



Generator System Contribution Policy

System Contribution Values
For 2006 & 2007

January 20, 2006

Version 1.1

Introduction:

The Alberta Energy and Utilities Board (“EUB”) issued Decision 2005-096 on August 28, 2005 with regards to the 2005/2006 General Tariff Application of the Alberta Electric System Operator (AESO). This decision approved the various terms and conditions, and addressed provisions to the Customer and System Contribution Policy (Article 9). The ISO Rules as they relate to Annual Performance Criteria for Refund of System Contributions were approved through the ISO Rule process with an effective date of September 29, 2005.

Policy Summary:

The policy framework provided by the regulation and the Transmission Development Policy Paper sets out that an interconnecting generator would pay a contribution comprising:

1. “Local Contribution” being the local connection costs as defined by the ISO, plus
2. “System Contribution”, being sum of the following:
 - a. \$10,000/MW for upgrades to existing transmission facilities;
 - b. \$0 to \$40,000/MW payable by generators that locate in an area of the transmission system where generation exceeds load. The amount of the charge is to be determined based on the location of the generating unit relative to load.
3. The System Contribution, 2 a) and b), are refunded over not more than 10 years from the date it was paid subject to satisfactory performance of the generating unit.

The contribution policy framework provided by the regulation does not apply to generators connected to the transmission system before the regulation comes into force on August 12, 2004.

System Contribution Zones:

As outlined in the AESO’s Generator Contribution Policy Recommendations paper filed with EUB on January 31, 2005, the AESO has contemplated seven areas where the System Contribution will apply. The seven areas are:

- Northwest,
- Northeast,
- Edmonton,
- Central,
- East,
- Calgary, and
- Southwest

Please see Figure 1.0 for a map representation of the above mentioned areas. Refer to Appendix A for additional detail regarding the area boundaries. For a detailed breakdown of the map in Figure 1.0 please refer to the [System Contribution Policy Area Maps](#) document available on the AESO’s website at www.aeso.ca, by following the path Tariff ► Current Tariff ► Generator System Contribution Factors.

Figure 1.0



System Contribution:

The system contribution is the sum of \$10,000/MW for upgrades to existing transmission facilities and \$0/MW to \$40,000/MW payable in areas where generation exceeds load. The system contribution factors will be in effect for two-year periods. The system contribution factors provided below apply for 2006 and 2007. The detailed calculation of the factors and amounts are provided in the [Generator Contribution Policy Recommendations](#) provided in Appendix D of the AESO 2006 General Tariff Application, which is available on the AESO's website at www.aeso.ca, by following the path Tariff ► Previous Applications ► 2006 Tariff Application.

System Contribution Amounts for 2006-2007

Area	System Contribution Factor	Area Contribution \$/MW	Base Contribution \$/MW	Total System Contribution \$/MW
Northwest	0.0000	\$ 0	\$10,000	\$10,000
Northeast	1.0000	40,000	10,000	50,000
Edmonton	0.5333	21,300	10,000	31,300
Central	0.0000	0	10,000	10,000
East	0.2558	10,200	10,000	20,200
Calgary	0.0000	0	10,000	10,000
Southwest	0.2517	10,100	10,000	20,100

The area contribution — the first component of the system contribution — is simply \$40,000/MW multiplied by the system contribution factor, which is greater than zero only in areas where generation exceeds load and which varies based on the location of generation with respect to load. The base contribution — the second component of the system contribution — is the \$10,000/MW amount specified by section 17(2)(a) of the Regulation.

Payment of Contribution:

In EUB Decision 005-096, the Board indicated that:

“...all costs, either customer contribution or system contribution, should be paid prior to the start of the commencement of activities related to the construction of any new transmission facilities necessary to provide the requested service.”

The System Contribution payment will be due once the EUB has issued the permit and license for the local interconnection facilities to the TFO in respect of the generator. Where no local facilities are required to serve a new generating unit, the AESO proposes that the System Contribution payment will be due upon execution of the System Access Service Agreement (SASA).

The System Contribution must be paid within 90 days of issue of the permit and license for the local interconnection (or within 90 days of SASA execution where no local facilities are required). In situations where the System Contribution is not paid within the 90 day period, the AESO may deem it appropriate to terminate the customer SASA, or allow other customer projects to proceed ahead of the customer that has not met its System Contribution obligation.

Where local facilities are required, construction will not commence until the System Contribution has been paid. In the event a construction delay due to non-payment of a System Contribution results in a delay to the Commercial Operation date of the generating unit, such delay shall not be considered attributable to matters for which the AESO or the TFO is reasonable accountable for the purposes of paragraph 9.12(c) of the AESO's terms and conditions of service.

Other Considerations:

Section 17(4) of the Transmission Regulation provides for the refund of the system contribution over a period of not more than 10 years from the date it was paid, subject to satisfactory performance of the generator.

- (4) *The ISO tariff must include terms and conditions*
- a) *providing for the refund of money paid under this section, to the owner who paid it, over a period of not more than 10 years from the date it was paid, subject to satisfactory operation of the generating unit determined under rules made under subsection (5), where satisfactory operation may vary by generation type;*
 - b) *providing for forfeiture to the ISO of money paid under this section, or suspension of the refunds, if the generating unit is not operated satisfactorily;*
 - c) *providing for the means and times at which the refunds are to be made;*
 - d) *providing for the prudent administration, management and investment of money held by the ISO under this section and for the accounting for those funds;*
 - e) *providing for the disbursement of money earned on investments.*

The AESO will administer the refund of system contributions on a calendar year basis and will prorate the refund and satisfactory performance criteria if commercial operation does not take place on January 1.

Subject to satisfactory annual performance, 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.

A base annual amount is determined for the calendar years in the refund period, and then adjusted such that 25% of the total refund is paid out over the first half of the refund period and 75% is paid out over the last half of the refund period. If the refund period constitutes an odd number of years, the mid-point year amount is the average of the first-half and second-half annual amounts.

The following table illustrates the refund structure of a \$1,000,000 System Contribution to three different generators. Note that a status of “on” indicates the generator met the ISO Rules regarding satisfactory annual performance, and a status of “off” indicates the generator did not meet the ISO Rules.

Illustrative Examples of Refunds of \$1,000,000 System Contributions

		Generator A	Generator B	Generator C		
Contribution	Jan 1, 2006	Jan 1, 2006	Jan 1, 2006	Jan 1, 2006		
Planned COD	Jan 1, 2007	Jan 1, 2007	Jan 1, 2007	Jan 1, 2007		
Actual COD	Jan 1, 2007	Jan 1, 2008	Jan 1, 2008	Jan 1, 2008		
Year	Status	Refund	Status	Refund	Status	Refund
2006	pre-COD	NA	pre-COD	NA	pre-COD	NA
2007	On	\$55,556	pre-COD	NA	pre-COD	NA
2008	On	\$55,556	On	\$55,556	On	\$55,556
2009	On	\$55,556	On	\$55,556	On	\$55,556
2010	On	\$55,556	On	\$55,556	On	\$55,556
2011	On	\$111,111	On	\$111,111	Off	\$0
2012	On	\$166,667	On	\$166,667	Off	\$0
2013	On	\$166,667	On	\$166,667	On	\$166,667
2014	On	\$166,667	On	\$166,667	On	\$166,667
2015	On	\$166,667	On	\$166,667	On	\$166,667
Total		\$1,000,000		\$944,444		\$666,667

The AESO will include any forfeited system contribution amounts in a deferral account to be considered as an offset to revenue in a subsequent GTA.

The AESO terms and conditions do not provide for the payment of interest on any refund amounts.

Performance Measures:

Section 17(5) of the Transmission Regulation requires the AESO to make rules to be used to assess satisfactory performance of a generating unit.

- (5) *The ISO must make rules to be used to assess the satisfactory performance of a generating unit by generating unit type.*

A summary of the three components of ISO Rule 9.5, “Annual Performance Criteria for Refund of System Contribution” is provided below. The complete rule is included in the [ISO Rules](#) on the AESO’s website at www.aeso.ca, available by following the path Rules & Procedures ► ISO Rules ► Current Rules.

1. Commercial operation date

The first performance measure is for the generator to reach its commercial operation date (COD). No refunds will be provided unless the generator reaches COD. If the generator fails to reach COD within 10 years of the payment date the entire System Contribution is forfeited.

2. Annual capacity factor for generating units based on resource type

The second performance measure is for the generator to use the STS Contract Capacity provided by the AESO each year following commercial operation. The annual capacity factors are:

<i>Performance Standard for System Contribution Refunds</i>	
Resource Type	Annual Capacity Factor
Coal	75%
Natural Gas — Base Load	50%
Natural Gas — Peaking	10%
Hydro	20%
Wind	20%
Biomass & Waste	75%

3. Under contracting penalty

To ensure that a customer does not have an incentive to under contract for their STS requirements to reduce their System Contribution, the AESO will apply an Under Contracting Penalty to the annual refund amount. The Under Contracting Penalty will reduce the annual refund on a straight-line basis from 100% refund at $\leq 110\%$ of STS Capacity, to 0% refund at $\geq 125\%$ of STS Capacity.

There may be circumstances where a generator is able to operate beyond their normal STS Contract Capacity (e.g. on-site load is lower than normal, on-site heat balance allows for more steam for electricity production or lower than normal ambient temperatures allow for increased output). To facilitate these circumstances and optimal establishment of STS Contract levels, hours where STS Contract Capacity exceeds 110% will be excluded from the Under-Contracting Penalty calculation where the generator has requested and received authorization from the AESO in accordance with Article 13.5 of the AESO's Tariff.

The generator must provide the AESO an annual performance report by January 31 outlining their compliance with the above mentioned criteria. Upon further review by the AESO and compliance with the performance measure refunds will be issued by February 28.

Appendix A – System Contribution Area Definitions

Area	Discussion	AESO Planning Areas included
Southwest	The East and North boundaries of the Southwest Area were drawn to include the Lethbridge load centre and Southwest generation basin predominantly interconnected to the AIES through the 240 kV SW–Calgary path. The Southwest Area is becoming generation rich and will rely on the SW–Calgary path for exporting surplus generation from the area.	53, 54 & 55
Calgary	The North boundary of the Calgary Area is predominantly the NOC (North-of-Calgary) cut-plane from the Edmonton-Calgary 500 kV application. This boundary represents the receiving end of the Edmonton-Calgary path. A significant amount of power is normally transferred from northern Alberta to southern Alberta through this path. The East and South boundaries include load areas predominantly interconnected to the AIES through the Calgary 240 kV transmission system. The East boundary also includes the East/Southwest-Calgary bulk transmission path. The West boundary includes the Bow Hydro generation also predominantly interconnected to the AIES through the Calgary 240 kV transmission system. The Calgary Area continues to be deficit in generation, relying heavily on imports from the Edmonton–Calgary and East/Southwest–Calgary paths.	6, 44, 45, 46, 49 & 57
East	The North boundary of the East Area is the Southeast border of the SOK (South of Keephills-Ellerslie-Genesee) cut-plane from the Edmonton-Calgary 500 kV application and includes load areas predominantly interconnected to the East Area 240 kV transmission system. Western and Southern boundaries include load areas predominantly interconnected from the East’s 240 kV North–South path. While flow within the East Area is largely north to south, the primary export is to the Calgary Area and the Central Area. The East Area is generation rich and relies on western paths for exporting surplus generation out of the area.	4, 32, 36, 37, 42, 43, 47, 48 & 52
Central	The North boundary of the Central Area is the Southwest border of the SOK (South of Keephills-Ellerslie-Genesee) cut-plane from the Edmonton-Calgary 500 kV application and includes load areas predominantly interconnected to 240 kV transmission system within the Central Area. Eastern and Southern boundaries exclude load areas predominantly interconnected from the Calgary Area and East Area.	30, 31, 34, 35, 38 & 39

Edmonton	<p>The Edmonton Area includes the highest concentrations of generation and load in Alberta. The South boundary of the Edmonton Area is the same as the SOK (South of Keephills-Ellerslie-Genesee) cut-plane from the Edmonton-Calgary 500 kV application. This boundary represents the sending end of the Edmonton-Calgary path. Significant amount of power from generation in the Edmonton Area and the Northeast Area is transferred north to south via this path to southern Alberta. The northern boundary of the Edmonton Area on the west side differentiates the transmission path to the Northwest including the coal belt to the west. The north boundary of the Edmonton Area on the east side differentiates the Ft. McMurray–Edmonton path and includes the Cold Lake area generation. The Cold Lake area has been included in the Edmonton Area due to its generation being sufficiently close to the Edmonton and Wabamun generation that they all must be considered together to ensure proper system performance.</p>	13, 27, 28, 29, 33, 40, 56 & 60
Northeast	<p>The Southern boundary of the Northeast Area was drawn to exclude the eastern load and generation included in the Edmonton Area. The west boundary was drawn at TWP3/4 W5M to exclude the eastern edge of the Northwest 144kV and 72 kV systems but to include load served at Wabasca and Brintnell. The Northeast Area continues to be generation rich and relies heavily on the Ft. McMurray–Edmonton path for exporting surplus generation from the area.</p>	25
Northwest	<p>The Southern boundary of the Northwest Area was drawn to include the major industrial load centres in Whitecourt, Swan Hills and Slave Lake initially served from the Edmonton–Northwest path. The eastern boundary was drawn along TWP3/4 W5M to include the eastern edge of the Northwest 144kV and 72 kV systems. The Northwest Area continues to be generation deficient and relies heavily on imports from the Edmonton–Northwest and Ft. McMurray–Northwest paths.</p>	17, 18, 19, 20, 21, 22, 23, 24 & 26