

**ALBERTA ELECTRIC SYSTEM OPERATOR
(AESO)**

COST REVIEW REPORT

Genesee Generating Station – 500kV Transformer Upgrade

Project Implementation by:	EPCOR POWER SERVICES
Dates of Cost Review at EPCOR Offices:	13 to 15 May 2009
Date of Report	29 May 2009

Reviewer: REVAY AND ASSOCIATES LIMITED

**David Hunter, P.Eng, MBA
Yezdi Mistry, M.Sc. Eng., PMP, PSP**

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GENESEEE GENERATING STATION - 500kV UPGRADE REVIEW OF TOTAL CAPITAL COSTS

1. Introduction & Executive Summary

Revay and Associates Ltd (RAL) have been retained by the Alberta Energy Systems Operator (AESO) to carry out a Review of the total direct capital costs associated with the upgrading of three generation transformers and installation of one standby transformer at the Genesee Generating Station (the Project), for the purpose of including these costs in AESO transmission rate structure. The Project was carried out by EPCOR Power Services (EPCOR) during 2007 and 2008. The detailed examination of these costs, as presented to AESO by EPCOR, were reviewed by RAL during February to April 2009 and on a visit to EPCOR's offices in Edmonton by David Hunter and Yezdi Mistry on 13, 14 and 15 May 2009.

This Report finds that the direct capital costs incurred by EPCOR, and invoiced by them to AESO on four Invoices dated 28 November 2007, 31 December 2007, 31 May 2008 and 30 November 2008 totaling \$5,449,520.92 are "prudent, accurate and complete".

2.0 Project History

This project was initiated to address the requirements associated with upgrading the generator unit transformers at the Genesee Substation, necessitated by the conversion of the existing Keephills-Ellerslie-Genesee transmission line from 240kV to 500kV operations. EPCOR sought approvals from the Alberta Utilities Commission (AUC) to alter and operate the Genesee E330P Substation and a portion of two transmission lines to 500 kV operations. On June 28, 2006, the AUC approved the application in principle.

The capital work necessitated the conversion of the existing four transformers (three operating and one standby) from 240kV to 500kV and the installation of a standby 500kV transformer. The work was to proceed in 2007. Subsequent to approval of the project and after AESO and EPCOR had reached an agreement on the work schedule and the shutdown periods, AESO was advised by EPCOR that one of the 500kV transformers had failed certain testing requirements. This failure occurred at the manufacturer's facilities and, therefore, the transformer could not be made available

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to meet the agreed-upon 2007 shutdown schedule. As AESO did not wish to risk an extended period of power shutdown, it negotiated an agreement with EPCOR on revised dates for the conversion work. This agreement set out a plan that the work would be completed prior to the AESO's requested in service date of June 2008.

EPCOR provided AESO its cost estimates of direct costs for the work by letters of 29 February 2008 (see Appendix A) and 11 March 2008 (see Appendix B) and these were acknowledged and accepted by AESO on 17 March 2008. The total estimated direct costs were:

GT1 & Spare GT7 Transformer (incl. Contingency, OH & Escalation)	\$2,049,100
GT2 Transformer (incl. Contingency, overhead & Escalation)	\$1,080,350
GT3 (Hitachi) Transformer (incl. Contingency, overhead & Escalation)	<u>\$1,404,618</u>
TOTAL	\$4,534,068

(The above estimates were to be within + or - 30%)

EPCOR also stated that there might be indirect costs arising from outages and/or extensions of such outages. Subsequently, the application for the recovery of such indirect costs was withdrawn by EPCOR.

AESO requested in its application to AUC dated April 14, 2008 (see Appendix C) that AUC approve the following:

- a) The actual Direct Costs should be paid by the AESO to the Generator upon presentation of acceptable documentation to substantiate their quantum and reasonableness, and
- b) That the costs paid by AESO be recovered under the AESO's tariff.

The AUC, in its decision # 2008-101, dated October 21, 2008 (see Appendix D) stated that:

"The Commission is satisfied that the AESO has been diligent in managing the quantum of direct costs associated with the unit transformer conversion, and therefore considers the estimate of direct costs to be prudent."

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“The evidence of the AESO in this application is that the transformer upgrades are necessary for the continued safe, reliable and economic operation of the Alberta Interconnected Electric System (AIES).

The Commission finds that the statutory references above permit the AESO to recover the direct costs in the AESO tariff provided that the costs incurred are prudent.”

It is a review of these direct costs that this Report addresses.

3. **Basis of the Review**

The basis of this Review is only the decision of the AUC quoted above. There are no limits on the procurement packages to be reviewed or any set rules for soliciting such packages, only that the direct costs submitted by AESO be “prudent”. Also there are no set review procedures. RAL has, therefore, set as their Review criteria, the following:

- A. All Procurement Packages should follow the procedures contained in EPCOR’s internal Procurement Procedures Manual.
- B. EPCOR’s internal cost accounting system should assure that only direct costs attributable to the Projects are presented in the invoices presented to AESO.

It should be noted that the definition of “direct costs”, as used in this Review and Report, includes pay-roll burdens, head office expenses and financing costs, as this appears to be the definition used in the discussions and estimates presented to AESO (see Section 2, above). This may not be the usual definition used in general engineering/construction cost accounting.

The procedures used by RAL in this Review and outlined at Section 4, below, were generally in accordance with General Accounting Standards for both financial and compliance audits. Entrance and exit meetings were held with EPCOR senior management and involved personnel (no minutes were kept) and the review involved an examination of original documentation, to derive compliance with internal guidelines and an auditable document-trail. An examination of EPCOR’s cost

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accounting system regarding purchase packages, subcontracts, staff-costs and overheads (finance and head-office costs) was carried out so as to ascertain its integrity was also carried out. This was done by interviews with the system's operators and by following random selected individual timesheets, suppliers' invoices, etc., through the system to their appearance on the invoices to AESO.

RAL feels that such a procedure assures AESO that the costs invoiced are not only "prudent" but also "accurate and complete".

4. The Review Process

The total value of invoices submitted by EPCOR to AESO (final invoice dated 30 November 2008) is \$5,449,520.92 (see Appendix E). This is \$915,452.92 greater than the estimate provided to AESO in March 2008, however, the percentage difference (20%) is within the 30% accuracy range designated in that estimate.

EPCOR presented to RAL in early 2009, a hyperlinked "Excel" spreadsheet (see Appendix F), linking all purchase orders issued against the Projects to the final invoices presented by suppliers and between these supplier's invoices to the invoices submitted to AESO. This proved invaluable to the reviewers and, by adding EPCOR's internal staff and financing costs (Capitalized Interest) that were not included in the spreadsheet, RAL were able to confirm that the total costs contained within EPCOR's accounting system were the same as those invoiced to AESO (see Appendix G). An inconsistency within the spreadsheet between the amounts invoiced to AESO and the amounts invoiced to EPCOR was explained by an invoice total recorded in EPCOR's spreadsheet under the Hitachi Canada line item as being recorded as \$3,862 (which was the value of one invoice) instead of \$96,757 (which is the total of the two invoices submitted by Hitachi).

The reviewers examined 20 Purchase Orders (POs) issued to 19 vendors representing 86% of all POs issued. Nearly seventy percent (70%) of the total PO value (57% of the total costs invoiced to AESO) were based on Purchases Orders issued to a single vendor, ABB Canada Ltd., for the reconfiguration of the Projects' transformers (see Appendix H). The other major costs (18%) were

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engineering, project planning/management, site coordination and AESO related costs. The reviewers, therefore, concentrated on these procurement packages and internal costs. Other invoice line items were examined in a more general manner.

4.1 Procurement Packages

The reviewers were presented with a copy of EPCOR's Procurement Manual and this was reviewed and it was ascertained to contain normal and sufficient safeguards against abuse regarding solicitation of single source suppliers and other non-competitive arrangements for major purchases. The large ABB Canada Ltd. PO, referred to above, was, in fact, a single source purchase; however, only after two other suppliers were solicited who both declined to submit tenders. This would not have been unusual, considering the overheated economy of Alberta at that time and, considering the schedule constraints under which EPCOR were working and the likelihood of a similar result precluded the opportunity to re tender the package.

The other major procurement packages involved external engineering services, either by EPCOR's long-term contracted engineering company (Colt Engineering Corp.) or other external engineers who were solicited to provide engineering services due to Colt's inability to supply qualified personnel during the overheated market. The majority of these additional services were provided by organizations with which EPCOR had standing multi-year (5+) contracts that were originally competitively tendered but the labour rates of which are renegotiated on yearly basis.

The working time assigned to the Projects by personnel from Colt (and others located within EPCOR's offices) are recorded on similar timesheets as EPCOR's own staff and verified daily by EPCOR's supervisors. These hours were traced, by the reviewers, through Colt's invoices to EPCOR and, thence, to EPCOR's invoices to AESO. Other contract personnel's working time (if not located within EPCOR's office) was invoiced monthly to EPCOR where it was approved by EPCOR's supervisors, prior to incorporation into invoices to AESO.

All other procurement packages were procured in accordance with the various provisions of EPCOR's Procurement Manual. Many, however, were from single sources, due to either the

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suppliers being the only ones capable of providing the service (transformer testing) or the projects' time constraints (the supplier already being on-site).

From this part of the Review, RAL concludes that the third party costs invoiced to AESO for these Projects were prudently procured.

4.2 *EPCOR'S Cost Accounting Procedures*

The reviewers traced various outputs from EPCOR's computerized cost accounting system to ascertain that only costs assigned to the Projects (whether invoices based on external POs, internal time sheets or such overheads as head office and finance costs) are incorporated into the invoices presented to AESO. It appears that this system functions satisfactorily (see Appendix I which shows samples of EPCOR's computerized accounting system's outputs). From this part of the Review RAL concludes that the costs invoiced to AESO for these Projects are accurate.

4.3 *Overhead Costs*

Two major overhead costs were traced through the EPCOR cost accounting system to their incorporation into the invoices presented to AESO. These were head office costs and financing costs:

All working time by EPCOR staff assigned to the Projects is extended by an hourly rate that includes salary costs, normal fringe benefits, transportation and other personnel costs and an allowance for head office expenses. This rate is provided, from time to time, to the cost accounting system by the financial accounting department. The reviewers made no attempt to verify these rates; however, they appear to be competitive with other similar rates within the industry.

The person assigned to prepare external invoices (to AESO) is provided with a monthly financing rate (EPCOR GL Capitalized Interest) that is applied to all outgoing invoices to cover project financing costs. The reviewers made no attempt to verify the derivation of these individual rates. However, the financing costs for this project totaled \$87,394 (1.6% of EPCOR's total invoice amount to AESO) which appears reasonable.

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4.4 *Other Items*

The reviewers ascertained that there was a minimal amount of surplus material left over from the Projects and that they were only specialty items (lightning arrestors, etc.) that would not be applicable to other projects. These were wasted or destroyed. The reviewers also ascertained that there were minimal costs assigned to the Projects associated with other projects (partial cost of trailer rental for \$2,154 - line item #16) or items obtained from inventory (consumables and other material for \$28,133 – line item #3). EPCOR also confirmed that there were no further costs associated with the Projects that are not contained in their invoice to AESO dated 30 November 2008.

From these latter two parts of the Review, RAL concludes that the costs invoiced to AESO for these Projects were complete.

4.5 *Cost Reconciliation*

The costs provided by EPCOR in the “Excel” spreadsheet were reconciled with the total costs invoiced by EPCOR to AESO.

The following table demonstrates the reconciliation of the costs.

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Cost Reconciliation Table

Cost Item Description	Sub-Total	Total	Remarks
Costs invoiced to AESO		\$ 5,449,520.92	(Source of data - EPCOR's Four invoices to AESO)
Costs invoiced by vendors	\$ 4,540,210.26		(Source of data - EPCOR's PO and Invoice Spreadsheet)
Adjustment to Hitachi Invoice total	\$ 93,985.00		(Add missed invoice value of \$93,985)
Corrected total costs invoiced by vendors		\$ 4,634,195.26	
Remaining costs to be reconciled		\$ 815,325.66	
EPCOR in-house Labour costs			(Source of data - EPCOR's invoices to AESO)
For GT1	\$ ██████████		
For GT7	\$ ██████████		
For GT2	\$ ██████████		
For GT3	\$ ██████████		
Total EPCOR in-house Labour Costs		\$ 731,271.66	
EPCOR's Capitalized Interest Costs			(Source of data - EPCOR's invoices to AESO)
For GT1	\$ ██████████		
For GT7	\$ ██████████		
For GT2	\$ ██████████		
For GT3	\$ ██████████		
Total EPCOR's Capitalized Interest Costs		\$ 87,394.00	
Remaining costs to be reconciled		\$ (3,340.00)	
One outstanding invoice from vendor (Simplex Grinnell)		\$ 3,106.19	(EPCOR verbally stated that they will not be claiming this amount)
FINAL RECONCILIATION		\$ (233.81)	

5. Conclusion

This Review concludes that the costs invoiced to AESO (\$5,449,520.92) as the direct costs of carrying out the Projects are prudent, accurate and complete.

RAL would like to thank Ray Love P.Eng., Dinesh Gupta P.Eng., Ron Salanchy R.E.T. and Elsie Untereiner for their assistance in the performance of this Review.

6. Disclaimer

Revay and Associates Limited have produced this Report for and at the request of AESO and the release of any part, or all, of the Report rests with AESO. The opinions expressed herein are specific to information and understandings relating to EPCOR's augmentation of the Genesee Generating Station – 500kV Transformer Upgrade project only. The Report is not to be relied on or used by third parties or outside agents to draw any inference or conclusions about this project and any interpretation given by them to the content of the Report is done so at their own risk. This Report is prepared by David Hunter and Yezdi Mistry and submitted by Revay and Associates Limited.

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**Genesee Generating Station – 500kV Transformer
Upgrade**

Project Implementation by: EPCOR POWER SERVICES

ATTACHMENT A

**EPCOR - TRANSALTA AGREEMENT LETTER
WITH AESO**



February 29, 2008

Neil Millar
Vice President, Transmission
Alberta Electric System Operator (AESO)
2500, 330 - 5th Ave SW
Calgary, Alberta
T2P 0L4

Dear Neil:

RE: Proposed Genesee Generating Station / Generating Unit #3, 500 kV Upgrade ("Unit Transformer Project")

The purpose of this letter is to document an agreement between EPCOR Power Development (Genesee) Limited Partnership ("EPDLP") and TransAlta Energy Corporation ("TAEC") and the AESO, concerning certain work to be done by the Owners (as defined below) in support of the Permit and Licence granted by the EUB regarding the 500 kV South KEG Conversion (the "S-KEG Conversion Project").

The work contemplated by this letter agreement ("the Letter") is herein referred to as the "Unit Transformer Project" as more particularly set out and described in the AESO's Functional Specification, 500 kV South KEG Conversion, Rev. 6, dated January 17, 2006. *

In this Letter the term "Owners" references not only EPDLP and TAEC, but also any other corporation or other entity owned or controlled by either of them that may be involved in or impacted by the Unit Transformer Project or by any other aspect of the S-KEG Conversion Project.

This Letter supersedes and replaces the letter agreement dated December 11, 2008 and executed by the AESO on January 25, 2007, dealing with the same subject matter.

This Letter will deal with the following components:

- (a) the scope of work identified in the 500 kV South KEG Conversion Functional Specification, Rev. 6, dated January 17, 2006, issued by the AESO, (the "Specification") in respect of the Unit Transformer Project;

- (b) a schedule for the timing and completion of the identified scope of work;
- (c) a preliminary estimate of direct and indirect costs that will be incurred by the Owners, associated with the identified scope of work (hereafter referred to as "Direct Costs" and "Indirect Costs"); and
- (d) compensation payable to the Owners, for Direct Costs and Indirect Costs incurred by the Owners associated with the identified scope of work.

(a) Scope of Work

The scope of work to be carried out has been identified in the Specification and includes conversion of the Genesee Unit #3 transformer. The following is the work required to result in this transformer being converted from 240 kV to 500kV operation based on the outage identified.

- GT3 Transformer Conversion (Hitachi)
- Site preparation, transformer isolation and grounding, removal / reconnection fire suppression
- Erect scaffold, hoarding and heating
- Relays test & upgrading, CT's & wires test, connect auxiliary power, control and protection wiring, HV & LV termination test and conditioning
- On-line bushing monitoring system
- Construction & cooling system service
- Extra vacuum & flash drying
- Hitachi supervision & materials
- Engineering, project management, AESO & site coordination

A fault calculation and relay coordination study to evaluate the impact on the Owners' assets is not included in the above summary of the scope of work. Such a study was included in the Specification.

(b) Timing and Completion

The AESO has requested that the Owners meet a planned in-service date of June 17, 2008 for the S-KEG Conversion Project. On the assumption that the AESO's own work schedule will enable it to do all necessary work that is the AESO's responsibility to meet the June 17, 2008 in-service date, the Owners' proposed schedule to meet the in-service date is as follows:

- Genesee Unit #3 is currently planned to be offline for a scheduled maintenance outage commencing at 0500 hours on May 16, 2008 returning to service at 0500 hours on June 9, 2008 during which outage its transformer will be upgraded to 500 kV.

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(c) Estimated Costs Associated with Scope of Work

The Owners' costs for the Unit Transformer Project are made up of both Direct Costs and Indirect Cost components described below.

Direct Costs

The following table, in which amounts are rounded to the nearest dollar, breaks out Direct Costs estimated for 2008 in support of the Unit Transformer Project, and also identifies actual incurred costs in the year 2007 which the AESO has already paid, or hereby agrees to pay, in full. Included in estimated Direct Costs for 2008, are costs of labour, equipment and materials to complete the work as well as costs of required engineering and management of the work. Estimates are based on preliminary information gathered internally by the Owners and from contractors for the Owners who will be used to complete the work. The accuracy of these estimates is plus/minus 30%.

Activity	Cost
GT3 Transformer 500 kV Conversion (Hitachi)	\$638,650
Site preparation, transformer isolation and grounding, removal / reconnection fire suppression	\$11,000
Erect scaffold, hoarding and heating	\$0
Relays test & upgrading, CT's & wires test, connect auxiliary power, control and protection wiring, HV & LV termination test and conditioning	\$26,000
On-line bushing monitoring system	\$52,000
Construction & cooling system service	\$35,200
Extra vacuum & flash drying	\$28,000
Hitachi supervision & materials	\$114,000
Engineering, project management, AESO & site coordination	\$184,000
Subtotal	\$1,088,850
Contingency (15%)	\$163,328
Overhead (9%)	\$97,997
Escalation of parts and labour costs in 2008 (5%)	\$54,443
Total Estimated Unit Transformer Project Costs	\$1,404,618
Less actual invoiced costs for 2007	\$391,323

Total Costs Estimated for 2008	\$1,013,295
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The AESO is scheduled to complete a study of protection relays that may identify upgrades or improvements required to the protection relays on the Genesee units. These costs, although not yet identified, would be considered as Direct Costs.

The Owners will invoice the AESO for Direct Costs as the work is completed and such amounts will be subject to standard payment terms as described in the invoice.

Indirect Costs

Indirect Costs will depend upon whether the 2008 scheduled maintenance outage for Genesee Unit #3 occurs during the time period referenced in "Timing and Completion" ("Paragraph (b)").

If the 2008 scheduled maintenance outage does occur at that time, then Indirect Costs will include all costs or losses to the Owners, including but not limited to, those resulting from:

- (a) any period of outage or curtailment of generation outside the time frame referenced in Paragraph (b); where such outage or curtailment is required for the purposes of the Unit Transformer Project or the S-KEG Conversion Project; and
- (b) any period of outage or curtailment within the time frame referenced in Paragraph (b), when all planned maintenance turnaround work has been accomplished by the Owners and Genesee Unit #3 would therefore be able to resume generating electrical energy but for the inability to transmit such energy to the Alberta Interconnected Electric System ("AIES") due to the Unit Transformer Project or the S-KEG Conversion Project not being completed.

If the 2008 scheduled maintenance outage does not occur at the scheduled time, or at all, for any reason [for example, an earlier forced outage during which most or all tasks that would have been part of the 2008 scheduled maintenance are accomplished, thus obviating the need for a scheduled outage during the time referenced in Paragraph (b) above], then Indirect Costs will be all costs or losses to the Owners, including but not limited to, those resulting from any period of generation outage or curtailment that is required solely for the purposes of the Unit Transformer Project or the S-KEG Conversion Project, but excluding Direct Costs.

Indirect Costs will be calculated based on actual *pool prices*¹ [expressed in dollars per megawatt hour] during each relevant hourly *settlement period*, and will reflect the difference between actual generation and the MCR rating of the Unit (unless derated for plant operational reasons). In calculating Indirect Costs, the Owners will deduct

¹ The italicized terms used in this paragraph have the meanings ascribed to them in the ISO rules.

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from the *pool price* the variable fuel cost for each relevant hourly *settlement period* as determined by applying the Genesee Unit #3 Joint Venture methodology for allocating fuel costs from the Genesee Mine to Genesee Unit #3.

Review of Scope of Work and Estimated Costs

The AESO may examine the records and accounts of the Owners to the extent reasonably necessary to satisfy itself that the "Scope of Work" and the determination of Direct Costs and Indirect Costs as set out above have been adhered to by the Owners, provided that such right is only exercisable upon reasonable prior notice to the Owners and at reasonable times, and at the AESO's sole cost.

(d) Determination of compensation to the Owners for Costs

The AESO and the Owners are in agreement on the following:


- In the present case:
 - The Owners will be required to perform work on their own property and equipment, wholly or partly for the benefit of the AIES; and
 - such work will necessitate the Owners taking a scheduled outage to perform the work and this outage may extend beyond the scheduled timeframe.
- The estimated cost of providing transformation on the AIES in order to maintain supply of electrical energy from the Genesee Unit #3 and the required measure of safety and reliability of the AIES, if the generation transformers remained configured at 240 kV and the adjacent portion of the AIES was upgraded to 500 kV, is significantly higher than the estimated cost of achieving the same by means of the Unit Transformer Project;
- The Alberta Utilities Commission, ("the AUC") has broad jurisdiction to make decisions and orders with respect to issues that fall generally within the regulatory ambit of the *Electric Utilities Act*;
- Notwithstanding anything contained in this Letter, the Owners' entitlement to any compensation from the AESO for costs incurred in respect of the Unit Transformer Project or the S-KEG Conversion Project, whether as Direct Costs or Indirect Costs, would have to be determined by the AUC to be payable by the AESO and thereafter recoverable by the AESO through its Tariff ("AESO's Tariff");
- The AESO will, not later than 30 calendar days following execution of this Letter by all parties to it, make a stand-alone (i.e. not part of its GTA) application to the AUC with a request that such application be dealt with on an expedited basis seeking the following:


- a) The AUC's approval for recovery of the Direct Costs of the Unit Transformer Project as described above, in the AESO's Tariff;
 - b) the AUC's determination as to whether Indirect Costs of the Unit Transformer Project as described above are eligible to be recovered in the AESO's Tariff.
- The AESO recognizes that all generation outage information is confidential and will not release this information to any third party. Accordingly, the AESO will not include any details in the application regarding outage information other than the year in which the outage will occur.
 - The foregoing application may include both Genesee Unit 3 and Genesee Units 1 & 2;
 - The AESO's foregoing stand-alone application will include a separate submission by the Owners in respect of the Owners' eligibility for compensation in respect of Indirect Costs and the methodology for calculating the amount thereof in relation to the Unit Transformer Project as described above.

It is understood and agreed that this Letter is contingent on the Permits and Licenses which are currently in place to carry out the Unit Transformer Project remaining valid and in effect through to completion of the Unit Transformer Project.

Please indicate the AESO's agreement with the content of this Letter by signing and dating at the space provided below, and returning one original signed copy of this Letter to each of the undersigned.

Yours truly,


 Joe Gysel
 Vice-President,
 Marketing and Business Development
 EPCOR Power Management Inc.,
 the general partner of
 EPCOR Power Development
 (Genesee) Limited Partnership





 Kelly Gunach,
 Vice-President,
 Commercial Operations
 TransAlta Energy Corporation

Approved on behalf of the Independent System Operator, operating as the Alberta Electric System Operator,

this 17th day of March, 2008 by


 Neil Millar, Vice-President, Transmission
 Alberta Electric System Operator


 Heidi Fingmaier
 Vice-President, Regulatory

AESO APPROVED FOR EXECUTION	
Promoter	
Legal	
Finance	

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**ALBERTA ELECTRIC SYSTEM OPERATOR
(AESO)**

COST REVIEW REPORT

**Genesee Generating Station – 500kV Transformer
Upgrade**

Project Implementation by: EPCOR POWER SERVICES

ATTACHMENT B

EPCOR AGREEMENT LETTER WITH AESO

5th Flr 10088 - 102 Avenue
Edmonton AB T5J 2Z1
Canada



AESO FILE COPY

March 11, 2008

Neil Millar
Vice President, Transmission
Alberta Electric System Operator (AESO)
2500, 330 - 5th Avenue SW
Calgary, Alberta
T2P 0L4

Dear Neil:

Re: Proposed Genesec Generating Station/Generating Units 1 & 2 500 kV Upgrade
("Unit Transformer Project")

The purpose of this letter is to document an agreement between EPCOR Power Development Corporation ("EPDC") and the AESO, concerning certain work to be done by EPCOR (as defined below) in support of the Permit and License granted by the EUB regarding the 500kV South KEG Conversion (the "S-KEG Conversion Project").

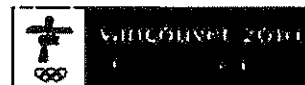
The work contemplated by this letter agreement (the "Letter") is herein referred to as the "Unit Transformer Project" as more particularly set out and described in the AESO's Functional Specification, File No. RP-05-388-1.

In this Letter the term "EPCOR" references not only EPDC, but also any other corporation or other entity owned or controlled by EPCOR Utilities Inc. that may be involved in or impacted by the Unit Transformer Project or by any other aspect of the S-KEG Conversion Project.

This Letter supersedes and replaces the letter agreement dated November 9, 2006 and executed by the AESO on November 30, 2006 dealing with the same subject matter.

This Letter will deal with the following components:

- (a) the scope of work identified in the 500kV South KEG Conversion Functional Specification, File No. RP-05-388-1 issued by the AESO, (the "Specification") in respect of the Unit Transformer Project;
- (b) a schedule for the timing and completion of the identified scope of work;



- (c) a preliminary estimate of direct and indirect costs that will be incurred by EPCOR, associated with the identified scope of work (hereafter referred to as "Direct Costs and "Indirect Costs");
- (d) determination of compensation payable to EPCOR, for Direct Costs and Indirect Costs incurred by EPCOR associated with the identified scope of work.

(a) Scope of Work

The scope of work to be carried out has been identified in the Specification and includes conversion of the spare unit transformer as well as the Genesee 1 and Genesee 2 unit transformers. The following is the work required to result in these transformers being converted from 240 kV to 500 kV operation based on the outages identified. Please note that the spare transformer will be a dual voltage transformer, 240/500 kV, has been configured for 500 kV operation and was delivered on site in January, 2008.

(i) Genesee Unit 1 Outage (March 14, 2008 - April 7, 2008)

- Disconnect, transport and convert Unit 1 transformer (240 kV unit)
 - Site preparation, Transformer Isolation and grounding, lifting power lines, removal/reconnect fire suppression
 - Erect scaffold, hoarding and heating
 - On-line bushing monitoring system and digital fault recorder installation
 - Construction & cooling system service
 - Extra vacuum & flash drying
 - Engineering, project management, AESO and site coordination
- Transport, install and connect spare transformer (500 kV unit)
 - Relays test & upgrading, CT's & wires test, connect auxiliary power, control and protection wiring, HV & LV Termination Test and conditioning
 - Erect scaffold, hoarding and heating
 - On-line bushing monitoring system and digital fault recorder installation
 - Construction & cooling systems service
 - Engineering, project management, AESO and site coordination

(ii) Genesee Unit 2 Outage (April 14, 2008 - May 8, 2008)

- GT2 transformer 500 kV conversion
 - Site preparation, Transformer Isolation and grounding, removal/reconnect fire suppression

3

- o Relays test & upgrading, CT's & wires test, connect auxiliary power, control and protection wiring, HV & LV Termination Test and conditioning
- o Erect scaffold, hoarding and heating
- o On-line bushing monitoring system
- o Construction & cooling system service
- o Engineering, project management, AESO and site coordination

A fault calculation and relay coordination study to evaluate the impact on EPDC assets is not included. Such a study was included in the Specification.

(b) Timing and Completion

The AESO has requested that EPCOR meet a planned in-service date of June 9, 2008 for the S-KFG Conversion Project. On the assumption that the AESO's own work schedule will enable it to do all necessary work that is the AESO's responsibility to meet the June 9, 2008 in-service date, EPDC's proposed schedule to meet the in-service date requires the following outages for the Genesee Units 1 and 2.

- Genesee Unit 1 is currently planned to be offline for a scheduled maintenance outage of 24 days commencing at 0500 hours on March 14, 2008 returning to service at 0500 hours on April 7, 2008 during which outage its transformers will be upgraded to 500 kV.
- Genesee Unit 2 is currently planned to be offline for a scheduled maintenance outage of 23 days commencing at 0500 hours on April 14, 2008 with a scheduled return to service at 0500 hours on May 8, 2008 during which outage its transformers will be upgraded to 500 kV.

(c) Estimated Costs Associated with Scope of Work

EPCOR's costs for the Unit Transformer Project are made up of both Direct Costs and Indirect Cost components described below.

Direct Costs

Included in the Direct Costs are the costs of labour, equipment and materials to complete the work as well as the costs of engineering required and the management of the work. Estimates are based on preliminary information gathered internally and from contractors that will be used to complete the work. The accuracy of these estimates is plus/minus 15%. The costs estimates have been provided by the Vendor with whom EPCOR has been working closely in preparation for the S-KEG Conversion Project. If EPCOR receives any further refinements with respect to costs, the AESO will be promptly advised of the same.

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Genesee Unit 1 Outage (March 14, 2008 – April 7, 2008)

Activity	Cost
Disconnect, transport and convert G11 (240 kV Unit)	\$496,650
Site preparation, Transformer Isolation and grounding, lifting power lines, removal/reconnect fire suppression	\$21,000
Erect scaffold, hoarding and heating	\$32,000.00
On-line bushing monitoring system	\$52,000
Construction & cooling system service	\$22,200
Extra vacuum & flash drying	\$28,000
Engineering, project management, AESO and site coordination	\$190,000
Transport, install and connect spare transformer (500 kV Unit)	\$454,650
Relays test & upgraded, CT's & wires test, connect auxiliary power, control and protection wiring, HV & LV Termination Test and conditioning	\$65,000
Erect scaffold, hoarding and heating	\$29,000
On-line bushing monitoring system	\$52,000
Construction & cooling system service	\$21,200
Engineering, project management, AESO and site coordination	\$171,000
Subtotal	\$1,634,700
Contingency (15%)	\$245,200
Overhead (9%)	\$169,200
Total	\$2,049,100

Genesee Unit 2 Outage (April 14, 2008 – May 8, 2008)

Activity	Cost
GT2 transformer 500 kV conversion G11 (240 kV Unit)	\$496,650
Site preparation, Transformer Isolation and grounding, removal/reconnect fire suppression	\$11,000
Erect scaffold, hoarding and heating	\$29,000
Relays test & upgrading, CT's & wires test, connect auxiliary power, control and protection wiring, HV & LV Termination Test and conditioning	\$53,000
On-line bushing monitoring system	\$52,000
Construction & cooling system service	\$35,200
Engineering, project management, AESO and site coordination	\$185,000

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Subtotal	\$861,850
Contingency (15%)	\$129,300
Overhead (9%)	\$89,200
Total	\$1,080,350

The AESO is scheduled to complete a study of protection relays that may identify upgrades or improvements required to the protection relays on the Genesee units. These costs, although not yet identified, would be considered as Direct Costs.

EPCOR will invoice the AESO for Direct Costs as the work is completed and such amounts will be subject to standard payment terms as described in the invoice.

Indirect Costs

Indirect Costs include those costs or losses to EPCOR resulting from outages or extension of outages that are not within the time frame of scheduled maintenance outages and may therefore be incurred by EPCOR for the purposes of the Unit Transformer Project.

(i) Genesee Unit 1 Outage (March 14, 2008 - April 7, 2008)

Indirect Costs associated with this outage only occur when Genesee Unit 1 is delayed in its return to service past the timing agreed to in establishing the outage schedule, 0500 hours on April 7, 2008 at the time of this writing, as the direct result of delays associated with the Unit Transformer Project or with the S-KEG Conversion Portion.

Indirect Costs will include all costs or losses to EPCOR including, but not limited to, those resulting from:

- (a) loss of the Availability Incentive Payment (the "AIP") for any Declared Availability ("DA") [to a maximum of the unit's 381 MW Committed Capacity] for which the unit is capable above is Target Availability as identified in the Availability declarations made to the PPA Buyer for each hourly Settlement Period during which the unit is prevented from returning to service.

[The hourly value of the AIP will be defined Schedule D of the PPA. The rolling average monthly pool prices, peak ("RAPPP") and off peak ("RAOPP"), used in the calculation shall be the prices as of the date on which the unit is taken out of service.].

- (b) the AIP paid to PPA Buyer for generation under Target Availability.

(ii) Genesee Unit 2 Outage (April 14, 2008 – May 8, 2008)

Indirect Costs associated with this outage only occur when Genesee Unit 2 is delayed in its return to service past the timing agreed to in establishing the outage schedule, 0500 hours on May 8, 2008 at the time of this writing, as the direct result of delays associated with the Unit Transformer Project or with the S-KEG Conversion Portion.

Indirect Costs will include all costs or losses to EPCOR including, but not limited to, those resulting from:

- (a) loss of the Availability Incentive Payment (the "AIP") for any Declared Availability ("DA") [to a maximum of the unit's 381 MW Committed Capacity] for which the unit is capable above is Target Availability as identified in the Availability declarations made to the PPA Buyer for each hourly Settlement Period during which the unit is prevented from returning to service.

[The hourly value of the AIP will be defined Schedule D of the PPA. The rolling average monthly pool prices, peak ("RAPPP") and off peak ("RAOPP"), used in the calculation shall be the prices as of the date on which the unit is taken out of service.]

- (b) the AIP paid to PPA Buyer for generation under TA.

The AESO may examine the records and accounts of EPCOR to the extent reasonably necessary to satisfy itself that the "Scope of Work" and the Direct Costs and Indirect Costs as set out above have been adhered to by EPCOR, provided that such right is only exercisable upon reasonable prior notice to EPCOR and reasonable times, and at the AESO's sole cost.

(d) Determination of Compensation to EPCOR for Costs

The AESO and EPCOR are in agreement on the following:

- In the present case:
 - a) EPCOR will be required to perform work on its own property and equipment, wholly or partly for the benefit of the Alberta Interconnected Electric System ("AIES"); and
 - b) Such work will necessitate EPCOR taking a scheduled outage to perform the work and this outage may extend beyond the scheduled timeframe,
- The estimated cost of providing transformation on the transmission grid in order to maintain supply of electrical energy from the Genesee Units 1&2 and the required

measure of safety and reliability of the AIES if generation transformers remained configured at 240 kV and the adjacent portion of the grid was upgraded to 500 kV, is significantly higher than the estimated cost of achieving the same by means of the Unit Transformer Project;

- The Alberta Utilities Commission ("AUC") has broad jurisdiction to make decisions and orders with respect to issues that fall generally within the regulatory ambit of the *Electric Utilities Act*;
- Notwithstanding anything contained in this Letter, EPCOR's entitlement to any compensation from the AESO for costs incurred in respect of the Unit Transformer Project or the S-KEG Conversion Project, whether Direct Costs or Indirect Costs would have to be determined by the AUC and thereafter recovered by the AESO through its Tariff ("AESO's Tariff");
- The AESO will no later than 30 calendar days following the execution of this Letter by both parties to it, make a stand-alone (ie. Not part of its GTA) application to the AUC – with a request that such application be dealt with on an expedited basis seeking the following:
 - a) the AUC's approval for recovery of the Direct Costs of the Unit Transformer Project as described above, in the AESO's tariff;
 - b) the AUC's determination as to whether Indirect Costs of the Unit Transformer Project as described above re eligible to be recovered in the AESO's Tariff.
- The foregoing application may include both Genesee Unit 3 and Genesee Units 1 & 2;
- The AESO recognizes that all generation outage information is confidential and will not release this information to any third party. Accordingly, the AESO will not include any details in the application regarding outage information other than the year in which the outage will occur;
- The AESO's forgoing stand-alone application will include a separate submission by EPCOR in respect of EPCOR's eligibility for compensation in respect of Indirect Costs and the amount thereof in relation to the Unit Transformer Project as described above.


It is understood and agreed that this Letter is contingent on the Permits and Licenses which are currently in place to carry out the Unit Transformer Project remaining valid and in effect through to completion of the Unit Transformer Project.

It is further understood and agreed that, in the event that there is a failure for any reason of a transformer at any of G1, G2 or G3 prior to the completion of the S-Keg Conversion Project,


and as a result of such failure, it should become necessary, for EPCOR to reconfigure the spare generator transformer that was shipped to EPCOR in January, 2008 configured for 500 kV, the AESO will reimburse EPCOR for its direct costs incurred with respect of such reconfiguration.

Please indicate your agreement with the content of this letter by signing and dating at the space provided below, and returning one original signed copy of this letter to the undersigned.




Yours truly,


Doug Topping, P. Eng.
Senior Vice-President
EPCOR Power Development Corporation

Approved on behalf of the Independent System Operator, operating as the Alberta Electric System Operator this 17th day of March, 2008.


Neil Millar, Vice-President, Transmission


Heidi Kirmaler
Vice-President, Regulatory

AESO APPROVED FOR EXECUTION	
Promoter	
Legal	
Finance	

**ALBERTA ELECTRIC SYSTEM OPERATOR
(AESO)**

COST REVIEW REPORT

**Genesee Generating Station – 500kV Transformer
Upgrade**

Project Implementation by: EPCOR POWER SERVICES

ATTACHMENT C

AESO APPLICATION TO AUC



ALBERTA UTILITIES COMMISSION

IN THE MATTER OF the *Alberta Utilities Commission Act, S.A. 200t, c. A-37.2*

AND IN THE MATTER OF the *Electric Utilities Act, S.A. 2003, c. E-5.1*

AND IN THE MATTER OF the Conversion of Generator Unit Transformers at the Genesee Substation, in support of the South KEG Conversion Project

APPLICATION

Overview and Background

1. This is an application by the Alberta Electric System Operator (“AESO”) for an order or orders of the Alberta Utilities Commission (“AUC” or “Commission”) in respect of the AESO’s tariff. Specifically, the application seeks an order or orders concerning the recovery of certain costs to be incurred by market participants in respect of the required conversion of generator unit transformers at the Genesee Substation E330P in connection with the conversion of the existing Keephills-Ellerslie-Genesee (“KEG”) transmission line from 240 kV to 500 kV operation.

2. By Application No. 1456698, filed on or about April 13, 2006, EPCOR Transmission Inc. – which has since amalgamated with another corporation and is now known as EPCOR Distribution & Transmission Inc. (“EDTI”) – sought approvals from the Alberta Energy and Utilities Board (“Board”) pursuant to the *Hydro and Electric Energy Act* (“HEEA”) concerning the conversion of existing transmission lines from Keephills Substation 320P to Genesee Substation E330P and from Genesee Substation E330P to Ellerslie Substation 89S, from 240 kV to 500 kV operation, commonly referred to as South KEG Conversion Project. Specifically, approvals were sought in order to:
 - (a) alter and operate the Genesee E330P Substation to 500 kV operation;
 - (b) alter and operate the portion of transmission line 1203L which EDTI operates, to 500 kV operation; and
 - (c) alter and operate a portion of transmission line 1209L, which EDTI operates, to 500 kV operation.
3. On June 28, 2006, the Board approved the foregoing applications by EDTI, subject to the conditions set out therein. Copies of the relevant permits and licences issued by the Board are attached to this application as Appendix “A”, and are together referred to as the “EDTI South KEG Approvals”.
4. Upon issuance of the EDTI South KEG Approvals, the AESO undertook discussions with the owners and operators of generating units 1, 2 and 3 at Genesee, as well as the Balancing Pool, which is the PPA Buyer for Genesee

Units 1 and 2, concerning the best method of implementing 500 kV operation at the Genesee E330P Substation.

Genesee Substation – Unit Transformer Project

5. As noted in the Overview and Background above, it is necessary for certain work to be undertaken in association with the South KEG Conversion Project, in order to convert four (4) Genesee unit transformers from 240 kV to 500 kV operation, and in that regard, for such unit transformers to be taken out of service for limited periods of time, for the benefit of Alberta's Interconnected Electric System, or AIES ("Unit Transformer Project").
6. The owner of Genesee Units 1 and 2 is EPCOR Power Development Corporation ("EPDC"). Genesee Unit 3 is jointly owned by TransAlta Energy Corporation ("TEC") and by EPCOR Power (Genesee) Limited Partnership, of which 99% of the partnership units are held by EPDC. The owners of Genesee Units 1, 2 and 3 are collectively referred to as the "Owners."

In the course of discussions between the AESO and the Owners, a relevant consideration was that if possible, the Unit Transformer Project should coincide with the Owners' planned generator unit maintenance shutdowns at Genesee. From the AESO's perspective, another relevant consideration was the ongoing reliability of the AIES, which suggested that the Unit Transformer Project should, if possible, be carried out on a coordinated basis over the shortest possible timeframe, but not necessarily on a staggered basis in order to coincide with planned generator unit maintenance shutdowns.

7. In light of the foregoing considerations, the Owners and the AESO agreed to proceed with the conversion work in 2007. Subsequent to reaching such agreement, however, the AESO was advised by the Owners that a 500 kV generator transformer had failed certain required testing at the manufacturer's facilities and could not be made available to meet the agreed-upon dates. The AESO determined that moving ahead with the conversion without the availability of this 500 kV generator transformer posed an unacceptable risk to the reliability of the AIES. In the result, the AESO and the Owners have come to a subsequent agreement respecting revised dates for the conversion work that will allow it to be completed prior to the AESO's requested in service date of June, 2008.

Direct Costs

8. The Owners have provided the AESO with high level estimates of the costs of labour, equipment, materials, engineering and project management ("Direct Costs") of the Unit Transformer Project, which are currently as follows:
 - (a) Genesee Unit 1 (including the spare transformer) - \$2,049,100.00;
 - (b) Genesee Unit 2 - \$1,080,350.00;
 - (c) Genesee Unit 3 - \$1,404,618.00.
9. The current estimates of the Direct Costs of the Unit Transformer Project, totalling \$4,534,068 are considered accurate +/- 30 percent. The AESO has reviewed such estimates, considers them to be reasonable, and will review updates to those estimates as they are received. The agreements between the

AESO and the Owners incorporate certain audit rights in favour of the AESO in respect of the costs of the Unit Transformer Project actually incurred in order that the AESO may be satisfied that such actual costs are reasonable.

Indirect Costs

10. The AESO and the Owners acknowledge that the generators may incur costs or losses arising from outages or extension of such outages beyond the time frames of scheduled maintenance, or curtailment of generation at Genesee, in relation to the Unit Transformer Project (“Indirect Costs”).

Inclusion of Unit Transformer Project Costs for Recovery under the AESO’s Tariff

11. The Unit Transformer Project will require the Owners to undertake work on their property and equipment which will substantially benefit the AIES, and which will necessitate outages at Genesee Units 1, 2 and 3.
12. In the AESO’s submission, the cost to the AIES of maintaining a safe and reliable supply of energy from the Genesee generators if the Unit Transformer Project were not undertaken would be significantly higher than if the Unit Transformer Project is undertaken.
13. The Commission has broad jurisdiction and authority to include in the AESO’s tariff prudent costs and expenses incurred by it and associated with the discharge by the AESO of its statutory duties, responsibilities and functions under the *Electric Utilities Act*.

The AESO submits that the actual Direct Costs of the Unit Transformer Project, as described herein, will constitute such prudent costs and expenses.

Accordingly, the AESO respectfully submits that the Commission should find that such actual Direct Costs should be (a) paid by the AESO to the Owners upon presentation of acceptable documentation to substantiate their quantum and reasonableness, and (b) recovered under the AESO's tariff.

14. The AESO submits that the questions of (a) whether the Indirect Costs of the Unit Transformer Project should be payable by the AESO to the Owners, and (b) if so, the amount of such Indirect Costs so payable, should be determined by the Commission. If such Indirect Costs are determined by the Commission to be payable, then the AESO submits that the Commission should find that such Indirect Costs should be recovered under the AESO's tariff.

The AESO understands that the Owners will make a separate submission to the Commission in this application on the matter of the quantum of Indirect Costs that the Owners believe should be paid to the Owners and recoverable under the AESO's tariff.

Relief


15. The AESO respectfully requests that the Commission issue an Order or Orders:
 - (a) directing that the actual Direct Costs of the Unit Transformer Project be paid by the AESO to the Owners upon presentation of acceptable documentation to substantiate their quantum and reasonableness, and that such actual Direct Costs shall be recovered under the AESO's tariff;

- (b) determining:
- (i) whether the Indirect Costs of the Unit Transformer Project are payable by the AESO to the Owners;
 - (ii) if so, the quantum of such Indirect Costs payable by the AESO to the Owners; and
 - (iii) that such Indirect Costs as are found by the Commission to be payable by the AESO to the Owners shall be recovered under the AESO's tariff.
- (c) confirming that the actual costs of the Unit Transformer Project, as determined by the Commission to be recoverable under the AESO's tariff, will be subject to necessary deferral account treatment consistent with such treatment generally accorded by the Alberta Energy and Utilities Board concerning the AESO's forecast revenue requirement; and
- (d) granting such other relief as the Commission may deem necessary.

ALL OF WHICH IS RESPECTFULLY SUBMITTED THIS 14th DAY OF APRIL, 2008.

ALBERTA ELECTRIC SYSTEM OPERATOR

Per: _____
Heidi Kirrmaier
Vice President, Regulatory

MADE at the City of Calgary, in the Province of Alberta, on 28th day of June 2006.	 ALBERTA ENERGY AND UTILITIES BOARD
EPCOR Transmission Inc. Genesee 330P substation	Application No. 1456698


EPCOR Transmission Inc. (the Operator) pursuant to Licence No. U2005-434 is the operator of Genesee 330P substation (the Substation). The Operator by Application No. 1456698 (the Application), registered on April 13, 2006, applied to the Alberta Energy and Utilities Board (the Board) for approval to alter and operate the Substation.

The Board, pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*, being chapter H-16 of the Revised Statutes of Alberta, 2000, hereby approves the Application and grants to the Operator a Permit to alter and a Licence to operate the Substation subject to the provisions of the Act, the Regulations, Orders made pursuant thereto, and to the following terms and conditions:

1. The Substation shall be wholly located in the south-east quarter of Section 25, Township 50, Range 3, West of the 5th Meridian.
2. Specifications of the Substation shall be and include as follows:
 - (a) two 500/240/138-kV, 100-MVA transformers,
 - (b) eight 500-kV circuit breakers,
 - (c) eight 138-kV circuit breakers,
 - (d) an enclosure surrounded by a chain link fence,
and other substation equipment as described in the Application.
3. The Operator shall file with the Board within six months after the issuing of this Permit and Licence, or prior to completion of the alteration, whichever comes first, the estimated cost of the entire Project as applied for in the Application with an accuracy of +/- 10% including provision for contingency.
4. The Operator shall file with the Board, within 30 days of completing the alteration, the Energization Certificate for the Substation issued by the Alberta Electric System Operator and shall confirm that the alteration has been completed and is being operated in accordance with the provisions of this Permit and Licence.
5. The completion date for the alteration shall be on or before June 30, 2008. However, upon application by the Operator, the Board may stipulate a later date for completing the alteration

6. The Board may cancel, suspend, or amend this Permit and Licence upon its own motion, an application by an interested party, or failure of the Operator to comply with any provisions of the Act, the Regulations, or this Permit and Licence.
7. Licence No. U2005-434 is rescinded.

END OF DOCUMENT

MADE at the City of Calgary, in the Province of Alberta, on 28th day of June 2006.	 ALBERTA ENERGY AND UTILITIES BOARD
EPCOR Transmission Inc. Transmission Line 1203L	Application No. 1456698

EPCOR Transmission Inc. (the Operator), pursuant to Permit and Licence No. U2000-049 is the Operator of a portion of transmission line 1203L (the Transmission Line) from Genesee substation 330P to AltaLink Management Ltd. transmission line 1203L.

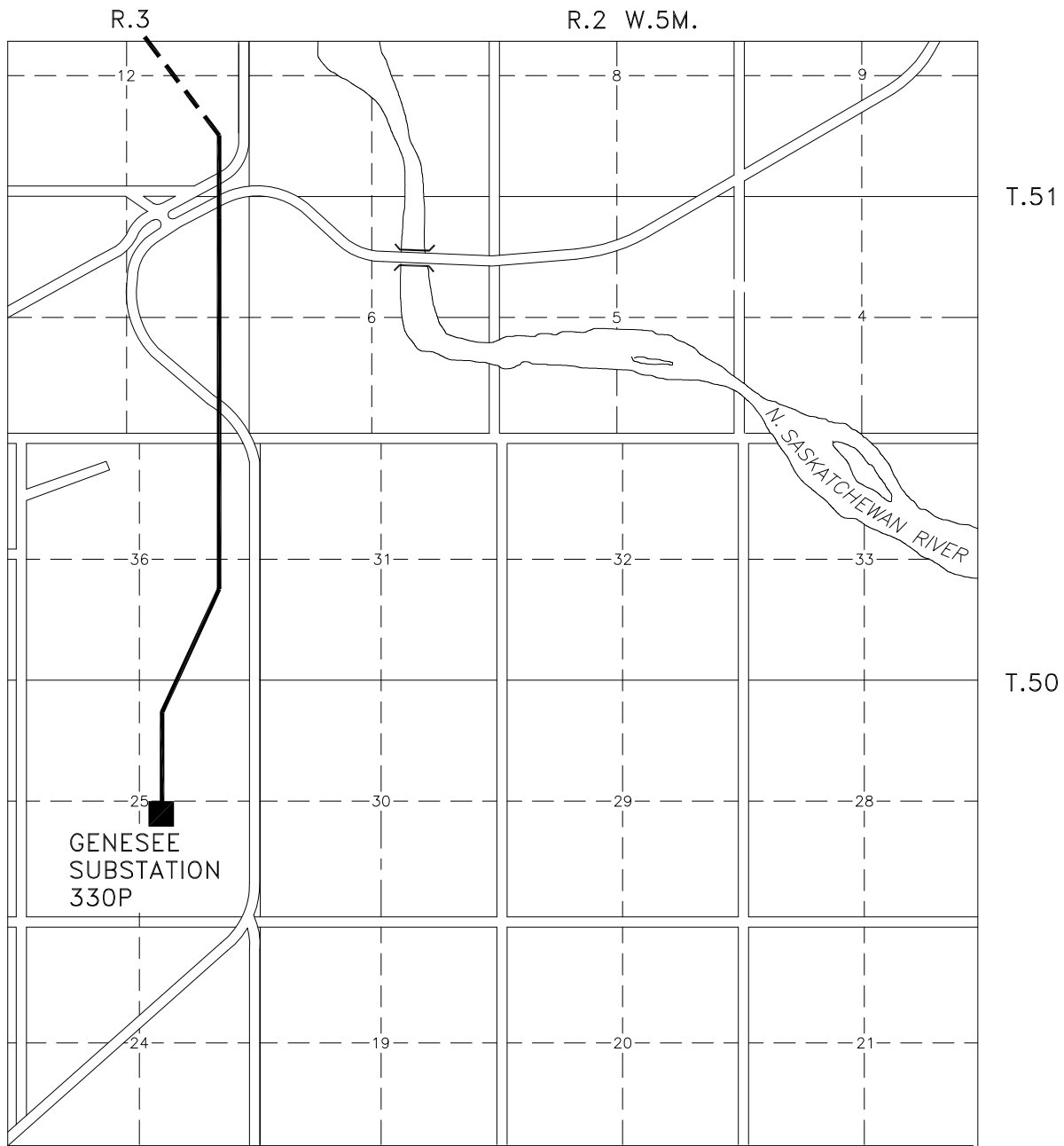
The Operator, by Application No. 1456698 (the Application), registered on April 13, 2006, applied to the Alberta Energy and Utilities Board (the Board) for approval to alter and operate the Transmission Line at 500 kV.

The Board, pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*, being chapter H-16 of the Revised Statutes of Alberta, 2000, approves the Application and grants to the Operator, a Permit to alter and a Licence to operate the Transmission Line, subject to the provisions of the Acts, the Regulations, orders made pursuant thereto, and to the following terms and conditions:

1. The route of the Transmission Line shall be as shown on Appendix A and as described in the Application.
2. Where in the Board's opinion it is in the public interest to do so, the Board may direct the alteration or relocation of any part of the Transmission Line pursuant to sections 17 and 19 of the *Hydro and Electric Energy Act*.
3. Specifications of the Transmission Line shall include the following:
 - (a) the Transmission Line shall be designed, built for, and operated at a nominal voltage of 500 kV,
 - (b) the structures shall be wood, steel, or concrete construction, and
 - (c) other aspects of the alteration as more particularly described in the Application.
4. The Operator shall file with the Board within six months after the issuing of this Permit and Licence, or prior to completion of the alteration, whichever comes first, the estimated cost of the entire project as applied for in the Application with an accuracy of +/- 10% including provision for contingency.
5. The Operator shall file with the Board, within 30 days of completing the alteration the

Energization Certificate for the Transmission Line issued by the Alberta Electric System Operator and shall confirm that the alteration has been completed and the Transmission Line is being operated in accordance with the provisions of this Permit and Licence.

6. The Operator shall satisfy the Board by June 30, 2008 that the Transmission Line alteration has been completed. However, upon application by the Operator, the Board may stipulate a later date for completing the Transmission Line alteration.
7. The Board may cancel, suspend, or amend this Permit and Licence upon its own motion, an application by an interested party, or failure of the Operator to comply with any provisions of the Acts, the Regulations, or this Permit and Licence.
8. Permit and Licence No. U2000-049 is rescinded.



GENESEE AREA




APPENDIX A TO PERMIT AND LICENCE NO. U2006-116

PREVIOUS PERMIT AND LICENCE NO. U2000-049

LEGEND

- EPCOR TRANSMISSION INC. 500-kV TRANSMISSION LINE 1203L
- - - - - ALTALINK MANAGEMENT LTD. 500-kV TRANSMISSION LINE 1203L

END OF DOCUMENT

MADE at the City of Calgary, in the Province of Alberta, on 28th day of June 2006.	 ALBERTA ENERGY AND UTILITIES BOARD
EPCOR Transmission Inc. Transmission Line 1209L	Application No. 1456698

EPCOR Transmission Inc. (the Operator), pursuant to Permit and Licence No. U2000-050 is the Operator of a portion of transmission line 1209L (the Transmission Line) from Genesee substation 330P to AltaLink Management Ltd. transmission line 1209L.

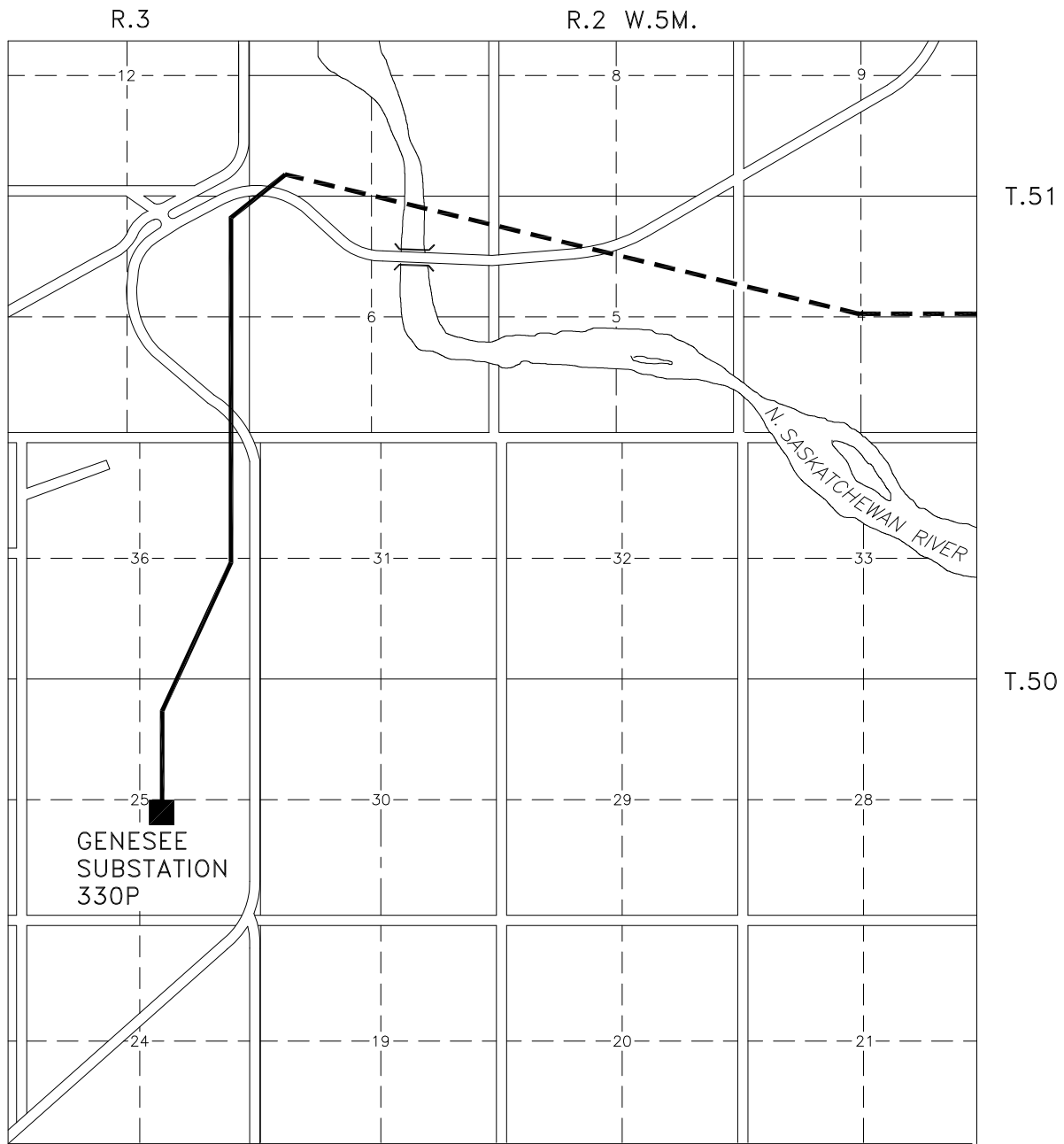
The Operator, by Application No. 1456698 (the Application), registered on April 13, 2006, applied to the Alberta Energy and Utilities Board (the Board) for approval to alter and operate the Transmission Line at 500 kV.

The Board, pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*, being chapter H-16 of the Revised Statutes of Alberta, 2000, approves the Application and grants to the Operator, a Permit to alter and a Licence to operate the Transmission Line, subject to the provisions of the Acts, the Regulations, orders made pursuant thereto, and to the following terms and conditions:

1. The route of the Transmission Line shall be as shown on Appendix A and as described in the Application.
2. Where in the Board's opinion it is in the public interest to do so, the Board may direct the alteration or relocation of any part of the Transmission Line pursuant to sections 17 and 19 of the *Hydro and Electric Energy Act*.
3. Specifications of the Transmission Line shall include the following:
 - (a) the Transmission Line shall be designed, built for, and operated at a nominal voltage of 500 kV,
 - (b) the structures shall be wood, steel, or concrete construction, and
 - (c) other aspects of the alteration as more particularly described in the Application.
4. The Operator shall file with the Board within six months after the issuing of this Permit and Licence, or prior to completion of the alteration, whichever comes first, the estimated cost of the entire project as applied for in the Application with an accuracy of +/- 10% including provision for contingency.
5. The Operator shall file with the Board, within 30 days of completing the alteration the Energization Certificate for the Transmission Line issued by the Alberta Electric System

Operator and shall confirm that the alteration has been completed and the Transmission Line is being operated in accordance with the provisions of this Permit and Licence.

6. The Operator shall satisfy the Board by June 30, 2008 that the Transmission Line alteration has been completed. However, upon application by the Operator, the Board may stipulate a later date for completing the Transmission Line alteration.
7. The Board may cancel, suspend, or amend this Permit and Licence upon its own motion, an application by an interested party, or failure of the Operator to comply with any provisions of the Acts, the Regulations, or this Permit and Licence.
8. Permit and Licence No. U2000-050 is rescinded.



GENESEE AREA



APPENDIX A TO PERMIT AND LICENCE NO. U2006-117

PREVIOUS PERMIT AND LICENCE NO. U2000-050

LEGEND

- EPCOR TRANSMISSION INC. 500-kV TRANSMISSION LINE 1209L
- - - -** ALTALINK MANAGEMENT LTD. 500-kV TRANSMISSION LINE 1209L

END OF DOCUMENT

**ALBERTA ELECTRIC SYSTEM OPERATOR
(AESO)**

COST REVIEW REPORT

**Genesee Generating Station – 500kV Transformer
Upgrade**

Project Implementation by: EPCOR POWER SERVICES

ATTACHMENT D

AUC DECISION #2008-101



Alberta Electric System Operator

AESO Recovery of Costs for Keephills-Ellerslie-Genesee
Conversion of Unit Transformers

October 21, 2008



ALBERTA UTILITIES COMMISSION

Decision 2008-101: Alberta Electric System Operator

AESO Recovery of Costs for Keephills-Ellerslie-Genesee Conversion of Unit Transformers

Application No. 1568182

Proceeding ID. 28

October 21, 2008

Published by

Alberta Utilities Commission

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**ALBERTA ELECTRIC SYSTEM OPERATOR
AESO RECOVERY OF COSTS FOR KEEPHILLS-
ELLERSLIE-GENESEEE CONVERSION OF UNIT
TRANSFORMERS**

**Decision 2008-101
Application No. 1568182
Proceeding ID. 28**

1 INTRODUCTION

The Alberta Electric System Operator (AESO) filed an application (Application) on April 14, 2008, with the Alberta Utilities Commission (AUC or the Commission) for recovery of certain costs related to the conversion of four unit transformers at the Genesee Generating Station. The AESO stated in the Application that based on discussions with the owners, EPCOR Power Development Corporation, EPCOR Power (Genesee) Limited Partnership, and TransAlta Energy Corporation (Generation Owners) of generating units 1, 2 and 3 at Genesee, certain work was required to convert four Genesee unit transformers from 240 kV operation to 500 kV operation. These improvements were approved by the Commission's predecessor, the Alberta Energy and Utilities Board (Board) in Permit and Licence No.'s U2006-115, U2006-116, and U2006-117.

The relief requested in the Application was as follows:

- Approval for the direct costs of the Keephills-Ellerslie-Genesee (KEG) Conversion of Unit Transformers to be paid by the AESO to the Generator Owners upon presentation of acceptable documentation to substantiate their quantum and reasonableness, and that such actual direct costs be recovered under the AESO's tariff;
- Determination as to whether the indirect costs of the conversion of unit transformers were:
 - (a) payable by the AESO to the Generator Owners;
 - (b) if so, the quantum of such indirect costs payable by the AESO to the Generator Owners; and
 - (c) that such indirect costs as were found by the Commission to be payable by the AESO to the Generator Owners shall be recovered under the AESO's tariff;
- Confirmation that the actual costs of the conversion of unit transformers, as determined by the Commission to be recoverable under the AESO's tariff, would be subject to necessary deferral treatment consistent with such treatment generally accorded by the Commission concerning the AESO's forecast revenue requirement; and
- Other relief as the Commission may deem necessary.

Notice of Application was issued on April 16, 2008.

The Commission received Statements of Intent to Participate (SIPs) from the following parties:

- Alberta Direct Connect Consumer Association (ADC)
- ATCO Electric Ltd. (AE)
- BP Canada Energy Company (BP)
- EPCOR Utilities Inc. (EUI)
- Industrial Power Consumers Association of Alberta (IPCAA)
- Inter Pipeline Fund (IPF)
- TransAlta Corporation (TransAlta)
- TransCanada Energy Ltd. (TCE Ltd.)
- Office of the Utilities Consumer Advocate (UCA)

In its letter of May 26, 2008(Letter), the Commission indicated that it would consider the AESO's application in two modules. The first module would address the issue of direct costs (Direct Cost Module), and the second module would address the issue of indirect costs (Indirect Cost Module).

Indirect Cost Module

On July 7, 2008, EUI and TransAlta, on behalf of the Generator Owners, submitted letters stating that neither party would be requesting recovery of indirect costs, as defined by the AESO in the Application. Further, both parties requested that the Commission not proceed with the Indirect Cost Module nor determine the question of payment of indirect costs in this case.

As no indirect costs were being requested by either EUI or TransAlta, the Commission found that there was no longer any requirement to proceed with the Indirect Costs Module. The Commission cancelled the Indirect Costs Module and in doing so, made no decision regarding the appropriateness of claiming indirect costs (as defined by the AESO in the Application) in this Application or with respect to any claim for such costs in any future application.

Direct Cost Module Process

The Commission initiated the Direct Cost Module by issuing Commission Information Request (IR) No. 1 to the AESO in conjunction with its Letter. The AESO supplied its response to the Commission IR No. 1 on June 16, 2008. The Commission, by way of a June 19, 2008 letter, invited registered parties to submit IRs on the Direct Cost module by June 26, 2008. The UCA was the only party to submit IRs. The AESO submitted responses to the UCA IRs on July 3, 2008.

The Commission invited parties to submit Argument and Reply in the Direct Cost Module in accordance with the following schedule:

Submission of Argument	July 24, 2008
Submission of Reply Argument	August 7, 2008

The close of record for this proceeding was August 7, 2008.

2 DISCUSSION AND FINDINGS

2.1 Direct Cost Module

The AESO stated that the Generator Owner's estimate of the direct costs of \$4,534,068 was accurate within +/- 30 percent. The AESO considered these costs to be reasonable and argued that the cost of maintaining a safe and reliable supply from the Genesee generators would be significantly higher if the unit transformer upgrade had not been undertaken.

The UCA opposed the request by the AESO to recover the direct costs through the AESO tariff in order to pay the Generator Owners. The UCA argued that the Generator Owners should be responsible for the direct costs of the unit transformer conversion because the *Electric Utilities Act* (EUA) did not give the Commission authority to include these costs in the AESO tariff as these costs were not transmission facility owner's costs. As well, the UCA submitted that the Generator Owners will benefit from the transformer conversion and therefore paying their direct costs by way of the AESO tariff would subsidize their profits and impact competitive market forces. Finally, the UCA was concerned that approving the payment of the direct costs to the Generator Owners through the AESO tariff would establish a precedent whereby future transmission upgrades may result in other generators seeking upgrades to be paid for by transmission system users.

The UCA requested that the Commission establish a general policy prohibiting the AESO from making payments to generators in respect of assets which are not part of the Transmission System as defined in the EUA.

The AESO responded to the UCA's argument regarding the Commission's jurisdiction to approve non-transmission owner costs by referencing section 122(2) of the EUA. The AESO submitted that this statutory provision clearly granted the Commission ample authority to approve recovery of the direct costs through the AESO's tariff, provided the Commission concluded that the direct costs of the transformer conversion were prudent and appropriate.

EUI and TransAlta also referenced section 122(2) of the EUA in support of recovery of direct costs by the AESO for payment to the Generator Owners.

The AESO stated that the UCA's concern that generators may benefit from the transformer conversion was not an issue to be considered by the Commission in this proceeding while EUI responded that the UCA did not explain what the supposed benefits to generators were nor offer any evidence to support this claim.

The AESO responded to the UCA's concerns about the potential precedent setting nature of this Application by stating that this application was unique on its facts and afforded no basis for the establishment of any general policy. Further, the AESO argued that these issues were raised for the first time in argument and as such were without any evidentiary basis in this proceeding.

The Commission considers the issues to be determined are as follows:

1. Does the Commission have the authority to approve recovery of the Owner's direct costs by the AESO through its tariff?
2. Are the direct costs prudent?

3. Are generator benefits an issue to consider?
4. Should the Commission develop a general policy concerning payment for assets of this nature which are not part of the Transmission System?

Each of these issues is discussed in the sections that follow.

Authority to Approve Recovery of the Direct Costs

The starting point of statutory interpretation is the ordinary meaning rule. *Sullivan and Driedger on the Construction of Statutes* (4th edition) at page 20 summarizes the rule as follows:

...interpretation properly begins with ordinary meaning – with reading words in their grammatical and ordinary sense – but it does not stop there. Interpreters are obliged to consider the total context of the words to be interpreted in every case, no matter how plain those words may seem upon initial reading.

In *ATCO Electric Ltd. v. EUB*, [2004] 11 W.W.R. 220 at paragraph. 127, the Alberta Court of Appeal summarized the principles of statutory interpretation as applied in Alberta:

In interpreting the Board's roles and responsibilities under the applicable statutory legislation, one must bear in mind that this is governed by the purposive and contextual approach to statutory interpretation repeatedly endorsed by the Supreme Court of Canada: *Rizzo & Rizzo Shoes Ltd., Re*, [1998] 1 S.C.R. 27 (S.C.C.); *Bell ExpressVu Ltd. Partnership v. Rex*, [2002] 2 S.C.R. 559, 2002 SCC 42 (S.C.C.). The purposive approach requires that a court assess legislation in light of its purpose since legislative intent, the object of the interpretive exercise, is directly linked to legislative purpose. The contextual approach requires, in turn, that the words chosen must be assessed in the entire context in which they have been used. Any attempt to deduce legislative intent therefore cannot be undertaken in a vacuum: *Love v. Flagstaff (County) Subdivision & Development Appeal Board* (2002), 317 A.R. 261, 2002 ABCA 292 (Alta. C.A.), at paras. 20-21.

The EUA has established a specific legislative scheme with regard to regulation of the AESO. With respect to consideration of the AESO tariff, subsections 122 (2) and (3) are meant to apply specifically to the AESO. These sections read as follows:

122(2) When the Independent System Operator is the applicant for tariff approval, the Commission must have regard for the principle that a tariff approved by it must provide the Independent System Operator with a reasonable opportunity to recover all of the items referred to in subsection (1) **that are applicable to the Independent System Operator.** (emphasis added)

(3) The Commission shall not decide that the ISO tariff fails to satisfy the requirements of section 121(2)(a) or (b) simply because the tariff provides for the flow through, including by the use of deferral accounts, real time pricing or other mechanisms, of some or all of the Independent System Operator's prudent costs and expenses of carrying out its duties, responsibilities and functions.

Section 122(3) of the EUA references section 121(2) of the EUA which states:

121(2) When considering whether to approve a tariff application the Commission must ensure that
(a) the tariff is just and reasonable,

(b) the tariff is not unduly preferential, arbitrarily or unjustly discriminatory or inconsistent with or in contravention of this or any other enactment or any law.

In addition, section 30 of the EUA states, *inter alia*:

ISO tariff

30(1) The Independent System Operator must submit to the Commission, for approval under Part 9, a single tariff setting out ...

(2) The rates to be charged by the Independent System Operator for each class of service must reflect the prudent costs that are reasonably attributable to each class of system access service provided by the Independent System Operator, and the rates must

(a) be sufficient to recover

...

(iv) any other prudent costs and expenses the Commission considers appropriate,

This latter provision supports the view that the Commission has the authority to approve any costs that are prudently incurred by the AESO provided that these costs are appropriately incurred as part of the duties and responsibilities of the AESO.

Section 29 establishes the responsibility of the AESO to provide system access service. It states:

Providing system access service

29 The Independent System Operator must provide system access service on the transmission system in a manner that gives all market participants wishing to exchange electric energy and ancillary services a reasonable opportunity to do so.

In the Commission's view it is not enough to have nondiscriminatory access to the Alberta Interconnected Electric System (AIES). The grid itself must be robust enough to operate reliably and support competitive markets. Further, section 17 (h) of the EUA requires the AESO to direct the safe, reliable and economic operation of the interconnected electric system.

The evidence of the AESO in this application is that the transformer upgrades are necessary for the continued safe, reliable and economic operation of the AIES.

The Commission finds that the statutory references above permit the AESO to recover the direct costs in the AESO tariff provided that the costs incurred are prudent.

Prudence of the Direct Costs

As set out in the Application at paragraph 9, the current estimates of the direct costs total \$4,534,068 with an accuracy of +/- 30 percent. Further, it is the evidence of the AESO that of the total estimated direct costs, approximately 90% will relate to charges for labour.¹

The Commission requested that the AESO explain the process it had followed to ensure the reasonableness of the quantum of direct costs.

¹ AESO Information Response UCA-AESO 2(a)

The AESO responded that:

“The AESO requested and received from EPCOR Generation, on a confidential basis, detailed cost estimates for the conversion work which enabled the AESO to carry out its review and to seek additional clarification regarding the associated scope and cost estimates. The AESO held several detailed discussions with EPCOR Generation to ensure a complete familiarization of the work, associated schedule and estimated costs. Given the critical nature of the work involved appropriate care and attention was given to the detailed steps including the appropriate level of apparatus testing to ensure equipment integrity prior to actually energizing the transformers.

The AESO applied its own judgment, based on its experiences on other substation projects, with respect to assessing the reasonableness aspect of the transformer conversion project scope and associated cost estimates. For example, other 500 kV work, of a similar nature was also being carried out at Ellerslie and Keephills substations which included installation of 240/500 kV transformers.

As noted in paragraph 9 of the application, the agreements between the AESO and the Owners incorporate certain audit rights in favour of the AESO in respect of the costs of the Unit Transformer Project actually incurred in order that the AESO may be satisfied that such actual costs are reasonable.”²

No further evidence regarding the quantum of direct costs was provided nor did any interested party comment on the prudence of the direct costs estimated for the project.

The Commission is satisfied that the AESO has been diligent in managing the quantum of direct costs associated with the unit transformer conversion, and therefore considers the estimate of direct costs to be prudent.

Consideration of Generator Benefits

As noted above, the UCA, in its argument, submitted that the Generator Owners will benefit from the transformer conversion and therefore paying their direct costs by way of the AESO tariff would subsidize their profits and impact competitive market forces.

The UCA filed no evidence to support this assertion.

It is the evidence of the AESO, as set out in the Application, that the unit transformer conversion work was performed for the benefit of the AIES, and is considered by the AESO to be the least cost alternative to provide this benefit.

The Commission finds, on the basis of the evidence before it, that the unit transformer conversion work was performed directly for the benefit of the AIES, and that the issue of tangential generator benefits is not supported by any evidence and will not be considered further in this Decision.

² AESO Information Response AUC-AESO-1(c)

Development of General Policy

The Commission has considered the UCA request that the Commission establish a general policy to prohibit the payment of the direct costs to the generator owners through the AESO tariff in the future.

In response to the question from the UCA to the AESO respecting whether the AESO would be opposed to the creation of such a policy, the AESO stated, *inter alia*:

In the AESO's opinion, the facts and circumstances of other situations would have to be examined in order to determine whether, as in this case, direct costs should be paid.

In this case, the circumstances are unique, and warrant the relief requested.³

In addition, the AESO stated in its response to Information Request UCA- AESO – 1 that it was not aware of any past decisions under which a similar payment has been authorized.

The Commission finds, on the basis of the evidence before it, that this application is unique. Consequently it does not see the need to develop a general policy at this time concerning payment for assets which are not part of the Transmission System.

³ AESO Information Response UCA-AESO-4(a)

3 ORDER

IT IS HEREBY ORDERED THAT:

- (1) The actual direct costs of the unit transformer conversion be paid by the AESO to the Generator Owners upon presentation of acceptable documentation to validate the quantum.
- (2) The AESO include these direct costs in its next Deferral Account application.

Dated in Calgary, Alberta on October 21, 2008.

ALBERTA UTILITIES COMMISSION

(original signed by)

Carolyn Dahl Rees
Vice-Chair

(original signed by)

Bill Lyttle
Commissioner

(original signed by)

N. Allen Maydonik, Q.C.
Commissioner