

# Competitive Process for Critical Transmission Infrastructure

## Draft Recommendation Paper

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## 1. Executive Summary

In December 2008, the Government of Alberta (Government) introduced the Provincial Energy Strategy, a comprehensive plan for Alberta's energy future. The Government's vision for electricity includes substantial upgrades to the transmission system. An important first step in achieving this vision was to approve the need for critical transmission infrastructure (CTI). The *Electric Statutes Amendment Act*, enacted in November 2009, provided legislation relating to CTI.

On September 30, 2010, the Government amended the *Transmission Regulation* (T-Reg). Specifically, the Government amended among other things, Section 24.2(1) of the T-Reg titled "Competitive process to develop certain transmission facilities" which now reads as follows:

- 24.2(1) For the purposes of this section, "competitive process" means a fair and open process that allows any qualified person, as determined by the ISO, to submit a proposal in respect of a transmission facility, including a financial bid, as the method to determine the person referred to in subsection (2).
- (2) The ISO must develop a competitive process to determine the person who is eligible to apply for the construction or operation, or both, of the transmission facilities referred to in section 24(3)(a), (c) and (d).
  - (3) Before the ISO implements a competitive process developed under subsection (2), the ISO must obtain the Commission's approval of the competitive process.
  - (4) Where the Commission approves a competitive process developed under subsection (2), the Commission must consider any resulting arrangements as prudent.
  - (5) The competitive process developed under subsection (2) must not exclude
    - (a) a TFO, whether or not the TFO has undertaken any work or provided any services to the ISO in respect of a proposed transmission facility, or
    - (b) any other person that has undertaken any work or provided any services to the ISO in respect of a proposed transmission facility unless the TFO or other person does not have the necessary qualifications to participate in the competitive process.
  - (6) Subject to subsection (7), the ISO may request, and a TFO or other person must provide, any records to the ISO that are necessary to develop and implement a competitive process.
  - (7) If there is a dispute between the ISO and a TFO or other person regarding whether a record is necessary for the purposes of the ISO as referred to in subsection (6), the matter must be determined by the Commission.

- (8) A competitive process that is approved by the Commission may be used by the ISO for more than one transmission facility project.

On September 17, 2010, and in anticipation of amendments to the T-Reg, the AESO issued Terms of Reference and a Discussion Paper on the competitive process (Process) for critical transmission infrastructure (CTI).

The September 17, 2010 Discussion Paper (Discussion Paper) set out two alternatives intended to form the “bookends” of competitive models that would allow for the injection of competitive pressures in developing CTI and invited stakeholder comments. In the Own alternative (AESO Own model), a successful bidder designs, builds, finances, owns, operates and maintains CTI facilities. In the EPC alternative (AESO EPC model), a successful bidder designs and builds the CTI facilities. Once construction is complete, the CTI facilities are transferred to an incumbent transmission facility owner (TFO) to own, operate and maintain.

The Discussion Paper also set out an implementation schedule, objectives and principles of the Process, a proposed structure for Request for Qualifications (RFQ) and suggested possible changes to relevant legislation that might be necessary to allow for implementation of the Process.

Stakeholders provided comments on the Discussion Paper on November 4, 2010.

This Draft Recommendation Paper (Paper):

- responds to stakeholder comments on the Discussion Paper;
- discusses the competitive models considered and provides the AESO’s recommendation of the competitive model to be advanced for the next phase of consultation;
- provides an initial framework for the allocation of risk and the associated cost recovery / pricing scheme for the AESO Own model and seeks stakeholder feedback on such framework;
- provides an initial framework for the development of the terms and conditions of the contractual arrangements arising from the Process;
- further advances the development of the RFQ and RFP documents; and
- seeks comments on whether or not project stages should be bid separately.

This Paper also provides an updated schedule for the development, approval and implementation of the Process. To allow for further stakeholder consultation, the AESO has expanded the consultation scope and extended the consultation schedule.

## 2. Purpose

The Paper has the following four (4) distinct purposes:

- (1) Sets out the AESO's response to comments received from stakeholders arising out of the Discussion Paper. Where appropriate, the AESO has responded to individual comments.
- (2) Describes three (3) competitive models under consideration, each with the intent to inject competitive pressures into the transmission marketplace—the AESO EPC<sup>1</sup> model, the TFO EPC model and the AESO Own model. The AESO EPC model and AESO Own model were proposed by the AESO and described in the Discussion Paper. The TFO EPC model was proposed by stakeholders in their comments to the Discussion Paper. A summary of the advantages and disadvantages of each of the above models can be found in Appendix C, Sections C.1, C.2 and C.3. Based on work completed to date and stakeholder comments received, discussion of the competitive models thus far focused mainly on the degree to which each model facilitates or encourages entry into the marketplace. This Paper summarizes the AESO's position of advancing the AESO Own model as the model which best meets the AESO's objectives, principles and goals for a Process.
- (3) Provides a framework for further discussion of the following items:
  - the allocation of risk and the associated pricing or cost recovery schemes associated with the AESO Own model;
  - contractual arrangements that comprise part of the Process;
  - development of key elements of the Request for Qualification (RFQ) and Request for Proposal (RFP) documents; and
  - packaging all three (3) stages of the Fort McMurray project into a single bid or bidding each stage out separately.
- (4) Identifies the next steps and a proposed schedule for developing the Process.

### 3. The Process – Key Stakeholder Comments

The AESO has received comments from 11 stakeholders. The stakeholders represent incumbent TFOs, transmission developers from within and outside of Alberta, major equipment suppliers and others. The AESO's responses to stakeholders can be found in the Discussion Paper Stakeholder Comment Matrix contained in Appendix A to this Paper. The key comments are categorized into four groups: scope of the Process, objectives and principles of the Process, consultation activities and schedule, and selection of the competitive model. Each of these categories will be addressed below.

#### 3.1 Scope of the Process

As indicated in the Terms of Reference to the Discussion Paper, the AESO limited consultation to the development of key aspects of a Process for CTI.

##### 3.1.1 Stakeholder Feedback

In general, stakeholders agreed with the consultation limits as proposed. However, several stakeholders suggested the scope be expanded to include other key aspects of the Process, such

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<sup>1</sup> EPC refers to engineering, procurement and construction work.

as the RFP document and contractual arrangements that might result from the Process. Certain stakeholders also requested the scope be expanded to include other significant non-CTI projects and other system or connection projects.

### 3.1.2 AESO Response

The AESO has expanded the consultation scope in accordance with stakeholders' feedback and extended the consultation schedule to allow sufficient time to explore the expanded scope and to develop the draft and final recommendation papers. An updated schedule indicating dates for consultation on the expanded scope can be found in Section 3.3 of the Paper.

At this time, the AESO will limit the scope of the Process to those CTI facilities referred to in Section 24(3)(a), (c) and (d) of the T-Reg. The application or adaptation of an approved Process to more than one transmission facility project, as contemplated in Section 24(8) of the T-Reg, may be considered at a future date.

## 3.2 Objectives and Principles of the Process

In its Discussion Paper, the AESO laid out objectives, principles and goals for a Process for CTI and sought stakeholder comments regarding these objectives, principles and goals.

### 3.2.1 Stakeholder Feedback

Stakeholders generally supported the objectives, principles and goals set out in the Discussion Paper.

### 3.2.2 AESO Response

The desired outcome of the Process is to create a fair, efficient and openly competitive opportunity for incumbent TFOs and new market participants to develop, own and operate CTI. The specific description of the goals to achieve this outcome is contained in the Discussion Paper. Based on the input from the stakeholders, these goals have been further refined. Table 3.1 lists the original and the revised goals. As shown in Table 3.1, the AESO has separated the goals into two categories; competitive model goals and Process goals.

**Table 3.1 - Original and Revised Goals**

ORIGINAL GOALS	REVISED GOALS
<b>COMPETITIVE MODEL GOALS</b>	
Create cost minimization without adversely affecting system reliability	Model must result in the minimization of life cycle costs through the use of competitive pricing
Include some form of competitive pricing	

Create opportunity for innovation and creativity, including financial engineering, technology, supply chain management and ability to attract a talented workforce, throughout the lifecycle of the contract	Create opportunity for maximum innovation throughout the life cycle of the CTI facility
Create opportunity for new entrants	Create opportunity for new market entry
Allocate risk fairly	Allocate risk to most efficiently and effectively reduce costs and mitigate risk
Foster efficient investment, operation, maintenance and use of assets	Foster efficient investment, operation and maintenance of assets across the life cycle of the CTI facility
<b>PROCESS GOALS</b>	
Open and consultative	Open and consultative
Foster regulatory predictability	Foster regulatory predictability
Be administratively straightforward and efficient	Straightforward and efficient
Be clear on accountabilities of various parties involved in the project	Clearly state the accountabilities of each party involved
Achieve a reasonable level of transparency and consistency over time	Achieve a reasonable level of transparency and consistency over time
Result in the development of transmission infrastructure that meets or exceeds all of the performance and reliability standards and requirements of the AESO and other regulatory bodies, including ISO Rules, policies and procedures	CTI facilities designed to ensure standards for performance and reliability are met and do not jeopardize the Alberta interconnected electric system.
Consider performance standards (safety, quality, cost, service and reliability) consistent with those required for other transmission builds in Alberta	
Consider obligations typically assumed by incumbent TFO	
Provide transparent selection criteria to address the principles above and consideration given to detailed	See Section 5.3 and Appendix E and F of this Paper

weighting for each selection attribute	
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### 3.3 Consultation Activities, Documents and Schedule

In its Discussion Paper, the AESO provided a schedule for consultation activities up to the completion of the Competitive Process Recommendation Paper.

#### 3.3.1 Stakeholder Feedback

The majority of stakeholders requested the AESO provide a more detailed schedule for the development, approval and implementation of the Process including:

- a schedule that allows for, and reflects further stakeholder consultation;
- a schedule that provides details of the AUC regulatory process; and
- the time required to implement the AUC approved process.

Stakeholders also requested the AESO study and provide documented lessons learned from other jurisdictions undertaking similar processes.

Finally, several stakeholders expressed interest in further consultation on the development and contents of the RFP and any contractual arrangements that may result.

#### 3.3.2 AESO Response

##### The Schedule

The AESO acknowledges and agrees that further consultation is required and has adjusted the schedule accordingly. It has also provided its best estimate for the time required to file the Process application with the Alberta Utilities Commission (AUC) and to implement the Process. Further detail on the implementation schedule, including workshops and/or materials to aid participants in the bidding process is currently under development.

As consultation proceeds, stakeholders have suggested, and the AESO is interested in, exploring options to reduce the timelines set forth below without sacrificing the quality of the Process. As such, further stakeholder consultation on various aspects of the Process may result in revisions to the schedule.

Activity	Date
AESO issues Discussion Paper	September 17, 2010
Stakeholders provide comments	November 4, 2010
AESO undertakes further stakeholder consultation	Prior to March 31, 2011
AESO issues Draft Recommendation Paper	March 31, 2011
Stakeholders provide comments	April 28, 2011
AESO undertakes further stakeholder consultation as appropriate	Prior to May 27, 2011
AESO issues Recommendation Paper*	May 27, 2011
Stakeholders provide comment	June 24, 2011
AESO files application with AUC	September 15, 2011
Expected AUC Decision**	June 2012
AESO issues RFQ	July 2012
Bidders respond to RFQ	September 2012
AESO evaluates RFQ responses and prepares short list of bidders	November 2012
AESO issues RFP	November 2012
Bidders respond to RFP	May 2013
AESO evaluates bids & awards project to successful bidder	August 2013

\* Issuance date of the Recommendation Paper may vary depending on stakeholder consultation requirements.

\*\* Indicative only—the AUC will determine the timelines of the approval process.

### 3.3.3 Additional Consultation Activities

Since the issuance of the Discussion Paper, the AESO has formalized its benchmarking study. The AESO has also met with personnel from Alberta Transportation to learn from their experience on various public private partnership (P3) projects. The key findings of these additional consultation activities are below.

#### Key Findings from Other Jurisdictions

The AESO retained Power Advisory, LLC to review the process of competitive procurement of CTI

facilities in other jurisdictions. A copy of the Power Advisory report can be found in Appendix B to this Paper. Key findings of the study applicable to the development of a Process for CTI in Alberta include:

- Legislation and regulation has been put in place to enable a competitive tendering process to proceed in other jurisdictions.
- Significant investment was/is required in each jurisdiction to expand its transmission system.
- A competitive approach, through the use of a competitive tendering process, is believed to create value for both investors and consumers.
- Innovation and new sources of technical and financial expertise were identified as key benefits of competition.
- All jurisdictions studied allowed for new entrants to develop, construct, own, operate and maintain CTI facilities. Entry was not restricted to one component of a project.
- The design of the market and the level of competitive tension introduced into the market were specific to each jurisdiction. Some jurisdictions chose to move risk from customers to shareholders through the use of predetermined and agreed-upon pricing while others continued to employ traditional cost-of-service rate making principles.
- Tendering rules were jurisdiction specific.

#### Key Findings from Alberta Transportation

The AESO is also examining Alberta Transportation's move in recent years to inject competition into the development of linear infrastructure in the province. Alberta Transportation is responsible for the long-term planning of the province's highway network and oversees the network's design, construction and maintenance. It currently uses a P3 model and a competitive tendering process to award major projects. The AESO is in contact with Alberta Transportation and is reviewing its tendering documents for aspects that may be applicable to the Process.

#### **3.3.4 Regulatory Trends in Alberta**

In Alberta, the AUC has looked to other organizations embracing the introduction of competitive pressures into existing market designs. In 2010, the AUC announced its intention to move to performance-based rate making for transmission and distribution companies. This addresses the AUC's "assumption that rate-base, rate of return regulation offers few incentives to improve efficiency, and produces incentives for regulated companies to maximize costs and inefficiently allocate resources."<sup>2</sup> The AUC is adjusting the regulatory regime to encourage the right economic behaviours—behaviours that more closely mimic the incentives in a competitive market.

As discussed earlier in this Paper, and through recent amendments to Alberta legislation, the AESO has been directed to develop a Process that will determine the persons eligible to apply for the construction or operation, or both, of the Edmonton to Fort McMurray CTI project, all future CTI

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<sup>2</sup> AUC Letter dated February 26, 2010 regarding Rate Regulation Initiative Round Table. [http://www.auc.ab.ca/items-of-interest/Rate-Regulation-Initiative/Documents/2010-02-26\\_Rate\\_Regulation\\_Initiative\\_RoundTable.pdf](http://www.auc.ab.ca/items-of-interest/Rate-Regulation-Initiative/Documents/2010-02-26_Rate_Regulation_Initiative_RoundTable.pdf)

projects and interties. The Process must be approved by the AUC. As witnessed in other jurisdictions such as Texas and the United Kingdom, there is an emerging trend in transmission that the introduction of competitive pressures into the marketplace, through the redesign of market structures, particularly where significant investment is required, will have positive results for ratepayers.

#### RFQ, RFP and Contractual Arrangements

The AESO is currently considering and developing key elements of the RFQ, the RFP and any resulting contractual arrangements that may arise. Items such as the allocation of risk through cost recovery schemes and/or selection criteria are discussed in further detail in Section 5.

### **3.4 Competitive Models**

In its Discussion Paper, the AESO set out two competitive models intended to form the “bookends” of competitive models that would allow for the injection of competitive pressures in developing CTI. Much of the AESO’s discussion about the models, and subsequent stakeholder comments, focused on the degree of facilitation of market entry arising from each model. Partially discussed was the allocation of risk and the associated pricing or cost recovery schemes. Section 5.1 of the Paper lays out a framework for further discussion of the allocation of risk and pricing or cost recovery schemes.

#### The AESO EPC Model

In the AESO EPC model, a successful bidder (EPC entity) completes upfront development work (preliminary design, landowner consultation, siting and facility application preparation and submission) and builds the CTI facility. Once construction is complete, the CTI facility is transferred to the incumbent TFO(s) to own, operate and maintain<sup>3</sup>. The EPC entity receives compensation from the incumbent TFO(s) as directed by the AESO.

#### The AESO Own Model

In the AESO Own model, a successful bidder completes upfront development work, builds and finances, owns, operates and maintains the CTI facility. In this model, the successful bidder is responsible for the CTI facility from inception to decommissioning. For all intents and purposes, the successful bidder would become the “owner of a transmission facility” as defined in the EUA, and would be subject to its statutory obligations.

The AESO sought stakeholder feedback on additional models to consider, the process steps outlined in each of the AESO’s proposed models, the advantages and disadvantages of each of the models and feedback on efficient risk sharing options to optimize the overall cost of CTI projects.

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<sup>3</sup> Portions of the project may be transferred to more than one TFO if the project crosses service areas.

### **3.4.1 Stakeholder Feedback – The AESO EPC Model<sup>4</sup>**

In general, stakeholders did not support the AESO EPC model as presented in the Discussion Paper. Appendix C, Section C.1 to this Paper summarizes stakeholder comments on the advantages and disadvantages of this model.

Certain stakeholders were of the view that the AESO EPC model could generate competitive efficiencies. The injection of competitive pressures into the biggest component of project cost, i.e., engineering, procurement and construction, was expected to result in competitive pricing. The AESO EPC model was viewed positively given the ability of the incumbent TFO to leverage its existing familiarity with operating and maintaining CTI facilities.

However, certain stakeholders expected life cycle costs in this model would be greater than a model with one (1) owner throughout the entire life cycle. Greater life cycle costs would negate some of the competitive benefits of bidding out the EPC components.

Certain stakeholders highlighted the potential for significant risk to bidders in cost and scheduling because of the requirement to submit a bid and contractually agree to pricing in advance of the establishment of a clear route or assured timing on regulatory approvals necessary to begin construction. This risk is expected to force bidders to demand significant risk premiums in their bid packages.

Stakeholder views varied on whether the AESO EPC model would allow for effective management and mitigation of landowner relationship issues. Those parties who saw risk in this regard pointed to the incumbent TFO(s) lack of authority while relationships were being developed and the ultimate need to transfer these relationships to the incumbent TFO(s) to manage. Other stakeholders believed upfront involvement by incumbent TFO(s) in developing and managing landowner relationships would aid in reducing relationship risk.

Stakeholders also had varying views on whether the AESO EPC model would attract a sufficient number of bidders to generate competition. While some parties viewed the components being put to bid as being “standard” within industry, others viewed the inclusion of uncertain upfront development work as being “non-standard”.

Certain stakeholders were of the view that the use of a long-term contract for recovery of EPC costs as opposed to traditional utility financing would allow for financial innovation.

Some stakeholders were of the view that the AESO EPC model was too similar to the model currently in use and would not provide any additional cost or innovation benefits. It was also seen to favour incumbent TFOs.

Finally, certain stakeholder comments suggested the model is administratively complex.

Because of the concerns listed above, stakeholders generally did not support the AESO EPC model as proposed. To address some of these concerns and mitigate key potential disadvantages

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<sup>4</sup> A variation to the AESO EPC model was proposed by a single stakeholder, in which the asset could either be transferred to the incumbent TFO or to a new entrant. While advantages and disadvantages of this variation were not provided by the stakeholder, the AESO's position on the entry model it has chosen to advance and support are unchanged.

of this model, certain stakeholders put forth an alternative model (TFO EPC model) to address and resolve what they considered deficiencies of the AESO EPC model.

### **3.4.2 Stakeholder Feedback – Stakeholder Proposed Model: The TFO EPC Model**

The TFO EPC model proposed by some stakeholders would see the AESO direct assign a CTI facility to an incumbent TFO. Direct assign is the method currently in use for non-CTI facilities and has also been used for some CTI projects. The incumbent TFO would continue to undertake and complete all upfront development work, and would own, operate and maintain the CTI facilities upon completion of construction. Only EPC or EPCM<sup>5</sup> components of the project would be subject to a Process. As an alternative, construction management and project management services could be performed in-house and/or tendered, depending on the size and complexity of the project. Appendix C, Section C.2 to the Paper summarizes stakeholder comments on the advantages and disadvantages of the TFO EPC model.

Stakeholders supporting the TFO EPC model noted it meets with AESO's goals as set forth in the Discussion Paper. They also noted the model successfully mitigated landowner relationship risks present in the AESO EPC model. In the TFO EPC model, the incumbent TFO is responsible for landowner relationships from inception through decommissioning. No transfer of the relationship is required and landowner relationship risks are therefore mitigated.

Proponents of the TFO EPC model noted that significant risk premiums arising from an uncertain route and lack of regulatory approvals would be eliminated. A well-defined project, consisting of EPC or EPCM components only, would have limited risk premiums built in. Additionally, bidders of the model argued that life cycle costs would be optimized, given the incumbent TFO would design, operate and maintain the transmission facility.

Proponents of this model suggested financial innovation and efficiencies could be achieved by changing regulatory rules.

Not all stakeholders had the opportunity to comment on the TFO EPC model, therefore, the only disadvantages were those put forth by proponents of this model. Proponents suggested the model may be seen as favouring incumbent TFOs. Also, incumbent TFOs would require additional resources to implement the Process and provide project management oversight.

Stakeholder views differed with regard to the entity who should be responsible for developing and implementing a Process for EPC components of the TFO EPC model. One stakeholder suggested the incumbent TFO take on this responsibility. In this case, the AESO would determine any additional reporting requirements of the TFO during the bid and construction process and make sure it was fully satisfied with the Process undertaken by the TFO. Another stakeholder suggested that responsibility for tendering the EPC components be taken on by the AESO.

### **3.4.3 Stakeholder Feedback – The AESO Own Model**

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<sup>5</sup> EPCM refers to engineering, procurement, construction and management of construction.

Stakeholder views varied on whether the AESO Own model should be the one used to inject competitive pressures into the marketplace. Appendix C, Section C.3 to the Paper summarizes stakeholder comments on the advantages and disadvantages of the AESO Own model.

Certain stakeholders noted that if a single entity has ownership from inception to decommissioning, the AESO Own model creates a greater opportunity and incentive to optimize life cycle costs. However, as was the case with the AESO EPC model, certain stakeholders expressed concern that the Own model requires bidders to submit a bid and contractually agree to pricing in advance of the approval of a clear route or assured timing on regulatory approvals necessary to begin construction. This uncertainty may result in significant cost and timing risk for bidders, forcing them to demand significant risk premiums in their bid packages.

Certain stakeholders noted that the development and management of long-term landowner and stakeholder relationships are optimized when one entity holds, and is responsible for, the relationship from project inception to decommissioning. Other stakeholders expressed concern that a new TFO<sup>6</sup> would require additional time to develop these relationships, creating a risk to project timing. In addition, a new TFO might have policies and practices that differed from incumbent TFO policies, creating either advantages or disadvantages for landowners and other stakeholders. One stakeholder noted that a new TFO might already have established landowner relationships. Stakeholders opposed to the AESO Own model were of the view that the Process may result in loss of efficiency, e.g., duplication of operations and maintenance organizations or additional time being required to build successful relationships relative to the market structure that exists today. These parties would like to see a quantification of the benefits of any changes.

Stakeholders in favour of the AESO Own model noted that entities capable of developing and constructing large infrastructure projects are also primarily interested in the long-term return on investment that comes through ownership. Combining all aspects of a project into a single tender would therefore result in a greater number of interested bidders. This view differed from other stakeholders who believed the AESO EPC model would attract more bidders.

The group of stakeholders in favour of the AESO Own Model believed the model may bring new sources of capital, access to global supply chains, and would contribute to project discipline if predictable prices were a requirement of the bidding process, allowing for the transfer of risk from ratepayer to shareholder.

#### **3.4.4 Model Assessment**

Prior to a detailed assessment of the three models against the AESO's goals as described in Section 3.2 of the Paper, a review of the key design features of the current transmission market was undertaken to determine how key market design features may need to change to achieve the AESO's goals for the Process.

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<sup>6</sup> A successful bidder under the competitive process may not be a TFO as defined in the EUA if the successful bidder is a new entrant to the Alberta market. However by virtue of the contractual arrangements stemming from the competitive process, the successful bidder will be obligated to fulfill all the duties and responsibilities of a TFO for the CTI project until such time as the successful bidder becomes a TFO. For the purposes of this Paper, a successful bidder who is a new entrant to the Alberta market will be called a "new TFO".

### Current Design of Transmission Market

The current market design for transmission in Alberta can be described as a regulated oligopoly. Key characteristics of this market design include:

- Few players—there are currently primarily four (4) TFOs in Alberta with specific service areas<sup>7</sup>.
- The existence of barriers to entry—the transmission market is divided by service areas.<sup>8</sup>
- The absence of market pricing—TFOs are “price makers” through the use of cost of service rate making versus “price takers,” as seen in competitive markets.<sup>9</sup>

As the AESO develops the Process, it is focused on, and must determine the degree to which:

- (1) market entry is opened up; and.
- (2) the market moves away from “price making” through traditional cost of service rate making to “price taking” through a more balanced distribution of risk and the use of predictable price bids.

The AESO’s objective is to find the balance between “entry” and “pricing” that achieves the AESO’s stated goals.

From a general perspective, all three (3) competitive models, AESO EPC model, TFO EPC model and AESO Own model, differ in the degree to which competitive pressures are introduced into the transmission market. Using the concepts of entry and pricing, market entry is more limited in the AESO EPC model because new entry is restricted to upfront development and EPC work. The AESO EPC model is more in line with the service area concept currently in existence.

The TFO EPC model further restricts new entry to only engineering, procurement and construction activities. From an entry perspective, this model is almost identical to entry conditions of the current market design, particularly given that incumbent TFOs are already required, through existing ISO Rules, to competitively tender procurement of materials and construction activities.

In comparison, the AESO Own model provides an opportunity to admit new entrants into the Alberta transmission market, who would assume responsibility for the full scope and life cycle of the project. In the AESO Own model, service area barriers to entry are lowered and market entry is opened up to new market participants.

From a general pricing perspective, the AESO EPC and TFO EPC models have fewer components to which predictable pricing can be applied. In the AESO Own model, predictable pricing can be considered, managed and mitigated using the full spectrum of life cycle costs. A more detailed assessment, with the concepts of entry and pricing in mind, is provided below.

<sup>7</sup> ISO Rule 9 identifies 6 TFOs with service areas. The primary TFOs are AltaLink, ATCO Electric, ENMAX and EPCOR. The other two TFOs are the City of Red Deer and the City of Lethbridge.

<sup>8</sup> See Sections 28 and 29 of the *Hydro and Electric Energy Act*, and Section 24 of the T-Reg.

<sup>9</sup> Recognition is given to the fact that the “making” of price by existing TFOs is fully regulated by the AUC through prudency reviews.

#### AESO's Assessment of the AESO EPC Model

The AESO EPC model allows for entry on specific components of the project only. For the EPC component, cost efficiencies could be achieved through a predictable pricing arrangement, i.e., a turnkey arrangement.

Because the CTI facility is transferred on completion of construction— one entity is responsible for developing the CTI facility and a second entity is responsible for operating and maintaining it—life cycle costs may be suboptimal. Also, the development and management of long-term landowner and stakeholder relationships could need additional support as a result of such transfer.

The most significant risk associated with the AESO EPC model relates to the risk associated with upfront development work. Because of this risk, bidders may require significant risk premiums to offset upfront development risk. Unlike the AESO Own model, this risk cannot be offset over the life cycle of the CTI facility as it is transferred when construction is completed.

#### AESO's assessment of the TFO EPC Model

The TFO EPC model cannot be considered as it does not meet the requirements of the T-Reg despite the EPC component being competitively bid. The T-Reg requires that the determination of the person who is eligible to apply for the construction, operation or both of a CTI facility be based on the Process. In the TFO EPC model, that determination is not made as the AESO direct assigns to an incumbent.

#### AESO's Assessment of the AESO Own Model

The AESO Own model allows for entry of a new market participant (new TFO) who will take on responsibilities and accountabilities largely similar to those of an incumbent TFO. The new TFO has the ability to innovate across all aspects of the project, including financial innovation. The new TFO also has the ability to optimize costs across the life cycle of the asset particularly if predictable pricing is applied to various project components. Development and management of long-term landowner relationships are optimized when one (1) entity holds, and is responsible for, the relationship from project inception to decommissioning. Some timing risk may exist because the new TFO might require additional time to develop landowner relationships if they are new to Alberta and if their landowner policies and practices differ from the policies and practices of incumbent TFOs, i.e., what existing landowners are familiar with.

The most significant risk associated with the AESO Own model relates to the risk arising from upfront development work. Because of this risk,<sup>10</sup> bidders may require significant risk premiums to offset upfront development risk if predictable pricing is required.

Finally, the AESO agrees with the view that entities capable of developing and constructing large infrastructure projects are also primarily interested in the long-term return on investment that comes through ownership.

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<sup>10</sup> The Discussion Paper suggested various ways to manage the upfront development risks which received support from certain stakeholders.

An Illustration of the Model that Best Fits with AESO's Goals

Based on the assessment above, Table 3.2 below provides an illustration and summary of how well each model meets the AESO's goals. An "X" represents the model that best meets each goal. Where multiple "Xs" appear for a specific goal, each model is capable of achieving the goal.

**Table 3.2**

REVISED GOALS	AESO OWN MODEL	AESO EPC MODEL	TFO EPC MODEL
<b>MODEL GOALS</b>			
Model must result in the minimization of life cycle costs through the use of competitive pricing	X		
Create opportunity for maximum innovation throughout the life cycle of the CTI facility	X		
Create opportunity for new market entry	X		
Allocate risk to most efficiently and effectively reduce costs and mitigate risk	X		
Foster efficient investment, operation and maintenance of assets across the life cycle of the CTI facility	X		
<b>PROCESS GOALS</b>			
Open and consultative	X	X	X
Foster regulatory predictability	X	X	X
Straightforward and efficient	X		X
Clearly state the accountability of each involved	X		X
Achieve a reasonable level of transparency and consistency over time	X		X
CTI facility designed to ensure standards for performance and reliability are met and do not jeopardize the Alberta interconnected electric system	X	X	X

Consider obligations typically assumed by incumbent TFO	X		X
Selection criteria – See Section 5.3 and Appendix E & F of this Paper	X	X	X

### 3.4.5 AESO Response

The AESO supports advancing the AESO Own model as it best fits with its goals and objectives for the Process. The following points highlight the advantages of the AESO Own model.

- **Broader Market Participation**—diminishing entry barriers will increase competitive pressures in the marketplace. Competitive efficiencies are more limited when entry is restricted to certain components of a project as opposed to a whole project.
- **Life Cycle Efficiencies**—a single entity develops, operates and maintains the CTI facility, allowing it to optimize costs across the project’s life cycle.
- **Innovation**—allows for maximum innovation across the project’s life cycle, including financial innovation.
- **Landowner Relationships**—minimizes the risk of establishing and managing relationships with landowners because one (1) entity takes responsibility for relationships from project inception to decommissioning.
- **Performance and Reliability Standards**—standards can be specified as a requirement of the new entrant, e.g., the new entrant will become a new TFO subject to all TFO accountabilities and responsibilities with regard to performance and reliability standards.
- **Simple Administration**—the proposed model is simple in that it does not require transfers between entities and it limits the AESO’s involvement in transfer-related issues. Additionally, TFO responsibilities and accountabilities are well understood and well managed under the current regulatory regime.
- **Risk Considerations**—predictable pricing in the tender process is most successful when projects are well defined. Project uncertainty results in risk premiums being added to bidder pricing. The AESO recognizes that upfront development work and its impact on EPC work is not well defined. Section 5.1 of the Paper sets the framework for further discussion on this issue.

## 4. Additional Issues for Consideration

In the Discussion Paper, the AESO posed several questions relating to the role of the AESO and the AUC with regard to the Process, further regulatory changes to implement the Process, the role of the AUC over the life of the contract, provisions relating to performance and default and affiliate rule considerations.

### 4.1 Role of the AESO and AUC Relating to the Process

Changes to the EUA and recent amendments to the T-Reg, occurring after the publication of Discussion Paper, clarify the roles of the AESO and the AUC with regards to developing the Process.

In the Schedule to the EUA, the Government has designated four (4) transmission projects as CTI. On a go-forward basis, and as indicated in Section 41.1(1) of the EUA, the Government may designate certain transmission facilities as CTI if such facilities are contained in the plan prepared by the AESO. Additionally, AESO may recommend to the Minister transmission facilities which in the AESO's opinion merit designation as CTI under the EUA.<sup>11</sup> However when the AESO makes the above recommendation to the Minister, the AESO must complete the requirements of Section 11(3)(a) to (h) of the T-Reg in respect of those transmission facilities but no needs identification document is required.<sup>12</sup>

Additionally, amendments to the T-Reg, specifically Section 24.2, require the AESO to develop a Process for those CTI facilities referred to in Section 24(3)(a),(c) and (d) of the T-Reg. The application or adaptation of an approved Process to more than one transmission facility project, as contemplated in Section 24(8) of the T-Reg, may be considered at a future date.

Before the AESO implements the Process, it must obtain AUC approval of the Process. As indicated in Section 24.2(4) of the T-Reg, once the Process is approved by the AUC, the AUC must consider any resulting arrangements as prudent.

The AESO will direct an entity chosen as a result of the implementation of the Process to file a facilities application with the AUC for approval of a permit to construct and a license to operate the facility<sup>13</sup>. The AUC may approve or suggest amendments to the proposed siting and will hold public hearings on the facilities application, including the proposed route, at which affected landowners may intervene. The AUC's oversight of public consultation, route selection, environmental and economic assessment and the ultimate decision on whether to issue a permit to construct and a license to operate is still a part of the approval process.

As the AESO continues to develop the Process and through its upcoming Process application to the AUC, further clarity on the roles and responsibilities of the AESO and the AUC will be forthcoming.

#### **4.1.1 Stakeholders Comments**

Stakeholders provided few comments on the role of the AUC and the AESO relating to the Process. Certain stakeholders suggested the role of the AUC be limited to approving the Process. It was also suggested that the AUC be the adjudicator of complaints if questions arose that the Process was not properly followed.

Section 37 of the EUA requires every TFO to file a tariff application with the AUC for approval of the rates to be paid by the AESO to the TFO for the use of its facility. Stakeholders had varying views on whether a successful bidder would need to comply with Section 37 of the EUA, given that the T-Reg deems an arrangement resulting from the Process to be prudent. Those opposed to a successful bidder having to seek further approval of rates, above and beyond cost recovery provisions of the contracts/arrangements arising from the Process, were of the view that this would add additional regulatory uncertainty, and therefore risk, to bidders.

<sup>11</sup> Section 10.1(1) of the T-Reg

<sup>12</sup> Section 10.1(2) of the T-Reg and Section 41.2 of the EUA.

<sup>13</sup> See Section 41.3 of the EUA, Section 24.2(2) of the T-Reg.

#### **4.1.2 AESO Response**

The AESO is continuing to develop the Process and must also seek AUC approval of the Process. As discussed in Section 5 below, development of aspects of the Process model relating to risk sharing options and associated pricing schemes/cost recovery models and the contractual arrangements arising from the Process will allow the AESO to more clearly define the role of the AESO and the AUC as it relates to the Process.

The AESO intends to include costs paid for arrangements arising from the approved Process in the AESO tariff, similar to the inclusion of other approved costs. The costs will be recovered, in conjunction with other wires costs, through system access service charges to market participants.

## **4.2 Further Legislative or Regulatory Changes**

In its Discussion Paper, the AESO provided a table containing possible amendments to legislation that might be necessary to allow for the implementation of a Process for CTI.

#### **4.2.1 Stakeholder Comments**

Stakeholders were generally of the view that any required amendments would become clear once the details of the competitive model and development of the Process to support the competitive model were further advanced. Only one stakeholder provided specific comments with regard to current legislation and the need for legislative changes.

#### **4.2.2 AESO Response**

It is AESO's view that no further legislative changes will be needed to implement the complete process. However, if additional legislative changes are identified during the consultation period, those changes will be in place prior to implementation of the Process.

## **4.3 Role of the AUC Over the Life of the Contract**

See Section 5.2 of the Paper for a discussion on the arrangement / contract provisions arising from the Process including end of life considerations. Once end of life considerations are determined, the role of the AUC relating to this issue will be determined.

## **4.4 Contract Provisions**

See Section 5.2 of the Paper for a discussion on the contractual arrangements arising from the Process.

## **4.5 Affiliate Rules**

In its Discussion Paper, the AESO sought stakeholder input on how an affiliate rule might be structured to prevent any undue advantage for an incumbent TFO.

#### **4.5.1 Stakeholder Comments**

Stakeholders noted the relationship between an existing TFO and its unregulated affiliate are currently governed by AUC approved codes of conduct. Any changes to the code of conduct must not limit competition or participation of incumbent TFOs. Certain stakeholders also raised concerns with regard to a competitive advantage arising from government entities participating in the Process.

#### **4.5.2 AESO Response**

The AESO will use its best efforts to develop a Process that is fair and equitable for all market participants. As the AESO develops the Process and the RFQ/RFP documents, it will consider the inherent competitive circumstances held by potential bidders including circumstances related to cost recovery methods, taxes, subsidies or financing and whether any necessary provisions are required in the Process or the RFQ/RFP documents to address such circumstances.

Codes of conduct currently exist between a regulated entity and its non-regulated affiliates and provide the framework for how they must interact with respect to transactions, information sharing services and resources. Codes of conduct are approved by the AUC. In the event that a regulated entity is of the view that it is at a competitive disadvantage due to the provisions of its code of conduct, such regulated entity should address its concerns with the AUC including obtaining any necessary exemptions that the regulated entity may require.

## **5. Process: Items Requiring Further Discussion**

*The AESO seeks further stakeholder input on the following items.*

### **5.1 Risk Sharing Options – Cost Recovery / Pricing Arrangements**

In its Discussion Paper, the AESO indicated its interest in exploring pricing arrangements other than cost of service rate-making as a means of injecting competition into the market for transmission. Specifically, the AESO sought stakeholder comments on efficient risk-sharing options that would optimize the overall cost of CTI projects. The commentary below provides a more thorough discussion on this issue.

Under traditional cost of service rate making, ratepayers bear the costs of all risks associated with developing, constructing, operating and maintaining transmission assets over the life cycle of the assets, subject to a prudence review by the regulator. Because ratepayers have no ability to manage or mitigate risks, regulatory oversight ensures that the TFOs manage and mitigate risks in a reasonable manner. For those risks over which TFOs have no control and therefore cannot manage or mitigate, regulation allows the TFOs to recover the costs of these risks, subject to a prudence review. Examples include costs associated with route changes to accommodate landowners as projects are being developed or costs of project delay due to unanticipated environmental causes or catastrophic events.

The pricing scheme being contemplated in the development of the Process seeks to transfer certain risks to the owners of CTI facilities. The AESO seeks to change the paradigm of how risk is managed by transferring to the asset owner those risks that can best be managed by CTI facility owners. As a general principle, for those risks that are beyond the control of the CTI facility owner both during the bidding stage and during the life of the CTI facility, the AESO suggests that ratepayers and CTI facility owners have the opportunity to address these risks in a fair and equitable manner as and when they are identified.

Transfer of risk to asset owners requires a commensurate reward. However, a properly designed competitive tendering process, which includes a transfer of risk to the asset owner, requires bidders to better evaluate, quantify and manage the associated risks. The fact that bidders must compete motivates them to minimize rather than maximize their bid price despite taking on greater risk relative to cost-of-service rate making.

#### **5.1.1 Stakeholder Comments**

In general terms, and as shown in the AESO's revised goals for the Process, stakeholders support transferring risk to those parties best able to effectively manage and control risk.

The majority of stakeholders highlighted the potential for significant cost and timing risk to bidders because of the requirement to submit a bid and contractually agree to pricing in advance of the approval of a clear route or assured timing on regulatory approvals to commence construction. In their view, this risk could force bidders to demand significant risk premiums in their bid packages which may result in higher overall costs for the project. In recognition of the upfront development risks, several stakeholders suggested the AESO determine and secure the route in advance of the tendering process to eliminate the risk associated with route uncertainties.

Stakeholders noted that to fully respond to questions on pricing schemes a more comprehensive discussion of all contract terms, including the allocation of the full spectrum of risks, was required.

Stakeholders also noted the advantages of managing risk across the life cycle of project.

#### **5.1.2 AESO Response**

As the AESO develops the Process it is focused on, and must determine a better distribution of risk while making sure transfer or sharing of risk does not negate the benefits of the competition. The following points provide a framework for considering, allocating and managing risk.

##### General Principles

- A single entity that develops, constructs, operates and maintains a CTI facility over its life cycle has better opportunity to manage risks over the full life cycle versus over a shorter EPC period.
- The AESO recognizes the uncertainty associated with upfront development work and the impact this uncertainty has on timing and cost of the project. Typically, the upfront development work represents 3% to 7% of total costs. However, upfront development work

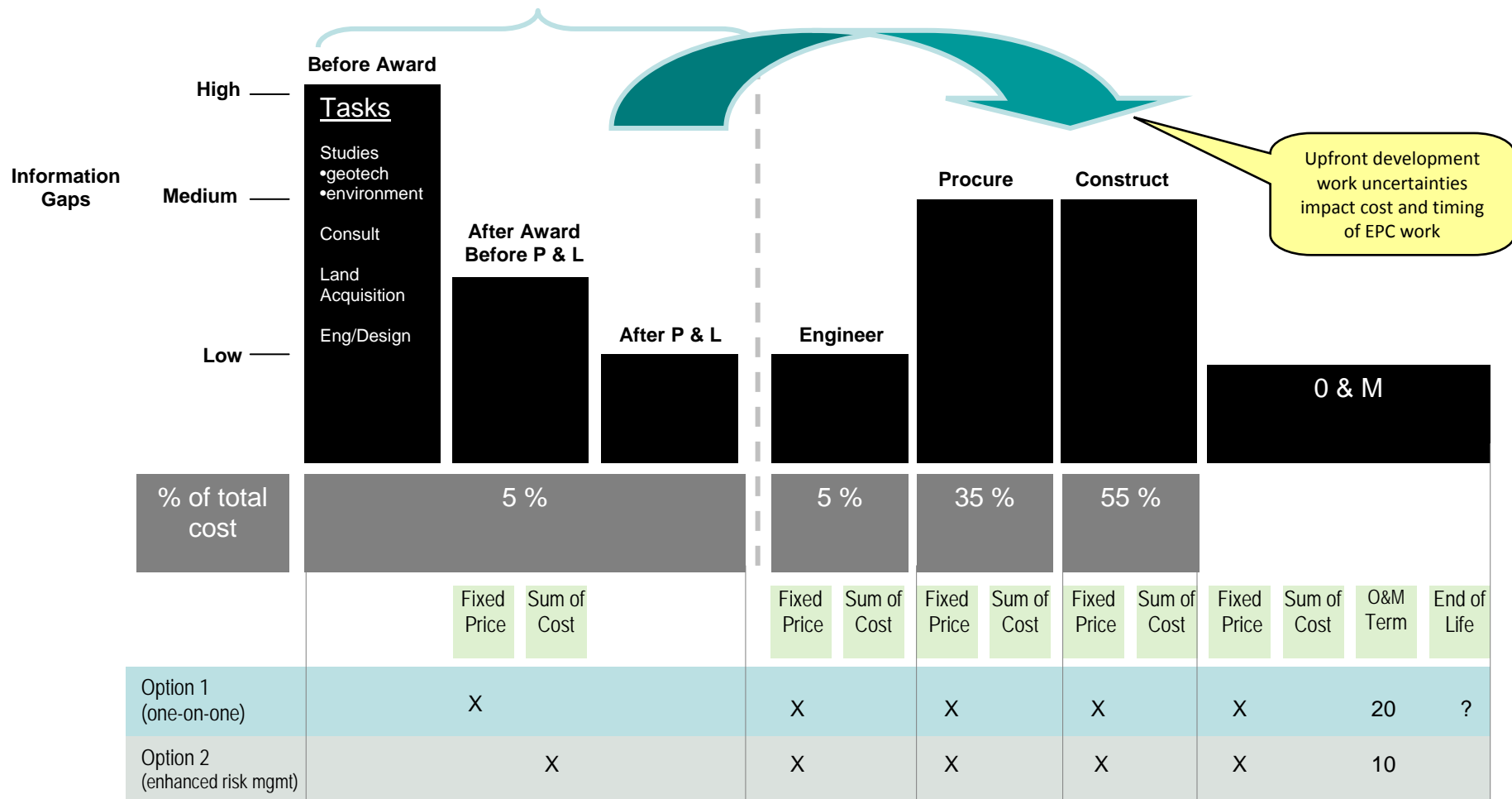
affects the remaining 93% to 97% of the project cost. The AESO will manage this risk through a cost recovery / pricing arrangement that fairly compensates the proponent for this risk.

- AESO proposes that risk and costs associated with upfront development work be shared between ratepayers and the successful bidder/its shareholders.
- The AESO will not establish a route in advance of the bidding process as the AUC is responsible for approval of specific routes through the facility application process. The AESO is studying information that it can make available to qualified bidders based on existing expertise within the AESO, other information available to the AESO and the time available for the bidding process.

#### Cost Recovery / Pricing Scheme Options

The illustration contained in Graph 5.1 provides two options for risk distribution.

Graph 5.1 – Framework for Cost Recovery / Pricing Arrangements



The illustration in Graph 5.1 conveys the following:

- The information gap for upfront development work, (1) before a project is awarded through the Process, (2) after a project is awarded but before the facility application is filed, and (3) after the winning bidder receives its permit and license, declines as the project advances through each phase.
- The information gap on upfront development work is considered “high” when bidders are expected to make a bid. This “high” information gap creates cost and timing risk for EPC activities. It may also create uncertainties for operation and maintenance components of the project.
- While upfront development work represents a relatively small percentage of total project cost (5% of total cost in the illustration), information gaps associated with upfront development costs can have an impact on procurement and construction costs. Procurement and construction costs make up 90% of total cost.
- In recognition of this risk, the AESO has put forward two options to manage this risk. The table on the bottom of the illustration in Graph 6.1 indicates whether bidders will be asked to provide fixed or predictable pricing (shown as fixed price in the table) for each of the key project components or whether pricing will reflect the sum of cost incurred, i.e, flow-through costs, subject to a prudence review by the AESO (shown as sum of cost in the table).

Each option is explained in more detail below.

#### Option 1

Under Option 1, bidders will be asked to submit the following:

- Fixed or predictable pricing for all aspects of the project;
- A predetermined index or set of indices for annual escalation of operation and maintenance expense;
- An estimate of route length based on a qualified bidders upfront development work and completed as part of the bid preparation;
- A unit rate (\$/km) that will be used to adjust bid price after AUC approval of the route, i.e., the route uncertainty adjustor;
- All three factors, fixed/predictable price, route length estimate and route uncertainty adjustor will be used in evaluating a qualified bidders bid;
- If the AUC-approved route is longer or shorter than bidder’s estimate of route, the bidder’s cost will be adjusted upward or downward using the unit rate against the incremental route length;
- The term of the operating and maintenance agreement will be 20 years; and
- The AESO is currently considering provisions *post* end-of-contract life; and

- Bidders will be required to meet performance specifications to ensure system reliability requirements are continuously met.

#### Option 2

Option 2 differs from Option 1 in two ways:

- Qualified bidders will be asked to submit fixed or predictable pricing for all aspects of the project except for costs associated with upfront development work. Bidders will be compensated for all reasonable costs incurred, as determined by the AESO, for upfront development work.
- The term of the operating and maintenance agreement will be 10 years and will be subject to tariff amendment in the following years.

***The AESO seeks stakeholder comments on other risk sharing options the AESO may consider for the AESO Own model.***

***The AESO also seeks stakeholder comments on all aspects of its cost recovery / pricing scheme including:***

- ***the implied allocation of risk under Option 1 and Option 2;***
- ***O&M escalation provisions including proposed indices;***
- ***Information the AESO could provide to assist with route estimation in advance of bid submissions;***
- ***Performance specifications; and***
- ***Contract term.***

## **5.2 Arrangements Arising out of Implementation of the Process**

In the Discussion Paper, the AESO made an initial reference to the contractual arrangements that may arise from the Process. At that time, it did not provide sufficient detail for an in-depth discussion of issues to be addressed. The AESO recognizes that a more comprehensive discussion of key issues is required.

Given the AESO has determined it will advance the AESO Own model, and in light of the work underway on the development of risk sharing options and associated cost recovery / pricing schemes for the AESO Own model, the AESO is currently developing:

- (1) the type of arrangement/contract that will result from the Process; and
- (2) the key provisions of the contractual arrangements.

***With regard to contractual arrangement arising from the Process, the AESO is seeking stakeholder identification of key project risks and commentary on ways of allocating the otherwise addressing these risks in a fair and equitable manner.***

The AESO will be undertaking an analysis of this commentary, experience in other jurisdictions and market precedents, with a view to developing contractual provisions that will be put in place to address these risks.

Stakeholders have provided some initial comments on this issue. These comments are, and will continue to be, incorporated into the development of this Paper.

### **5.3 Development of the RFQ and RFP Documents**

In the Discussion Paper, the AESO provided a structure for the RFQ document. It sought stakeholder comments on items to be included in the RFQ documents.

#### **5.3.1 Stakeholder Comments on the RFQ**

Certain stakeholders did not support the AESO providing expected routing citing complications during the AUC facility application process and possible court challenges. Stakeholder preference was for the AESO to provide only the end points of the CTI project. Other stakeholders suggested the AESO determine the route in advance of the tendering process.

As part of the RFQ document, stakeholders suggested the AESO provide a more detailed implementation schedule, inclusion of a qualitative statement on the rationale for the transmission facility, commentary on factors that result in a specific project being cancelled, and details on key commercial terms and a risk matrix. Additionally, stakeholders requested that the selection criteria limit qualified bidders to those who had demonstrated delivery in a system designed and managed similar to Alberta's current environment.

To hasten the timelines associated with the Process, some stakeholders suggested the AESO combine the RFQ and RFP processes.

#### **5.3.2 AESO Response**

The AESO agrees that it will not, nor can it provide an expected route to bidders. However, as discussed in Section 5.1 of this Paper, the AESO recognizes the risks associated with upfront development work, particularly the risks created by an uncertain route at the time of the bidding process. The AESO is exploring options to manage this risk through the cost recovery/pricing arrangements and is undertaking discussions with industry participants with the view of enabling the best and most accurate information for the Bidders in this stage of the competition.

A detailed schedule through award of the winning bidder can be found in Section 3.2 of this Paper.

The RFQ/RFP documents will include a qualitative statement regarding the rationale for a new CTI facility and will provide an indication of the circumstances that might lead to the procurement of the

new facility being curtailed, postponed or cancelled. The documents will also outline what will happen if there is a curtailment, postponement or cancellation but will not include statements regarding the likelihood of such occurrences.

The RFQ document will include an overview of key commercial terms and will allow bidders to understand the project risks they must take on.

The AESO is continuing to develop the RFQ document. As development continues, the AESO will continue to consider all stakeholder comments.

The AESO is currently developing the evaluation criteria associated with the selection criteria for each of the RFQ and RFP. A number of options are open to the AESO. The options include utilization of a weighted scoring system, a gated pass/fail system or some combination of the two. The AESO is currently examining the advantages and disadvantages of each of the models. A copy of the RFQ selection criteria can be found in Appendix E of this Paper.

### **5.3.3 The RFP**

In its Discussion Paper, the AESO did not provide details on the contents of the RFP. Work is currently underway to develop the contents of this document and will be aided by the completion of various other pieces of work under development.

One of the key documents of the RFP will be functional specifications. While work is continuing on all aspects of the RFP, Appendix G provides an example of the functional specification being considered for Fort McMurray.

## **5.4 Fort McMurray Project Components Subject to Bid**

Appendix G provides an overview of the functional specifications associated with the Fort McMurray project and each of its stages.

***The AESO seeks stakeholder comments, including advantages and disadvantages, on whether the stages of the project should be bid out as one project or whether each stage should be bid out separately.***

## **6. Next Steps**

The schedule contained in Section 3.2 provides an updated timeline for key milestones associated with the development, approval and implementation of the Process.

The AESO is committed to keeping stakeholders informed and looks forward to their comments on this Draft Recommendation Paper.

## **7. Appendices**

Appendix A – Discussion Paper Stakeholder Comment Matrix

Appendix B – Review of Competitive Procurement for CTI Facilities, Power Advisory, LLC, December 2010

Appendix C – Competitive Models Advantages and Disadvantages

Section C.1 – Advantages and Disadvantages of the AESO EPC Model

Section C.2 – Advantages and Disadvantages of the TFO EPC Model

Section C.3 – Advantages and Disadvantages of the AESO Own Model

Appendix D – Proposed Structure of the RFQ

Appendix E – List of Selection Criteria for RFQ

Appendix F – List of Selection Criteria for RFP

Appendix G – Functional Specifications Overview

## **Appendix A**

### **Discussion Paper Stakeholder Comment Matrix**

Click [here](#) to view attachment.

**Appendix B**  
**Review of Competitive Procurement for CTI Facilities**  
**Power Advisory, LLC - December 2010**

Click [here](#) to view attachment

## **Appendix C**

### **Competitive Models**

### **Advantages and Disadvantages**

*Sections C.1, C.2 and C.3 follow.*

## Section C.1

### *Advantages and Disadvantages of the AESO EPC Model*

#### **ADVANTAGES**

*AESO identified advantages of the AESO EPC Model as follows:*

- **Design and Construction Efficiencies** – ensures a competitive turnkey price on a significant component of the overall cost of a CTI facility.
- **TFO Operational Efficiencies** – leverages incumbent TFOs familiarity with operating and maintaining CTI facilities.
- **Establishment of Long-Term Landowner and Stakeholder Relations (Landowner Relationships)** – TFO has a coordination/consultation role with the EPC entity in upfront project development. Early engagement should lay the foundation for positive long-term relationships with landowners.

*Stakeholders identified advantages of the AESO EPC model as follows:*

- **Competition on the Biggest Portion of Costs** – compared to the AESO Own alternative, the EPC model strikes a better balance of achieving competition on the biggest portion of the cost without compromising other aspects of a project. Also viewed as having fewer unknowns resulting in more realistic bids.
- **Establishment of Long-Term Landowner Relationships** – TFO experience in navigating landowner and regulatory approval processes could reduce timing and regulatory risk.
- **Number of Participants** – EPC/EPCM tenders are commonplace, are well understood and would attract more participants than the AESO Own model.
- **Financial Engineering** - TFO use of a long-term contract could produce financial engineering results similar to the AESO Own model.
- **Existing TFO Experience** - significant experience and internal resources allow existing TFOs to navigate complex stakeholder and regulatory approval processes reducing timing and regulatory risk.
- **AUC and AESO Rules and Practices** – little change required.

#### **DISADVANTAGES**

*AESO identified disadvantages of the AESO EPC model as follows:*

- **Construction Capital** – is construction capital available and at what cost; there may be a cost premium associated with construction capital.<sup>14</sup>
- **Financing Efficiencies Unavailable** – employed traditional utility financing and may miss an opportunity for special financial vehicles.

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<sup>14</sup> The AESO proposes this could be resolved by having the incumbent TFO provide construction financing.

- **Sub-optimization of Life Cycle Costs** – resulting from a piecemeal approach where one (1) entity develops and constructs and another operates and maintains CTI facilities.
- **Establishment of Long-Term Landowner Relationships** – relationships and associated agreements must be transferred from the EPC entity to the incumbent TFO upon construction completion. Creates risk to positive long-term relationships with landowners over the life of the facility.
- **Warranty Required** - need for the EPC entity to provide warranty to avoid risk to ratepayers.

*Stakeholders identified disadvantages of the AESO EPC model as follows:*

- **General** – too similar to the model currently in use; providing no added cost or innovation benefits. Seen to favour incumbent TFOs. Would not be as successful as incumbent TFO's would be required to facilitate competition against themselves.
- **Significant Risk Premiums** – bids would include risk premiums to reflect timing and cost uncertainties around consultation, routing and permitting and therefore EPC costs which would make it difficult to compare bids.<sup>15</sup>
- **Sub-optimization of Life Cycle Costs** – agree with the AESO's position. Also, a design that differed from a TFO's current standards would result in higher operating and maintenance costs. Lack of standardization of design also places risk on safety management.
- **Establishment of Long-Term Landowner Relationships** - Landowner relationships at risk as incumbent TFO would have no decision making authority in this regard and would therefore have limited control in managing and/or mitigating issues.
- **Number of Participants** - a permit/finance/build/transfer model was considered unusual and introduces development and financing risks without the long-term reward of owning the asset. This model is expected to attract fewer bidders.
- **Administratively Complex** – stakeholders raised many questions related to this issue. Multiple questions arose on various issues relating to appropriate counterparties to various agreements, contract provisions, transfer arrangements, AESO/AUC/incumbent TFO / EPC entity roles, responsibilities and liabilities, difficult logistics of TFOs needing to be involved with all EPC bidders prior to bid award, etc. The issues raised highlight the complexity of structuring and administrating a model in this form.
- **Changing Traditional Roles** - departure from the AESO's traditional role resulting in increased workload, responsibilities, staffing requirements and possible legislative changes required.

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<sup>15</sup> Stakeholders noted the risk premium could be eliminated if the incumbent TFO performed development and facility application related work prior to the tender of the EPC work.

## Section C.2

### *Advantages and Disadvantages of the TFO EPC Model*

#### **ADVANTAGES**

*Stakeholders identified advantages of the TFO EPC model as follows:*

- **AESO Goals and Objectives** – aligns with AESO goals and objectives.
- **Market Entry** - through competitively bid EPCM or EPC component. Allows for impacts to existing system and processes to be assessed. Risks associated with making significant changes can be properly managed.
- **Competition on the Biggest Portion of Costs** – allows for a competitive turnkey price for EPC.
- **Risk Premiums** – risk premium substantially reduced or eliminated if incumbent TFO performs work related to development and facility application prior to the tender of the EPC work.
- **Innovation** – creates an incentive for innovation in design, development and construction methods. With regard to equipment, the bidding process allows latest innovations to be utilized.
- **Financial Engineering** - placing costs in the rate base results in the lowest long term costs because no risk margins are added to cost estimates. Financial innovation could be achieved with a change in regulation.
- **Operational Familiarity** – Incumbent TFO can continue ongoing operation and maintenance of the CTI facility.
- **Establishment of Long-Term Landowner Relationships** – relationship risk reduced because incumbent TFO can use existing practices. Also, no need to transfer or “hand off” relationship when facility is energized.
- **Number of Participants** – EPCM/EPC contracting is an established practice and well understood by current participants and the regulator.
- **Administratively Simple** – makes use of existing processes. No need to heavily qualify bids on the assumption that the AESO will backstop all associated risks because TFO becomes counterparty to EPC contract. Reduces the complexity of evaluating the bids. Provides an opportunity for enhanced reporting and increased transparency, which could save time in hearings and help promote continuity, efficiency and flow of project responsibility. No change to AUC and AESO rules and practices and existing TFO familiar with these practices.
- **Preserves Current Model** - preserves the advantages of legacy knowledge, experience, resources and culture of Alberta corporations. Ensures safety and reliability and adherence to AESO and TFO Standards. Utilizes clear accountabilities.
- **Other Jurisdictions** – TFO EPC model is more in line with what other jurisdictions are doing given complexity and magnitude of CTI.
- **TFO Performs Bidding Function** – eliminates need for AESO to staff up and eliminates risks associated with AESO’s lack of track record with regard to delivery of large infrastructure projects.

- **Staging** – allows for evaluation of the extent to which objectives have been met without introducing drastic changes to existing system, changes which might put CTI timelines at risk.

### **DISADVANTAGES**

*Stakeholders identified disadvantages of the TFO EPC model as follows:*

- **Favours Incumbent TFOs** – this model does not allow for new entrants and favours existing TFOs.
- **Additional Resource Requirement for Existing TFOs** – EPCM/EPC approach requires additional dedicated and experienced project management oversight to ensure adherence to cost and budget and to manage contracts.

### Section C.3

#### *Advantages and Disadvantages of the AESO Own Model*

##### **ADVANTAGES**

*AESO identified advantages of the AESO Own model as follows*

- **Full Life Cycle Efficiencies** – in preparing bids, bidders can look across the full life cycle of the project to identify and maximize efficiencies.
- **Establishment of Long-Term Landowner Relationships** – the AESO identified relationships with landowners as one of the most critical components of the facility application process. In this model, one (1) entity holds the relationship for the life of the project and is highly motivated to develop long-term sustainable relationships allowing for early identification and mitigation of all landowner/stakeholder issues.
- **New Entrants** – removes barriers to entry for new market participants.

*Stakeholders identified advantages of the AESO Own model as follows:*

- **General** – may bring new sources of capital and access to global supply chains. Other jurisdictions have successfully integrated multiple TFOs. The AESO Own model is seen as providing a better fit with AESO's stated principles, objectives and goals. Qualified bidders representing new entrants do not consider regulatory and other risks as being any different than the risk taken on by existing TFOs under existing process or by the entities associated with EPC type models.
- **Predictable Price Bids** – promotes project discipline and ensures commitment to scope, schedule, safety, force majeure considerations and cost, including management of re-routing risk, across the whole life cycle.
- **Full Life Cycle Efficiencies** – supports the use of full life cycle efficiencies to evaluate bids. Considers opportunities for TFOs to partner in order to provide more efficient O&M support post energization.
- **Establishment of Long-Term Landowner Relationships** – having one (1) entity assume and manage relationships over the life cycle is a sound approach. Results in more efficient negotiations with landowners when compared to AESO EPC model. Also, a new TFO may already have established landowner relationships in Alberta through business in its other sectors, i.e., pipelines.
- **Number of Participants** – expectation of a larger pool of qualified bidders relative to the AESO EPC model, creating a better competitive outcome. Entities capable of developing and constructing large infrastructure projects while bringing ratepayer benefit and innovation are also primarily interested in the long-term return on investment that comes through ownership.
- **Risk Sharing** – ability to transfer risk from ratepayer to the owner of the transmission facility.

##### **DISADVANTAGES**

*AESO identified disadvantages of the AESO Own model as follows*

- **Schedule** – development and implementation of the Process is expected to take one (1) year and will precede any upfront development work<sup>16</sup>.
- **Predictable Price Bids and Uncertain Development Costs** – bids established prior to a clear route being approved where all landowner issues have been resolved, and where CTI facilities have been fully approved by the regulator, creates bidder risk and may result in bidders demanding a significant risk premium. Risk premiums can offset some or all of the competitive benefits of the Process.<sup>17</sup>

*Stakeholders identified disadvantages of the AESO Own model as follows:*

- **Predictable Price Bids and Uncertain Development Costs** – stakeholders agree with the AESO's assessment that bidders may demand significant risk premiums to cover uncertainties. Stakeholders note that mitigating factors suggested by the AESO do nothing to manage timing uncertainties and costs.
- **Establishment of Long-Term Landowner Relationships** – new TFO landowner management policies may differ between incumbent TFO and new TFO, to either the advantage or disadvantage of landowners. Also, new TFOs will likely need additional time to establish relationships, which will add time to the schedule and may also put existing relationships at risk. The idea of several entrants approaching landowners will create confusion.
- **Quantify Benefits of Increasing Competitive Pressures** – stakeholders point to efficiency losses from to a number of factors including: duplication of operations and maintenance organizations, increased operating interface complexities and coordination, the time it takes to build successful landowner relationships when these relationships currently exist, use of an untested model, lack of a test period, inefficiency associated with non-standard designs, added process time, significant change in the AESO's role (to include taking on TFO responsibilities) and finally, lack of quantifiable analysis to support any change.
- **Schedule** – time associated with implementing a Process is untested and may be underestimated creating unacceptable risk for CTI projects.
- **Administratively Complex** – given the complexity of the Alberta interconnected electric system and the need to integrate items such as communications, engineering interfaces, document control and the instability associated with unique design, etc., the introduction of a new TFO would increase complexities to a point where the Alberta interconnected electric system is unmanageable.
- **Additional Resource Requirements for the AESO** – the AESO will require additional resources, resulting in increased customer costs.
- **Additional Responsibilities for the AESO** – significant change to the AESO's current role.

<sup>16</sup> The AESO notes this additional time will be managed through the planning process. While not mentioned in the Discussion Paper, a one-year period is also required for the AESO EPC model.

<sup>17</sup> The AESO notes this could be managed through the RFQ screening process and/or by allowing for a cost plus fixed fee (risk sharing) cost recovery mechanism.

## Appendix D

### Proposed Structure of the RFQ

This is an update of the proposed structure of the RFQ.

#### Proposed RFQ Structure

The RFQ will be sent to reputable domestic and international transmission developers. To ensure broad participation, the RFQ tender notice will also be published in professional journals and websites and will provide some indicative project value, together with a comprehensive explanation of the geographical significance and importance of the project to the development of infrastructure in Alberta. Potential proponents will have adequate time to thoroughly prepare their responses.

The RFQ sent to potential bidders will include, but is not limited to, the following:

1. Purpose of the RFQ.
2. **Background:** A brief chronology of, and relevant reference to, the Provincial Energy Strategy and ESA Act will be provided to familiarize potential bidders with the regulatory framework for Alberta's electric industry. This section will include reference to regulatory documents such as the EUA, T-Reg and *Hydro Electricity and Energy Act* (HEEA). Land rights and environment-related legal and regulatory documents will be identified.
3. **Description of the Selection Process:** Criteria for developing a short list of qualified bidders and final selection of the preferred bidder will be described in detail. Criteria will include how the respondent is proposing to organize itself, technical capability, financial capability, schedule, management and operational experience, landowner and aboriginal consulting experience and regulatory experience. The AUC-approved competitive process rules, including the decision-making process, will be provided. See Appendix E for a more detailed list of selection criteria.

***AESO is seeking comments on other criteria that stakeholders believe should be given consideration.***

4. **Description of Project:** A high-level description of the project will be provided, including maps showing the expected route, high-level technical requirements and estimated in-service dates. It will include the location of interconnections with the Alberta interconnected electric system and the requirements thereof, as well as a high-level description of the operating and dispatch protocol.

Respondents will be asked to submit the following information, documentation and security to substantiate their qualifications:

1. **Respondent Name and Organization:** Description of the respondent's legal business standing and how it proposes to organize for this particular project. If the respondent is a consortium, it must provide detailed information on ownership structure, roles and responsibilities and relationship with the parent companies along with the consortium's track record as a whole and the record of the constituent members of the consortium.

2. **Economic and Financial Standing:** Demonstration that the respondent has the necessary financial strength to support the expected expenditure level. Where the respondent proposes a combination of internal and external financing, it must describe, at a high level, the source and viability of such financing. For consortiums, the financial standing of each parent company as well as their willingness to backstop the project (in whole or in part) will be required.
  
3. **Management, Technical and Operational Capabilities:** Demonstration that the respondent has the appropriate management and technical capabilities to develop, own, operate and maintain critical infrastructure assets of similar magnitude and complexities. The respondent will be asked to provide the following, as a minimum, to support its capabilities:
  - (a) An overview of the respondent's typical organizational plan for an initiative such as the project proposed, including any partnership in respect of, or contracting / subcontracting of, significant work. If third parties are engaged as part of engineering, procurement and supply, construction, maintenance and/or operation, their roles and responsibilities in respect of the initiative, and to the bidder, must be described.
  - (b) A list of similar projects the respondent has successfully completed, operated and maintained and, where applicable, its partners and subcontractors. The bidder should provide client contact information for each such project.
  - (c) The resumes of top management personnel who, if awarded the project, would lead development, maintenance and operation.
  - (d) Project performance record, which includes, but is not limited to, safety and health, environmental, cost and schedule, operational reliability and government and public relations.
  - (e) Consultation experience with First Nations or other aboriginal groups. If the respondent has minimal experience in Alberta or Canada, bidder should provide a description of how it proposes to acquire such expertise.
  - (f) An overview of the respondent's experience with regulatory processes, acquisition of land-use rights and landowner and other required stakeholder consultations. If the potential bidder has limited experience in Alberta, bidder must describe how it proposes to acquire such expertise.
  
4. **Project Development and Execution Plan:** The respondent will be required to submit (i) a project development plan describing how it would propose to add value to the project while maintaining the in-service date; and (ii) how it intends to attract qualified and skilled personnel and project manpower to address the following key elements of the project:
  - (a) engineering
  - (b) site planning and environmental assessment
  - (c) permitting

- (d) stakeholder consultations
  - (e) land acquisition
  - (f) procurement of critical equipment
  - (g) construction / construction management
  - (h) commissioning
  - (i) maintenance
  - (j) operation
5. **Legal Standing, Pending Litigation and Potential Conflict Issues:** Demonstration that the respondent: (i) satisfies requirements that it is properly registered and authorized to do business in Alberta, (ii) is not involved in any relevant material litigation that, if determined adversely to the bidder, would prejudice the ability of the bidder to fulfil its obligations in respect of the project, and (iii) does not have any potential conflict of interest that may adversely affect its ability to tender for, or own and operate CTI in Alberta.
6. **Added-value Considerations:** Opportunity for the respondent to suggest alternative ways of doing things that the AESO may not have considered. If there is anything unique about the proposed project, or doing business in Alberta, or north-central Alberta or if the respondent believes there may be a more efficient or effective way of providing the proposed transmission infrastructure, the AESO would be pleased to consider same.

Any information that the proponent considers to be proprietary or commercially sensitive should be identified by the proponent as such and a request made to keep it confidential.

7. **Proponent Security:** As a condition precedent to being considered for qualification as a respondent who may submit a proposal, a respondent shall:
- (a) make payment to AESO (or Province of Alberta) of \$●; and
  - (b) provide AESO with security in the form of a letter of credit in the amount of \$● to secure its undertaking to participate in the RFP process in the event of the respondent's selection as an RFP bidder.

The item (a) security will be returned to bidder so long as the bidder has submitted a responsive RFQ. The item (b) security will be returned to bidder upon confirmation from AESO that either (i) the bidder has not been selected to participate in the RFP process; or (ii) the bidder has submitted a compliant and competitive proposal to the RFP.

8. **Certificate:** A duly authorized officer is required to confirm the accuracy of the submittal on behalf of the bidder.

***The AESO is seeking stakeholder comment on the inclusion of the foregoing in the response to the RFQ, as well as any other information a stakeholder believes should be included.***

## Appendix E

### List of Selection Criteria for RFQ

The following list contains those items that are intended be used as the selection criteria for the RFQ process. Proponents will be evaluated on a pass/fail basis. The RFQ selection criteria utilizes the Fort McMurray project as an example.

- (a) Evidence of the respondent's ownership and organizational structure;
- (b) Evidence of the respondent's technical ability to plan, design, construct, operate, and maintain a project similar in scope to the Fort McMurray Project;
- (c) Evidence that the respondent has the financial capability necessary to develop, finance, construct, operate and maintain the project;
- (d) A high level schedule including major milestones and proposed dates for competing milestones;
- (e) Evidence of the respondent's experience in designing, financing, constructing, operating and maintaining a project similar in scope to the Fort McMurray Project;
- (f) Evidence of the respondent's experience in designing, constructing, operating and maintaining a project similar in scope to the Ft McMurray project in climatic/seasonal conditions experienced in North Central Alberta;
- (g) Evidence of the respondent's experience with Front End Engineering Design and development work similar in scope to the Ft McMurray Project and consistent with the current Alberta legislative framework;
- (h) Evidence of the respondent's understanding, ability and plans to conduct consultation with affected landowners, First Nations, Métis and other relevant stakeholders in the Project area;
- (i) Letter of Certification from an authorized officer of the respondent, including confirmation of legal standing, pending litigation and potential conflict issues.

## Appendix F

### List of Selection Criteria for RFP

Overview of the selection criteria for the RFP.

- (a) The evaluation will contain two categories: Technical and Cost. The former will be based on compliance with AESO and government regulations and on Technical Specifications; the latter will be based on lowest cost;
- (b) The Technical may be a gated process: Yes or No. That is, the design and technical submission are assessed as compliant or not, as well as achievable or not; and
- (c) Cost is an assessment of a lump sum.

Technical Requirements (Gated):

- (a) Statement of all technical assumptions to permit evaluation of coherence and prudence;
- (b) Technical design (network based on start and end points);
- (c) Proposed route (primary and alternate);
- (d) Geotechnical report(s);
- (e) Re-statement of Project Scope to ensure understanding;
- (f) Schedule(s) (that end(s) with energization date or in-service date);
- (g) Consultation Plan;
- (h) Environmental Plan;
- (i) Project Management Plan; and
- (j) Operation and Maintenance Plan.

Financial Requirements:

- (a) Statement of all assumptions;
- (b) Lump sum submission; and
- (c) Unit cost submission.

## Appendix G

### Functional Specifications Overview

Click [here](#) to view attachment