interest and late payment penalties will be charged to defaulting customers.

- (i) Where non-payment exists, interest charges will be calculated on the day following the applicable Transmission settlement date. The interest will be calculated at the Toronto Dominion Canadian prime rate plus 6%. Interest will be calculated from the due date to the date on which bank value is received.
- (ii) In addition to the interest charge, a penalty charge will be assessed based on 2 days interest on the outstanding amount owing and calculated at the Toronto Dominion Canadian prime rate plus 6%.

The AESO will also assess the defaulting Customer for all administrative and collection costs relating to the recovery by the AESO of amounts owed. The AESO, at its sole discretion, may suspend System Access Service and realize upon any security provided by the defaulting Customer if the Customer is not in compliance with Article 15.7 in full or partial satisfaction (as the case may be) of all amounts owing to the AESO. System Access Service to the Customer will not be re-instated until the Customer has paid all amounts owing to the AESO in full and has restored or secured its credit facility in a manner satisfactory to the AESO, at the AESO's sole discretion.

15.8 Payment Charge

Late payments by the Customer are subject to a late payment charge of 1.5% per month for each month or part thereof for which such payment is late. The AESO will also assess the defaulting Customer for all administrative and collection costs relating to the recovery by the AESO of amounts owed. The AESO, at its sole discretion, may suspend System Access Service and realize upon any security provided by the defaulting Customer if the Customer is not in compliance with Article 15.7 in full or partial satisfaction (as the case may be) of all amounts owing to the AESO. System Access Service to the Customer will not be re-instated until the Customer has paid all amounts owing to the AESO in full and has restored or



secured its credit facility in a manner satisfactory to the AESO, at the AESO's sole discretion.

ARTICLE 16 PEAK METERED DEMAND WAIVER

16.1 Peak Metered Demand Waivers

The AESO may, in its sole discretion, waive Metered Demand for the purposes of calculating the Billing Capacity when the Metered Demand was caused by one of the following.

- (a) For all Customers:
 - (i) Commissioning;
 - (ii) activities required to repair and maintain transmission facilities;
 - (iii) an event of Force Majeure;
 - (iv) compliance with a Dispatch Instruction from the AESO during an Emergency; or
 - (v) load restoration activities following an outage of transmission or distribution facilities or caused by an Emergency on the transmission system.
- (b) In addition for Distributors, pre-scheduled activities required to maintain distribution facilities, provided the Customer has furnished the AESO with written notice at least twenty-four hours in advance of such activities, including reasonable detail describing the type of maintenance and the duration and extent of Metered Demand required to accommodate such activities.

ARTICLE 17 SERVICE INTERRUPTIONS AND FORCE MAJEURE

17.1 **Service Not Guaranteed**

Although precautions are taken to guard against System Access Service interruptions, the AESO does not guarantee uninterrupted System Access Service. For example interruptions may be caused by, but not limited to, the following:

- (a) scheduled or planned facility maintenance activities;
- (b) construction, commissioning and facility testing activities;
- (c) unscheduled or unplanned events (such as, but not limited to, emergency equipment maintenance and Emergencies);
- (d) Force Majeure;
- (e) breaches of obligations owed to the AESO by its suppliers or Customers; or
- (f) as otherwise expressly allowed by a Rate Schedule.

Whenever System Access Service has been interrupted, diminished or reduced for reasons other than a breach of this Tariff by the Customer, the AESO will make all reasonable efforts to ensure that service is restored as soon as practicable after the interruption, diminution or reduction.

17.2 **Interruptions for Construction, Commissioning, and Facility Testing**

The AESO will make all reasonable efforts to schedule construction, commissioning, or facility testing activities in conjunction with affected Customers planned downtime but may, upon six months written notice, interrupt Customers' System Access Service to perform such activities.

17.3 **Continued Obligations**

The Customer's obligations to pay for System Access Service, to provide information, and to maintain Interconnection Requirements are not affected during, or as the result of, any event of Force Majeure or other System Access Service interruption expressly contemplated under this Tariff.

ARTICLE 18 LIMITATION OF LIABILITY

18.1 **Limitation of Liability**

Notwithstanding anything to the contrary contained in these Terms and Conditions, no action lies against an AESO Person, and an AESO Person is not liable for any act or omission carried out or purportedly carried out in performing its obligations under this Tariff ("AESO Tariff Act") unless such AESO Tariff Act constitutes willful misconduct, negligence, breach of contract or, if the AESO Tariff Act is carried out by an AESO Person who is an individual, if such act is not carried out in good faith. If an AESO Person is liable to another person for an AESO Tariff Act, then the AESO Person is liable for only Direct Loss or Damage suffered or incurred by that other person.

ARTICLE 19 DISPUTE RESOLUTION

19.1 **Initiation of Disputes**

Disputes must be submitted, in writing, to the other party in a timely fashion, and clearly set out the subject of the Dispute including:

- (a) a description of the items under dispute,
- (b) the rationale for the Dispute, and
- (c) the time period over which the disputed items occurred.

19.2 **Continued Obligation**

Disputes will be referred to a senior officer from each of the AESO and the relevant Customer for resolution. Pending resolution of any Dispute, the AESO and the Customer will continue to perform their respective obligations under this Tariff.

19.3 **Arbitration**

If the Dispute has not been resolved within thirty (30) days after referral to the senior officers, either the AESO or the Customer may require, by written notice, that the Dispute be resolved through arbitration. The AESO shall advise the EUB of any matter going to arbitration within thirty days of the matter being referred to arbitration. The parties shall appoint a mutually satisfactory arbitrator within ten days of the notice to resolve the Dispute through arbitration. In the event that the parties cannot agree on a single arbitrator within ten (10) days, each party shall appoint an arbitrator within ten days thereafter by written notice, and the two arbitrators shall together appoint a third arbitrator. In the event that a tribunal is required, the third arbitrator shall be appointed within twenty (20) days of written notice for arbitration. The arbitrator or tribunal shall render a decision within thirty days of the last appointment. The AESO shall advise the EUB of the results of the arbitration within thirty days of the Arbitrator's decision. The AESO shall also furnish the EUB with a list of parties potentially affected by the results of the arbitration. The arbitration shall be conducted in accordance with the Arbitration Act (Alberta), as amended from time to time. In the event of a conflict between these Terms and Conditions and the Arbitration Act, these Terms and Conditions shall prevail.

Any interested party adversely and unduly affected by the decision of an arbitrator or a tribunal is entitled to make an application to the EUB requesting a clarification or change to these Terms and Conditions.

ARTICLE 20 CONFIDENTIALITY

20.1 Use of Confidential Information

The AESO,

- (a) shall not disclose the Confidential Information to any person except as permitted under this Tariff;
- (b) shall only use or reproduce the Confidential Information for the purpose for which it was disclosed or another purpose contemplated in this Tariff;
- (c) shall not permit unauthorized persons to have access to the Confidential Information; and
- (d) shall only disclose the Confidential Information to those Representatives who need to know the information and have been informed of the confidential nature of the Confidential Information.

20.2 Exceptions

Exceptions to the AESO's confidentiality obligations stated in Article 20.1 may be made:

- (a) if the relevant information is at the time generally and publicly available other than as a result of breach of confidence by the AESO;
- (b) if the person or persons who provided the relevant information consents to its disclosure, use, or reproduction;
- (c) to the extent the Confidential Information:
 - (i) must be disclosed by law to any agent, government or governmental body, authority or agency having jurisdiction over the AESO;
 - (ii) must be disclosed to the AESO for the purposes of the AESO fulfilling its duties under the Act; and
 - (iii) must be disclosed to a TFO for the purposes of the AESO fulfilling its duties under the Act. All information provided to a TFO shall be subject to the confidentiality provisions in the TFO's Terms and Conditions of service.
- (d) if required in connection with legal proceedings, arbitration, or other dispute resolution mechanism relating to this Tariff;
- (e) if required to protect the safety of personnel or equipment, or to protect the reliability of the AIES; or
- (f) if the relevant information is an unidentifiable component of an aggregate of information.

20.3 Requests for Disclosure

In the case of a request or demand for disclosure under Article 20.2(c)(i) or Article 20.2(d), the AESO will provide notice to those affected by the request or demand as soon as reasonably practicable, so as to afford the opportunity to challenge such request or demand or seek injunctive relief or protection from the request or demand.



20.4 Customer Obligations

No provision of this Tariff obligates the Customer to treat its own information and agreements with the AESO as confidential.

ARTICLE 21 MISCELLANEOUS

21.1 **Binding on the ISO**

Each respective System Access Service Agreement executed by the AESO hereunder will be binding on any subsequent ISO for the length of its term.

21.2 **Assignment**

A Customer may assign its System Access Service Agreement or any rights thereunder to another Customer who is qualified for the service available under such agreement, but only with the consent of the AESO, such consent not to be unreasonably withheld. In the event an STS or DTS contract has been assigned, all rights and obligations associated with the service, including any and all retrospective adjustments due to deferral account reconciliation or any other adjustments will be applied to the account of the assignee.

21.3 **Compliance With the AESO Directives**

Customers must comply with dispatches and directives of the AESO which are required for performance of Customers' obligations hereunder in real-time, including, without limitation, those related to Interconnection Requirements and provision of Ancillary Services.

21.4 **Notifications**

All notices given or served upon the AESO in accordance with this Tariff must be in writing and marked "Important" and given by personal service, email, telefax or by registered letter addressed to:

AESO
Attention: Manager, Customer Services – Transmission
2500, 330 – 5th Avenue SW
Calgary, Alberta T2P 0L4
Fax (403) 539-2949

All notices given or served upon the Customer in accordance with this Tariff must be in writing served by personal service, registered letter or telefax and sent to the address or addresses shown for such Customer in the relevant System Access Service Agreement.

21.5 **SPRDA Generating Units**

Generating Units constructed under the Small Power Research and Development Act (Alberta) ("SPRDA") are exempt from the provisions of Rate Schedule STS to the extent the volume of energy sales are conducted under contracts specifically executed pursuant to the provisions of the SPRDA.

APPENDIX A METERING EQUIPMENT INFORMATION

1. For each POS Meter:
 - (a) Company identification
 - (b) Meter type identification
 - (c) Meter serial number
 - (d) Date meter installed
 - (e) Date meter removed
 - (f) Number of elements
 - (g) Manufacturer
 - (h) Model
 - (i) Measurement Canada approval
 - (j) Past test dates
 - (k) Past results (pass/fail information only)
 - (l) Planned test dates

 2. For each POS meter recorder:
 - (a) Record identification
 - (b) Recorder type
 - (c) Serial number
 - (d) Date installed
 - (e) Date removed
 - (f) Manufacturer
 - (g) Model
 - (h) Measurement Canada approval
 - (i) Past test dates
 - (j) Past results (pass/fail information only)
 - (k) Planned test dates

 3. For each Current Transformer associated with POS metering:
 - (a) Company identification
 - (b) Transformer type
 - (c) Serial number
 - (d) Date installed
 - (e) Date removed
 - (f) Phase location
 - (g) Ratio
 - (h) Accuracy
 - (i) Manufacturer
 - (j) Model
 - (k) Measurement Canada approval
-



4. For each Potential Transformer associated with POS metering:
 - (a) Company identification
 - (b) Transfer type
 - (c) Serial number
 - (d) Date installed
 - (e) Date removed
 - (f) Phase location
 - (g) Ratio
 - (h) Accuracy
 - (i) Manufacturer
 - (j) Model
 - (k) Measurement Canada approval
-



APPENDIX B
SYSTEM ACCESS SERVICE AGREEMENT PROFORMAS

System Access Service Agreement: Demand Transmission Service
System Access Service Agreement: Supply Transmission Service
System Access Service Agreement: Import Opportunity Service
System Access Service Agreement: Export Service – BC / Saskatchewan Interties
System Access Service Agreement: Export Service – Alberta / Montana Intertie
System Access Service Agreement: Demand Opportunity Service
Construction Commitment Agreement



SYSTEM ACCESS SERVICE AGREEMENT DEMAND TRANSMISSION SERVICE

Date of Issue:

The following constitute the terms pursuant to which the Independent System Operator, operating as AESO shall provide System Access Service to the Customer. (Defined terms used herein without definition shall have the meanings ascribed thereto in the Terms and Conditions of the AESO's Tariff).

1.0 TYPE OF SERVICE

Service under this Agreement shall be provided pursuant to Rate Schedule Demand Transmission Service (DTS).

2.0 POINT OF INTERCONNECTION WITH THE TRANSMISSION SYSTEM

- a) Point of Delivery (POD): The POD shall be **Substation Name and Number**
- b) Location: **LSD: xx-xx-xx-WxM**

3.0 CONTRACT CAPACITY

xx MW Dates

4.0 COMMISSIONING PERIOD FOR NEW FACILITIES, IF ANY:

N/A

5.0 EFFECTIVE DATE

1 day of month

This agreement supercedes and replaces, as of the Effective Date, any DTS agreement for this POD at **Substation Name and Number**

6.0 CUSTOMER CONTRIBUTION

The Customer Contribution charge estimated to be \$NIL. This amount has been received by the AESO.

Minimum Term 5 years. The Customer Contribution and/or Minimum Term are subject to change based on final costs.

7.0 RATES AND TERMS OF SERVICE

The supply of System Access Service pursuant to this Agreement, and the Customer's obligations with respect to connection and supply of System Support Services, shall be subject to the AESO's Tariff, in particular to the Rate Schedule referenced under Paragraph 1.



8.0 NOTICES

Notices sent to the Customer pursuant to this Agreement shall be as follows:

Attention: _____
 Address: _____

 Tel: _____
 Fax: _____
 Email: _____

9.0 This POD is designated to provide under-frequency load shed

___ Yes ___ No

10.0 The Primary Service Credit is applicable under this Agreement

___ Yes ___ No

By executing in the space below, the Customer and the AESO agree to the foregoing provisions.

Independent System Operator, operating as AESO

Per: _____ Date: _____

Customer Name

Per: _____ Date: _____
 Name: _____
 Title: _____

Per: _____ Date: _____
 Name: _____
 Title: _____



SYSTEM ACCESS SERVICE AGREEMENT SUPPLY TRANSMISSION SERVICE

Date of Issue:

The following constitute the terms pursuant to which the Independent System Operator, operating as AESO shall provide System Access Service to the Customer. (Defined terms used herein without definition shall have the meanings ascribed thereto in the Terms and Conditions of the AESO's Tariff).

1.0 TYPE OF SERVICE

Service under this Agreement shall be provided pursuant to Rate Schedule Supply Transmission Service (STS).

2.0 POINT OF INTERCONNECTION WITH THE TRANSMISSION SYSTEM

- c) Point of Delivery (POS): The POS shall be **Substation Name and Number**
- d) Location: **LSD: xx-xx-xx-WxM**

3.0 CONTRACT CAPACITY

xx MW Dates

4.0 COMMISSIONING PERIOD FOR NEW FACILITIES, IF ANY:

N/A

5.0 EFFECTIVE DATE

1 day of month

This agreement supercedes and replaces, as of the Effective Date, any STS agreement for this POS at **Substation Name and Number**

6.0 CUSTOMER & SYSTEM CONTRIBUTION

The Customer Contribution charge estimated to be \$NIL. This amount has been received by the AESO.

Minimum Term 5 years. The Customer Contribution and/or Minimum Term are subject to change based on final costs.

7.0 RATES AND TERMS OF SERVICE

The supply of System Access Service pursuant to this Agreement, and the Customer's obligations with respect to connection and supply of System Support Services, shall be subject to the AESO's Tariff, in particular to the Rate Schedule referenced under Paragraph 1.



8.0 NOTICES

Notices sent to the Customer pursuant to this Agreement shall be as follows:

_____ Attention: _____
Address: _____

Tel: _____
Fax: _____
Email: _____

By executing in the space below, the Customer and the AESO agree to the foregoing provisions.

**Independent System Operator, operating
as AESO**

Per: _____ Date: _____

Customer Name

Per: _____ Date: _____
Name: _____
Title: _____

Per: _____ Date: _____
Name: _____
Title: _____



**SYSTEM ACCESS SERVICE AGREEMENT
IMPORT OPPORTUNITY SERVICE**

Date of Issue:

The following constitute the terms pursuant to which the Independent System Operator, operating as AESO shall provide System Access Service to the Customer. (Defined terms used herein without definition shall have the meanings ascribed thereto in the Terms and Conditions of the AESO's Tariff).

1. TYPE OF SERVICE

Service under this Agreement shall be pursuant to Rate Schedule Import Opportunity Service (IOS).

2. POINT OF INTERCONNECTION WITH THE TRANSMISSION SYSTEM

British Columbia Intertie Saskatchewan Intertie

3. EFFECTIVE DATE

_____ 1, 200_

4. TERM

1 Year

5. RATES AND TERMS OF SERVICE

The supply of System Access Service under this Agreement, shall be pursuant to the AESO's Tariff, in particular to the Rate Schedule referenced under Paragraph 1.

Market Access is contingent upon receipt of an executed System Access Service Agreement.



6. NOTICES

Notices sent to the Customer pursuant to this Agreement shall be as follows:

Attention: _____
Address: _____

Tel: _____
Fax: _____
Email: _____

By executing in the space below, the Customer and the AESO agree to the foregoing provisions.

**Independent System Operator, operating
as AESO**

Per: _____

Date: _____

Customer Name

Per: _____
Name: _____
Title: _____

Date: _____

Per: _____
Name: _____
Title: _____

Date: _____



**SYSTEM ACCESS SERVICE AGREEMENT
EXPORT SERVICE - BC / SASKATCHEWAN INTERTIES**

Date of Issue:

The following constitute the terms pursuant to which the Independent System Operator, operating as AESO shall provide System Access Service to the Customer. (Defined terms used herein without definition shall have the meanings ascribed thereto in the Terms and Conditions of the AESO's Tariff).

1. TYPE OF SERVICE

Service under this Agreement shall be pursuant to Rate Schedule Export Opportunity Service (EOS).

2. POINT OF INTERCONNECTION WITH THE TRANSMISSION SYSTEM

British Columbia Intertie Saskatchewan Intertie

3. EFFECTIVE DATE

_____ 1, 200_

4. TERM

1 Year

5. RATES AND TERMS OF SERVICE

The supply of System Access Service under this Agreement, shall be pursuant to the AESO's Tariff, in particular to the Rate Schedule referenced under Paragraph 1.

Market Access is contingent upon receipt of an executed System Access Service Agreement.



7. NOTICES

Notices sent to the Customer pursuant to this Agreement shall be as follows:

Attention: _____
Address: _____

Tel: _____
Fax: _____
Email: _____

By executing in the space below, the Customer and the AESO agree to the foregoing provisions.

**Independent System Operator, operating
as AESO**

Per: _____

Date: _____

Customer Name

Per: _____
Name: _____
Title: _____

Date: _____

Per: _____
Name: _____
Title: _____

Date: _____



**SYSTEM ACCESS SERVICE AGREEMENT
EXPORT SERVICE – ALBERTA / MONTANA INTERTIE**

Date of Issue:

The following constitute the terms pursuant to which the Independent System Operator, operating as AESO shall provide System Access Service to the Customer. (Defined terms used herein without definition shall have the meanings ascribed thereto in the Terms and Conditions of the AESO's Tariff).

6. TYPE OF SERVICE

Service under this Agreement shall be pursuant to Rate Schedule:

- Export Transmission Service (XTS)**
- Export Opportunity Service (1 hour): XOS 1 hour**
- Export Opportunity Service (1 month): XOS 1 month**

7. POINT OF INTERCONNECTION WITH THE TRANSMISSION SYSTEM

- British Columbia Intertie** **Saskatchewan Intertie**

8. EFFECTIVE DATE

_____ 1, 200_

9. TERM

10. RATES AND TERMS OF SERVICE

The supply of System Access Service under this Agreement, shall be pursuant to the AESO's Tariff, in particular to the Rate Schedule referenced under Paragraph 1.

Market Access is contingent upon receipt of an executed System Access Service Agreement.



8. NOTICES

Notices sent to the Customer pursuant to this Agreement shall be as follows:

Attention: _____
Address: _____

Tel: _____
Fax: _____
Email: _____

By executing in the space below, the Customer and the AESO agree to the foregoing provisions.

**Independent System Operator, operating
as AESO**

Per: _____

Date: _____

Customer Name

Per: _____
Name: _____
Title: _____

Date: _____

Per: _____
Name: _____
Title: _____

Date: _____



**SYSTEM ACCESS SERVICE AGREEMENT
EXPORT SERVICE**

Date of Issue:

The following constitute the terms pursuant to which the Independent System Operator, operating as AESO shall provide System Access Service to the Customer. (Defined terms used herein without definition shall have the meanings ascribed thereto in the Terms and Conditions of the AESO's Tariff).

11. TYPE OF SERVICE

Service under this Agreement shall be pursuant to Rate Schedule:

- Merchant Transmission Service (MTS)**
- Merchant Opportunity Service (1 hour): MOS 1 hour**
- Merchant Opportunity Service (1 month): MOS 1 month**

12. POINT OF INTERCONNECTION WITH THE TRANSMISSION SYSTEM

- Alberta / Montana Intertie**

13. EFFECTIVE DATE

_____ 1, 200_

14. TERM

15. RATES AND TERMS OF SERVICE

The supply of System Access Service under this Agreement, shall be pursuant to the AESO's Tariff, in particular to the Rate Schedule referenced under Paragraph 1.

Market Access is contingent upon receipt of an executed System Access Service Agreement.



9. NOTICES

Notices sent to the Customer pursuant to this Agreement shall be as follows:

Attention: _____
Address: _____

Tel: _____
Fax: _____
Email: _____

By executing in the space below, the Customer and the AESO agree to the foregoing provisions.

**Independent System Operator, operating
as AESO**

Per: _____

Date: _____

Customer Name

Per: _____
Name: _____
Title: _____

Date: _____

Per: _____
Name: _____
Title: _____

Date: _____



System Access Service Agreement Demand Opportunity Service (DOS)

_____ - _____
Pre-qualification Number Request number provided by Customer

Check this box if this Request overlaps with a previous DOS Request or DOS Transaction

The Customer is to complete this document, and fax it to the System Controller to request a DOS Transaction. The Customer must follow up by phoning the SC.

Demand Opportunity Service (DOS), according to the terms herein, will be available only after the System Controller approves this DOS Request.

Identification

_____ requests Opportunity Service (subject to confirmation of available Customer or Customer's Agent capacity) in accordance with the Pre-qualification granted by the Alberta Electric System Operator, identified by Pre-qualification Number shown above, at _____

_____ Description of the Point of Delivery

Terms of Transaction

The requested service is (indicate one): _____ DOS Term; _____ DOS 7 minutes

The transaction is to begin on: _____ at _____
Start Date Start time *

A DOS Transaction must start and end at the top of an hour, and cannot start within 60 minutes of the time the DOS Request is faxed.

The transaction will be completed on: _____ at _____
End Date End time *

The minimum Term is 8 hours; End Date must occur in the same calendar month as the Start Date.

The requested Capacity is _____ MW (cannot exceed the prequalified DOS capacity)

Applicant's Endorsement

Submitted by: _____ on _____ at _____
Customer's Representative (please print) date time

Signature: _____ Phone: _____ Fax: _____
Customer's Representative



Approval/Denial by the System Controller

Submitted by: _____ on _____ at _____
System Controller's Representative (please print) date time

Signature: _____
System Controller's Representative

Approved:

Denied:

If denied, see System Controller Record of Transaction
for comments.

AESO Record ID: _____



CONSTRUCTION COMMITMENT AGREEMENT

THIS AGREEMENT is effective on [January 1, 2004] (the “**Effective Date**”)

BETWEEN:

INDEPENDENT SYSTEM OPERATOR, operating as AESO, a body corporate with offices in the City of Calgary, in the Province of Alberta (“**AESO**”)

-and-

[Customer Legal Name], a body corporate incorporated pursuant to the laws of Alberta (the “**Customer**”)

6 INTRODUCTION

1. The Customer has requested System Access Service from the AESO and intends to enter into a/amend its system access service agreement between the Customer and the AESO (the “**System Access Agreement**”) in relation to the Customer’s capacity requirements for the **[Project] – RP-05-[000]**. The granting/amendment of system access service to the Customer will necessitate the construction of new transmission facilities and a commitment by the AESO in relation to the expenditure of capital for such construction.
2. Upon execution of this Construction Commitment Agreement, the AESO shall begin implementing plans to complete the project set out in Schedule “A” attached hereto (the “**Proposed Project**”). Both the AESO and its contractors must be held harmless from any negative financial consequences emanating from a decision by the Customer to discontinue, postpone or cancel the Proposed Project.

7 AGREEMENT

1. The AESO and the Customer agree to the following:
 - (a) The Agreement shall take effect on the Effective Date and shall remain in effect until the execution/amendment of the System Access Agreement by the AESO and the Customer;
 - (b) If the Customer terminates the Proposed Project, fails to provide security in a form as set out in Schedule “B” or the Parties fail to execute/amend the System Access Agreement within thirty (30) days after the completion of the Proposed Project, the Proposed Project shall be deemed to have been cancelled and the Customer shall immediately reimburse the AESO for the aggregate amount of costs and expenses, as well as any losses, damages, penalties or other claims it may incur or be subject to howsoever arising from the Proposed Project (the “**Cancellation Costs**”), and
-



which are incurred by the AESO or its contractors relating to facilities planning and design, the competitive procurement process (if any), material and right-of-way procurements and construction of the Proposed Project (including without limitation all cancellation penalties and salvage and reclamation costs);

- (c) In the event that the Customer terminates the Proposed Project prior to its completion, the AESO shall notify its contractors of the termination of the Proposed Project and shall use, and shall cause its contractors to use, reasonable commercial efforts to minimize the amount of the Cancellation Costs to the extent such is within their control;
- (d) The Customer shall pay the Cancellation Costs immediately upon demand by the AESO. In the event that the Customer fails to pay the AESO upon demand, the AESO shall be entitled to charge the Customer 1.5% per month interest on late payment of all amounts due to the AESO;
- (e) In the event that the Customer has not paid all of the Cancellation Costs to the AESO within seven (7) days of receipt by the Customer of the AESO's demand therefore, the AESO shall be entitled to realize fully upon any and all security provided by the Customer as assurance of payment, which security is attached hereto as Schedule "B".

2. The AESO's Tariff forms part of this Agreement and in the event of any conflict between the provisions hereof and those of the AESO's Tariff, the AESO's Tariff shall prevail.

THE CUSTOMER AND THE AESO have executed this Agreement on the Effective Date:

INDEPENDENT SYSTEM OPERATOR, operating as AESO **[Customer Legal Name]**

By: _____
Name:
Title:

By: _____
Name:
Title:

By: _____
Name:
Title:



Schedule "A"
to the
Construction Commitment Agreement
between
INDEPENDENT SYSTEM OPERATOR, operating as AESO
and
[Customer Legal Name]
dated
[January 1, 2004]

PROPOSED PROJECT

[Project] - [RP-05-000]

[Customer] has requested a [Description of project]. The scope of work of the Proposed Project is set out in the following documents:

- (i) The Proposed Final Functional Specification Revision #[#] generated by the AESO dated [January 1, 2004].
- (ii) The Proposal to Provide Service document for [Project] generated by [TFO Legal Name] dated [January 1, 2004].
- (iii) The Project Cost Estimate for [Project] generated by [TFO Legal Name] dated [January 1, 2004].

The authorization will be granted on the condition that the cancellation costs of this work not exceed [five million seven hundred thousand dollars] (\$5,700,000) CAD.



Schedule "B"
to the
Construction Commitment Agreement
between
INDEPENDENT SYSTEM OPERATOR, operating as AESO
and
[Customer Legal Name]
dated
[January 1, 2004]

SECURITY

[Project] - [RP-05-000]
