

## ARTICLE 11 ANCILLARY SERVICES

### 11.1 General

Ancillary Services are provided by Customers when the AESO determines there is a need for such services to maintain system security and ensure the reliable operation of the Alberta Interconnected Electric System. Customers required by the AESO to provide Ancillary Services shall be directed to do so in accordance with AESO Operating Policies and Procedures and will be compensated as provided in Articles 11.2 – 11.7, as applicable.

### 11.2 Contracted Ancillary Services

If at the time the Customer is directed to provide Ancillary Services the Customer has an existing contract with the AESO 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 Directed Ancillary Services Other Than Transmission Must Run Services

If at the time the Customer is directed to provide an Ancillary Service other than TMR 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 and that the Existing Contract was the result of a competitive process conducted in the prior 12 months; or
- (b) The verifiable net opportunity cost related to foregone electricity sales incurred by the Customer to supply the directed Ancillary Service, taking into account offsetting pool energy receipts.

### 11.4 Transmission Must Run Services

TMR Services are Ancillary Services provided by Customers with generating units in response to a direction provided by the AESO to ensure safe and reliable electrical service for a region of the Alberta Interconnected Electric System.

TMR Services are Foreseeable if the AESO, taking into account reasonable procurement timing requirements, determines TMR Services are required to meet AESO Transmission Reliability Criteria which includes consideration of expected operating conditions and planned transmission outages. TMR Services are Unforeseeable TMR Services if they do not constitute Foreseeable TMR Services.

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**11.5 Arrangements and Compensation for Foreseeable TMR Services**

Arrangements and compensation for Foreseeable TMR Services will be made in accordance with the Foreseeable TMR Service Procurement Procedure (Appendix D).

**11.6 Compensation for Unforeseeable TMR Services**

If at the time the Customer is directed to provide Unforeseeable TMR Service the Customer does not have an Existing Contract, then the amount to be paid to the Customer in the applicable Billing Period for Unforeseeable TMR Service is equal to Variable Costs plus Fixed Costs, where:

- (a) Variable Costs means the hourly difference of the pool price subtracted from the Energy Price, which shall not be less than zero, multiplied by the corresponding hourly energy generated (MW.h) by the specific directed generating unit in compliance with the directive to provide Unforeseeable TMR Service, where:
    - (i) Energy Price (\$/MW.h) is the product of the Heat Rate multiplied by the Fuel Cost, added to the sum of the Variable STS Charges and Variable O&M Charge.
    - (ii) Heat Rate (GJ/MW.h) is the actual heat rate of the Customer's generating unit during the period when the unit was complying with the directive.
    - (iii) Fuel Cost for a gas generating unit is the natural gas market price (\$/GJ), being the "Daily Spot Price at AECO-C and NIT", excluding weekends, as published in the Canadian Gas Price Reporter, for natural gas on the applicable day. The Fuel Cost for a coal generating unit shall be provided by the Customer.
    - (iv) Variable STS Charges (\$/MW.h) is the actual cost of all variable charges from Rate Schedule STS of the AESO Tariff, including the applicable loss factor charge or credit.
    - (v) Variable O&M Charge (\$/MW.h) is the all-in cost (including major/minor overhauls), fixed at \$4/MWh, of providing incremental output from the unit, excluding Fuel Costs and Variable STS charges.
  - (b) Fixed Costs are equal to the Average Monthly Fixed Cost multiplied by the greater of the Must Run Ratio (MRR) or the Minimum MRR, where:
    - (i) Average Monthly Fixed Cost is equal to one-twelfth of the sum of the annual costs in items (A) through (H) as follows:
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- (A) annual amortization and depreciation amounts for the Customer's investment or for the PPA acquisition cost related to the specific directed generating unit, consistent with amounts reported in the Customer's audited financial statements, and adjusted for cogeneration infrastructure not utilized for generation purposes;
  - (B) the product of the unamortized or undepreciated capital investment (UCI) multiplied by a deemed debt percentage of 70% and multiplied by a debt interest rate that is equal to the current 10-year Government of Canada Bond interest rate plus 0.5%, and where UCI is the greater of
    - (1) the Customer's initial cost of property, plant, and equipment for the specific directed generating unit, or the Customer's initial PPA acquisition cost related to the specific directed generating unit, less accumulated depreciation or amortization, as the case may be, related to the specific directed generating unit; or
    - (2) 25% of the Customer's initial cost of property, plant, and equipment for the specific directed generating unit, or the Customer's initial PPA acquisition cost related to the specific directed generating unit.
  - (C) the product of UCI, as described in (B) above, multiplied by a deemed 30% common equity percentage of capital structure multiplied by a deemed 12% rate of return on equity;
  - (D) if the Customer provides verifiable actual values for the items in both (B) and (C) then those will be used instead of the deemed values;
  - (E) the product of the tax rates multiplied by the rate of return on equity amount determined in (C), where income tax costs reflect the marginal income tax rates for both federal and provincial portions of income tax;
  - (F) total annual direct fixed operation and maintenance costs associated with the specific directed generating unit;
  - (G) total annual direct fixed fuel costs associated with the specific directed generating unit; and
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- (H) fixed charges from applicable PPAs associated with the specific directed generating unit.
- (ii) Must Run Ratio (MRR) is the ratio of the number of hours in the month when Unforeseeable TMR Services were provided to the total number of hours in the month;
- (iii) Minimum MRR is:
  - (A) 12% for the first or second Unforeseeable TMR Service Event within a rolling 12-month period in which TMR Service is directed by the AESO;
  - (B) 20% for the third Unforeseeable TMR Service Event within a rolling 12-month period in which TMR Service is directed by the AESO;
  - (C) 30% for the fourth Unforeseeable TMR Service Event within a rolling 12-month period in which TMR Service is directed by the AESO;
  - (D) 40% for the fifth Unforeseeable TMR Service Event within a rolling 12-month period in which TMR Service is directed by the AESO; or
  - (E) 50% for the sixth or any additional Unforeseeable TMR Service Event within a rolling 12-month period in which TMR Service is directed by the AESO.

If there is more than one Unforeseeable TMR Service Event in a Billing Period, the Minimum MRR shall be the highest applicable percentage described in (A) through (E) above.

In lieu of the Variable and Fixed Costs in (a) and (b) above, if a Customer can demonstrate foregone future energy sales due to a TMR directive, then the verifiable net opportunity cost related to foregone electricity sales incurred by the Customer to supply the directed TMR Service, taking into account offsetting pool energy receipts. This applies only to Customers that have responded to a TMR direction from using hydroelectric generation units.

#### **11.7 Maximum TMR Services Compensation**

The maximum monthly amount to be paid by the AESO for TMR Service results in the recovery of fixed, operating and maintenance costs, including a reasonable rate of return for the service provider, and is equal to the Average Monthly Fixed Cost plus Variable Costs as provided for in Article 11.6.

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**11.8 Invoicing**

Customers that provide Unforeseeable TMR Service in response to a direction from the AESO will submit an invoice to the AESO within 15 business days after the later of (i) the end of the month in which the service was provided or (ii) the coming into effect of this Article 11. The amount of the invoice shall be determined in accordance with the method in 11.6 of this Article, and will separately itemize the values used for each component specified (Fixed and Variable Costs).

**11.9 Audit Rights**

The AESO has the right to audit Customer's invoices and source information related thereto for TMR Services, provided that any such audit is (i) conducted only on reasonable prior notice to the Customer, (ii) conducted on the Customer's premises during normal business hours, (iii) not conducted by, or the information gathered made available to, those persons at the AESO that determine Contestability for purposes of the AESO procuring TMR competitively, (iv) conducted subject to Article 20 of this Tariff, and that (v) no copies of records reviewed during the audit shall be made without the Customer's prior written consent.

**APPENDIX D  
PROCEDURE FOR FORESEEABLE TMR SERVICE**

1. This Schedule shall come into force upon the approval of the Settlement Agreement by the Board and remain in force until replaced or revised through the creation of an AESO Rule following reasonable efforts by all Parties hereto to develop same.
  2. The AESO shall issue an EOI inviting eligible Customers to express interest in contracting with the AESO for the supply of TMR Service, where an Existing Contract is not in effect. (Reference #1 in below diagram)
  3. Based on Customer response to the EOI, the AESO shall fairly and reasonably determine if the EOI is Contestable (Reference #2 in below diagram). The advice and direction of the Market Surveillance Administrator will be sought in all such matters and, should the subsequent determination be disputed the issue of whether the EOI is Contestable may be determined by the Board. (Reference #4 in below diagram)
  4. Upon determination by the AESO that the EOI is Contestable a RFP shall be issued by the AESO (Reference #3 in below diagram). The AESO shall fairly and reasonably determine if the RFP is Contestable, again after seeking the advice and direction of the MSA. (Reference #5 in below diagram)
  5. If either of the EOI or RFP is deemed by the AESO not to be Contestable the AESO shall issue written reasons in that regard and a Bilateral Negotiation Process shall commence. The Bilateral Negotiation Process:
    - (a) shall be subject to the Maximum TMR Price specified by Article 11.7 of the AESO Tariff,
    - (b) may include all Customers who are effective providers of the required TMR service, although preference will be given to those who responded to the EOI/RFP, and
    - (c) shall not be limited by the pricing provisions of Article 11.6 of the AESO Tariff in respect of Unforeseeable TMR service.(Reference #6 in below diagram)
  6. Any party to the Bilateral Negotiation Process may declare it unsuccessful after 30 days, at which time a Binding Arbitration Process shall commence between the AESO and the Customer (Reference #7 in below diagram). In circumstances where multiple Customers may provide TMR Services to the AESO, the AESO shall act fairly and reasonably in its selection as to the party that is subject to Binding Arbitration. The Binding Arbitration Process shall:
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- (d) be subject to the Maximum TMR Price specified by Article 11.7 of the AESO Tariff, and
- (e) not be limited by the pricing provisions of Article 11.6 of the AESO Tariff in respect of Unforeseeable TMR Service.

(Reference #8 in below diagram)

- 7. The Binding Arbitration Process shall employ the Dispute Resolution Process established under Article 19 of the AESO Tariff and proceed directly to Arbitration as per Article 19.3 of the AESO Tariff. Any arbitrator appointed pursuant to that Dispute Resolution Process shall have an expert understanding and knowledge of the Alberta electricity marketplace. (Reference #8 in below diagram)

**PROCEDURE FOR FORESEEABLE TMR SERVICE DIAGRAM**

