



Discussion Paper: Interconnection Queue Business Practices

September 26, 2007

TABLE OF CONTENTS

1. Purpose
2. Background
3. Current Issue
4. Proposed Modifications
5. Alternatives Considered
6. Benefits
7. Consistency with Policy, Regulation, Legislation and Tariff
8. Implementation
9. Conclusion

Appendix A: Interconnection Process Milestone Obligations

1. PURPOSE

The purpose of this paper is to propose, for discussion, changes to Interconnection Process business practices respecting requests for interconnection to the transmission system by generation and load Customers (the “Interconnection Process”). Additionally, the paper outlines the key policy drivers for the proposal and how the proposed Interconnection Process fundamentally support providing open access; planning and developing transmission facilities to meet need in a timely manner; facilitating an openly, competitive electricity market; and reliable operations. Stakeholder input received through the consultation process for this discussion paper will be used to refine the proposal.

2. BACKGROUND

The AESO Interconnection Process is guided by the terms and conditions of the AESO Tariff, the ISO Rules and business practices developed to ensure efficient, reliable and non-discriminatory processing of generator and load interconnection applications. The Interconnection Process is used to establish priority in assigning AESO resources and allocating transmission capacity for planning purposes. In addition, the resulting queue of projects is used in assessing the sequencing of transmission system planning activities.

Specifically, the Interconnection Process allows the AESO to determine a project’s priority for:

- the AESO’s processing and studying of interconnection requests received in the form of Preliminary Assessment Applications (“PAA”s),
- an allocation of transmission capacity for planning purposes,
- the application of remedial action schemes (“RAS”) in the event of transmission constraints, and
- other operational and technical requirements that may be required for interconnection to occur.

As such, the Interconnection Process is instrumental in facilitating non-discriminatory access to the transmission system and is vital for effective transmission planning. However, it is important to note that the Interconnection Process does not determine the order projects eventually interconnect to the system, as many other factors, including the complexity of each project, impact the time it takes to complete a project from application to energization.

The Interconnection Process was developed through extensive stakeholder consultation in 2005, and requires Customers to financially and contractually commit to their project’s Interconnection Proposal, which is developed based on detailed studies and comprehensive generator modeling and includes the associated cost estimate for a project.

Significant interconnection application volume combined with the subsequent implementation of the 900 MW Reliability Threshold for wind generation introduced new pressure for changes to the AESO Interconnection Process. In response, the AESO conducted additional consultation on the Interconnection Process and interconnection sequencing in 2006. While there were many conflicting views, there was nonetheless general consensus on several important aspects of interconnection management:

- milestones, with consequences for non-compliance, were required to ensure appropriate allocation of resources and advancement of the queue,
- AESO should continue to accept new interconnection applications, and
- greater public visibility of the interconnection queue was needed.

For full details and conclusions from this stakeholder consultation refer to the AESO website >Key Projects>Wind Power Integration>Wind Power Interconnections.

3. CURRENT ISSUE

Currently, the combined effects of the following are producing unintended and undesirable consequences that are contrary to an efficient, reliable and non-discriminatory Interconnection Process:

- sequencing the allocation of transmission capacity for planning purposes for “committed” projects (those that had provided their Customer Contribution in the form of security under a Construction Commitment Agreement (“CCA”)) according to the date of Customer commitment,
- sequencing the allocation of transmission capacity for planning purposes for “uncommitted” projects according to the date of the Customer’s PAA,
- placing higher priority for “committed” projects in relation to “uncommitted” projects,
- allowing Customers in mid 2005 to achieve “committed” status by paying their Customer Contribution in the form of security under a CCA based on less detailed studies and costing, and
- lack of project progress milestones (i.e. the meeting of milestones and obligations) once a Customer has committed.

There are many factors which can impact the length in time it takes to advance a project to a point it would receive an Interconnection Proposal on which the Customer may base and submit their Customer Contribution. These include, but are not limited to, project complexity, need for bulk transmission development and associated timing, regulatory approvals, need for re-work in consideration of shifts in project development and the time required by the AESO to complete the Interconnection Proposal. In other words, establishing work priority based on the date the CCA is signed introduces variables outside the control of Customers (i.e., the time required by the AESO to study

and prepare interconnection proposals) and potential inconsistencies and, as such, is seen as unfair.

In addition, the AESO recognizes that establishing transmission capacity allocation for planning purposes based on a financial commitment by Customers under a CCA without a demonstration of progress through process milestones can result in the limited transmission capacity being allocated for planning purposes to projects that are not progressing. This problem is further exacerbated by a lack of established progress milestones that must be met once projects have committed and by the fact that a Customer can cancel their project and receive their financial commitment or other security (less incurred cost) generally at any time and without penalty.

Not only have the combined impact of these practices caused Customer dissatisfaction, they don't appear consistent with open access principles.

Current demand for transmission service far exceeds capacity in certain congested regions of Alberta, making improvements to the Interconnection Process urgent. Replacement of the 900 MW Reliability Threshold for wind generation with "The Market and Operational Framework for Wind Integration in Alberta", escalates the urgency for amending the current Interconnection Process. Clearly it is critical that AESO resources dedicated to all project interconnections, including wind, are properly utilized and that there is confidence that projects not progressing through the Interconnection Process will not be permitted to block access to transmission capacity for projects that are proceeding. This is essential to fair processing of all interconnection applications and to effective transmission planning.

4. PROPOSED MODIFICATIONS

By refining the Interconnection Process and being more stringent on the milestone requirements, the problems currently at issue can be alleviated considerably. The objectives of the proposed changes are to ensure that projects progress efficiently through the Interconnection Process, that transmission capacity is allocated effectively for planning purposes and that Customers are dealt with fairly and consistently throughout the planning and development of Customer interconnection facilities.

Key Modifications:

The following summarizes the key Interconnection Process modifications that the AESO believes are needed to address the identified interconnection processing issues. An outline of Interconnection Process Milestone Obligations is provided in Appendix A.

- allocation of transmission capacity for planning purposes and project work priority will be established at the time the Customer's PAA is submitted ("Queue Position")

- interconnection Customers will be required to meet standard process milestones in order to maintain their Queue Position and avoid cancellation of their project, unless, prior to the expiration of the milestone, they demonstrate that, for reasons “outside their control”, achieving the milestone was not possible and provide a commitment to meet the milestone within a reasonable extension.
- failure to complete Interconnection Process Milestones will result in cancellation of the Customer’s Queue Position, forfeit of the Customer’s application fee, and reassignment of any transmission capacity that may have been allocated to the project;
- if the Customer still wishes to proceed with the interconnection project, a new PAA and application fee are required and the project’s Queue Position will be based on its new PAA submission date.
- in the event of a cancelled project, costs and RAS for subsequent (later Queue Position) related projects will be reassessed accordingly.

Proposed Key Milestones:

1. Submit technical project data within 30 days of AESO’s receipt of PAA; technical project data must be sufficient to develop the Customer proposal,
2. Resolve data deficiencies within 30 days of notification from the AESO,
3. Submit written confirmation/authorization to proceed within 60 days of AESO issuing a Customer proposal,
4. Submit final technical data within 60 days of notification from the AESO; final data sufficient to support the need identification filing (“NIF”)
5. Sign Construction Commitment Agreement with the TFO within 60 days of NIF approval from the EUB.
6. Pay the System Contribution (generators only) and Customer Contribution within 90 days of receipt of the EUB Permit & License for interconnection facilities.
Note: the TFO can not (are not permitted to) begin construction without receipt of payment;
7. Sign the System Access Services Agreement 6 weeks prior to energization of the interconnection, to be effective upon energization.

AESO Obligations:

1. Make a reasonable effort to provide the Customer proposal within the “target” cycle time indicated on the Interconnection Process map.
2. Ensure a Customer’s Queue Position is not compromised as a result of the AESO’s failure to provide a Customer proposal within “target” cycle time.

For further details on the AESO interconnection process and timelines, refer to the AESO website >Transmission>Connecting to the Grid> Customer Interconnections>Industrial Load/Generator Process & Templates>Industrial Load/Generator Process or go to http://www.aeso.ca/files/Industrial_Generator_ISD_July_2007.pdf.

Also, refer to Appendix A: “Interconnection Process Milestone Obligations” for further elaboration of the process, milestones and obligations.

5. ALTERNATIVES CONSIDERED

Customer Procurement and Construction Milestones

Customer procurement and construction milestones were considered and evaluated in the May 2006 stakeholder consultation. They have not been included as key milestones based on the understanding and assumption that project economics at this stage, the CCA and other project agreements will provide sufficient tension to ensure continued and appropriate project progress. In the place of Customer procurement and construction milestones, the AESO proposes to rely on the expiry date of the Customer’s EUB construction permit to ensure that construction is progressing.

Right of First Refusal

A “right of first refusal” in the event an uncommitted project in the process of “committing” and “passing” other (higher queue position) uncommitted projects was considered and evaluated in the May 2006 consultation. However, this has not been included in the Interconnection Process modifications as the proposed modifications eliminate scenarios where a Queue Position will change as a result of a project commitment.

Project “Stalling”

The option to “stall” projects for milestone non-compliance was considered. This would have involved temporarily removing the non-compliant (stalled) project from the Interconnection Process (and Queue) until the milestone achievement was demonstrated. In the interim, the transmission capacity allocated to the “stalled” project would be released to projects that may have a lower Queue Position.

This approach introduces many complexities, reduces clarity of outcomes and increases the risk or perception of unfair consequences, particularly in the event the “stalled” project resumes and transmission capacity allocations need to be re-adjusted to the “detriment” of other projects. This approach also is less efficient (e.g. planning studies would likely need to be redone depending on circumstances – project stalling or resuming). Finally, under any circumstance, but particularly with congestion (operational or capacity), it is imperative that resources be allocated to progressing projects. Significant consequences for failure to progress are required to minimize the risk that transmission capacity gets allocated to projects that do not materialize. Given the numerous issues with this approach, “stalling” a project was not considered an acceptable solution.

Publication of the Generator Interconnection Queue

Publishing the generator interconnection queue was clearly identified by stakeholders as important and valuable. The AESO implemented this improvement in December 2006. The queue is generally updated quarterly. However, the AESO will continue to evaluate the need for more frequent updates. In addition, it is proposed that all interconnection applications eventually be included in the queue publication.

6. BENEFITS

The proposed modifications to the Interconnection Process address most, if not all, concerns that have been identified with regard to the current business practices for interconnection queue management. The key benefits include:

- Establishing transmission capacity allocation for planning purposes and work priority at the time the PAA is submitted provides added consistency and fairness and eliminates any concerns regarding other influences (i.e. AESO responsiveness) impacting project Queue Position.
- Establishing Queue Position at the time the PAA is submitted removes "queue jumping" (advancing Queue Position) by eliminating the higher priority (and position) of commitment projects in relation to uncommitted projects and, in so doing, improves the efficiency of conducting interconnection and transmission planning studies.
- Incorporating two stages of technical data submission allows Customers to provide machine data that may only be known after equipment is ordered at a more appropriate stage of the project.
- Establishing clear standard project milestones and non-compliance consequences clarifies milestone triggers, obligations and consequences and is expected to facilitate more efficient progression of interconnections and improve effectiveness of transmission allocation and planning.

7. CONSISTENCY: Policy, Regulation, Legislation & Tariff

The intent of the proposed changes to the Interconnection Process business practice is aligned with the AESO's legislated responsibilities and duties under the EUA and its regulations and the non-discriminatory and open-access principles established in both Electric Policy Framework and the Transmission Development Policy (TDP).

Queue Position at PAA

Establishing Queue Position at the time the Customer submits the PAA, allows consistent treatment regarding the trigger and timing for setting Queue Position. This consistency and the removal of other influences supports legislated obligation and

policy direction regarding non-discriminatory provision of transmission related services including transmission interconnection.

Establishing Queue Position at the time of the PAA is consistent with the TDP, which states that “transmission planning must be proactive in nature and must therefore lead load growth and generation development.” The TDP acknowledges that “to accomplish this, the ISO must initiate transmission preconstruction activities ... and may bring forward an “need application” to the EUB for approval to proceed with preconstruction activities.”¹ It also clarifies that “the [EUB] will therefore be required to take a more comprehensive and longer-term view of need, including approval of likely transmission corridors when there is still some uncertainty about the precise nature of the future load and generation configuration on the system.”²

Proactive planning is further reinforced in the *Transmission Regulation* which provides that “the ISO must anticipate future demand for electricity, generation capacity ... and ... make assumptions about future load growth, the timing and location of future generation.”³ The EUA similarly requires that the ISO “must forecast the needs of market participants and develop plans for the transmission system to provide efficient, reliable and non-discriminatory system access service and the timely implementation of required transmission expansions and enhancements.”⁴

Milestone Requirements and Cancellation for Non-Compliance

The TDP states that generators “may not prohibit interconnection or access ... by other generators or loads.” This is reinforced and restated in section 28(3) of the *Transmission Regulation*.

Milestones were envisioned in the TDP to ensure project progress and in order to prevent system access “blocking” during planning and development. “There are a number of significant milestone dates in a generation project schedule”⁵ and that “the ISO will be required to identify suitable generator project milestones, which will trigger construction and assure a continuing match of timelines between generation and transmission projects.”⁶

Section 11 of the *Transmission Regulation* emphasizes that “if the ISO’s preferred option under subsection 2 (h) is to construct a transmission facility at a future date, the

¹ Transmission Development Policy Paper; November 2003; page 7. Note that s. 37 of the *Transmission Regulation* provides the AESO with the authority to apply to the EUB for approval of operations preparatory to construction of a transmission facility and in advance of submitting an NID.

² Transmission Development Policy Paper; Alberta Energy Electricity Business Unit, November 2003; page 7

³ *Transmission Regulation*. A.R. 86/2007, s. 8.

⁴ *Electric Utilities Act*, S.A. 2003, c. e-5.1, s. 33

⁵ Transmission Development Policy Paper; Alberta Energy Electricity Business Unit, November 2003; page 7

⁶ Transmission Development Policy Paper; Alberta Energy Electricity Business Unit, November 2003; page 7

ISO must (a) be reasonably certain that, in the future, a transmission facility is needed, and for the purpose of determining the certainty of the need, the ISO may specify milestones.”⁷ Therefore, milestones that ensure project progress not only facilitate efficient, reliable and non-discriminatory processing of interconnection requests (system access), but also increase the value the Interconnection Process provides in developing reasonable transmission development plans.

Article 13.2(a) of the AESO Tariff currently requires the AESO and the Customer, in conjunction with the TFO, to agree on critical milestones with respect to project completion, clearly illustrating the expectation that milestones be used to ensure project progress. In addition, article 13.2(c) sets out the AESO’s options in the event a Customer fails to meet milestones, including project cancellation. Cancellation of projects for not meeting project milestones is clearly permitted under Article 13.2(c) of the AESO Tariff.

Tariff Amendments

The EUB has indicated, in Decision 2005-096, that the Customer should be able to determine its rights and responsibilities from the terms and conditions of the AESO Tariff and the pro-forma documents attached thereto. In addition, the AESO was directed to clarify in its business practice documents that Customer’s rights and responsibilities are spelled out in the AESO Tariff terms and conditions.

The AESO recognizes that the proposed modifications to the Interconnection Process are, in part, contrary to the current AESO Tariff terms and conditions. As such, the AESO intends to finalize key milestones and obligations through consultation on these modifications to the Interconnection Process, and will then pursue specific tariff amendments as needed into the terms and conditions of the AESO Tariff.

8. IMPLEMENTATION

The proposed modifications to the Interconnection Process would be implemented as follows:

Queue Position: Ensure fair treatment of existing projects by minimizing Customer impacts to Queue Position.

- Queue Position for any projects with applications received prior to the effective date for these modifications would be retained provided the customer maintains the financial obligations (applicable immediately) and meets progress obligations when proposed modifications become effective.
 - committed projects retain the existing Queue Position established by the date they committed (CCA) not their PAA dates;
 - uncommitted projects would retain their existing Queue Positions as established by their PAA (i.e. already queued by PAA).

⁷ *Transmission Regulation*, A.R. 86/2007; s. 11(3)

- Queue Position for project applications subsequent to the effective date of modifications would be, as per the business practice, at time of PAA

Transmission Capacity Allocation: Ensure transmission capacity is allocated for planning purposes to projects that are progressing.

- Committed projects retain the transmission capacity that was allocated to the project according to their CCA (commitment) date provided the Customer meets and maintains financial (commitment) and progress obligations required to retain transmission capacity.
- Committed projects that do not maintain financial obligations (see Security) or progress milestone obligations will be deemed cancelled, forfeit their Customer application fee, and any transmission capacity allocated to their project will be reallocated.
- Uncommitted projects received prior to the implementation of the proposed modifications will not have committed as yet and will, therefore, not have been allocated transmission yet. Since Interconnection Proposals can not be delivered prior to the necessary expedited implementation of the proposed modifications, uncommitted projects will not be in a position to commit prior to new rules and existing Queue Positions will be retained. Transmission capacity will then only be allocated to these projects after implementation of the proposed modifications and according to their Queue Position already established by their PAA.
- Transmission capacity allocated for planning purposes will be retained provided the Customer meets and maintains financial and progress obligations required to retain transmission capacity. If the Customer does not meet and/or maintain financial and progress milestone obligations, the project will be deemed cancelled, the Customer application fee will be forfeited and transmission capacity allocated to the cancelled project will be reallocated.

Security: Ensure fairness by requiring projects that established higher priority Queue Position and were allocated transmission capacity (for planning purposes) through commitment to maintain that security to retain these benefits.

- Security collected from committed projects must be retained for that Customer to maintain their priority Queue Position, allocated transmission capacity and application of AESO Tariff customer contribution policy terms and conditions established through commitment.
- Those projects that were permitted to substitute cash security for a line of credit (LOC) as a result of the implementation of the 900 MW Reliability Threshold for wind generation, will be required to revert their LOC back to cash security within 30 days of the changes to the threshold to retain their Queue Position.

Tariff Amendments: Pursue Tariff amendments necessary to ensure Customers are able to determine rights and responsibilities from the terms and conditions of the AESO Tariff and the pro-forma documents.

Stakeholder Impact: Ensure all impacted stakeholders, particularly Customers, understand their obligations under the modified Interconnection Process. Provide sufficient information and notice.

9. CONCLUSION

Effective and efficient management of the Interconnection Process is an essential element to providing open, non-discriminatory system access. It is also a vital tool in ensuring transmission is developed to meet need in a timely manner. As such, the AESO believes it is of utmost importance to move forward and implement the proposed modifications to the Interconnection Process in order to support these objectives and address identified concerns. The AESO recognizes the value and importance of stakeholder insight and seeks comment on the proposed modifications to the Interconnection Process, in particular, the proposed key milestones.

Appendix A

Interconnection Process Milestone Obligations

Interconnection Process Milestone Obligations

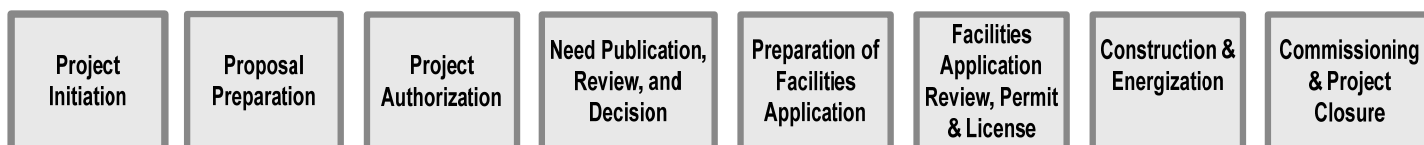
The following table sets out the key interconnection process milestones (“Milestones”), and associated obligations, which dictate how and when a Customer interconnection project progresses through the AESO’s Interconnection Process. A high-level overview of this process can be found on the AESO website at <http://www.aeso.ca/transmission/8895.html>.

Business Practice Objective: To facilitate efficient progression of interconnection requests; ensure reliable and non-discriminatory treatment of Customers; and fair and efficient assignment of work priority and transmission capacity.

The milestone obligations are based upon the following principles:

1. Preliminary Assessment Applications (“PAA”) will be used to establish queue position and to allocate transmission capacity and work priority to projects on a first come, first serve basis.
2. The AESO will work with the Transmission Facility Owner (“TFO”) in order to provide the Customer with an Interconnection Proposal in a timely manner.
3. The AESO will work collaboratively with the Customer and other industry participants (TFO, Distribution Facility Owners, Alberta Energy and Utilities Board (“AEUB”)), in an effort to achieve Customer requested in-service dates.
4. Milestones are put in place in order to ensure projects progress at a reasonable rate. Customers are required to meet the Milestones in order to maintain queue position, work priority and allocated transmission capacity.
5. Milestone obligations may be adjusted by the AESO in the event that a system transmission reinforcement is required, which could delay the Customer interconnection project’s in-service date.

The illustration below depicts the key process blocks within the Industrial Load/ Generator Customer Interconnection Process. A project is initiated with a PAA in the first block below.



The table following summarizes the Customer and AESO obligations within each process block. Missed Customer obligations will result in the cancellation of the interconnection application and forfeit of the Customer’s application fee. In the event a Customer decides to resume work following cancellation of the interconnection application, a new PAA must be submitted to the AESO. In this circumstance the Customer’s project will be placed at the bottom of the queue and work will resume according to the sequence of the new PAA in the queue.

Process Block	Interconnection Process Milestone Obligations	AESO Obligations
Project Initiation	<ul style="list-style-type: none"> Submit a PAA and fee. Associated technical data requirements submitted within 30 days of the PAA submission. 	<ul style="list-style-type: none"> Notify Customer of deficiencies within 15 days of receipt of application.
	<ul style="list-style-type: none"> Resolve data deficiencies within 30 days of notification from the AESO. 	<ul style="list-style-type: none"> Project will be cancelled if the data deficiencies have not been resolved within 30 days of notification.
Proposal Preparation	<ul style="list-style-type: none"> There are no Customer compliance obligations within this process block. 	<ul style="list-style-type: none"> The AESO will, using reasonable efforts, prepare the Interconnection Proposal within the timelines as outlined in the interconnection process. If the AESO is unable to meet the timelines as provided, the AESO will advise the Customer of the reason for the delay and provide a revised timeline.
Project Authorization	<ul style="list-style-type: none"> Submit written authorization to proceed within 60 days of receipt of the Customer Proposal. 	<ul style="list-style-type: none"> Project will be cancelled if written authorization has not been received within 60 days of receipt of the Proposal.
Need Publication, Review and Decision		<ul style="list-style-type: none"> Notify the Customer of the technical data required to support the Need filing.
	<ul style="list-style-type: none"> Submit the technical data required to support the Need filing within 60 days of notification from the AESO. 	<ul style="list-style-type: none"> Project will be cancelled if the data required has not been received within 60 days of notification. Once data is received, AESO submits the Needs Identification Filing (NIF) to the EUB.
Preparation of Facilities Application	<ul style="list-style-type: none"> Sign Construction Commitment Agreement with the TFO within 60 days of NIF approval from the EUB. 	<ul style="list-style-type: none"> Provide Functional Specifications for use in preparation of Facility Application Provide Direction Letter to TFO to file Facility Application
Facilities Application Review, Decision, Permit & License		<ul style="list-style-type: none"> Bill the Customer for the System Contribution (Generators only) and Customer Contribution prior to receipt of issuance of Permit & License (“P&L”).
	<ul style="list-style-type: none"> Pay the System Contribution (Generators only) payment within 90 days of receipt of P&L. Pay full Customer Contribution prior to the beginning of construction of the TFO facilities. 	<ul style="list-style-type: none"> Ensure Customer Contribution is paid prior to construction.
Construction & Energization		<ul style="list-style-type: none"> Prepare the System Access Services agreement.
	<ul style="list-style-type: none"> Sign the System Access Services agreement 42 days prior to energization. 	<ul style="list-style-type: none"> Energization certificate is withheld if the System Access Services agreement is not signed 42 days prior to energization.

*All timelines are in calendar days.