



**Ontario Energy Board**

Commission de l'énergie de l'Ontario

# The Ontario Energy Board's generation connection reforms

Wind Power Standing Committee  
November 19, 2009

# Mandate of the OEB - Guiding Objectives (electricity)

- To protect the interests of consumers with respect to price and the reliability and quality of service
- Promote economic efficiency and cost effectiveness
- Maintain a financially viable industry



# What does the Green Energy Act mean for the Board?

- *Three new objectives:*
  - To promote electricity conservation and demand management;
  - To promote the development of renewable energy resources; and
  - To facilitate implementation of a “smart grid”.
- *Among our new duties*
  - Ensure transmitters and distributors are planning and building their systems to accommodate renewable generation



# Implications of Green Energy Act for regulation

- OEB electricity regulation was established for a market context where investment driven by markets and generators competed with each other.
- Under Green Energy Act, investment is driven by green generators applying for FIT contracts. Generators don't compete.
- Board must ensure transmitters and distributors:
  - Make available existing connection capacity and manage it fairly;
  - Plan and build out their systems to connect generators; and
  - Ensure load customers pay for prudently incurred costs associated with these upgrades.



# We have changed our policies and codes to address this legislation

- The changes fall into five broad categories:
  - More rational and efficient connection processes for all generators;
  - Simpler settlement processes for FIT;
  - Shift costs from renewable generators and share fairly among ratepayers;
  - Deal with distributor-owned generation; and
  - Encourage rational network planning and investment.
- Most relevant changes for wind power:
  - Enabler lines
  - Connection process (distribution)
  - Connection cost responsibility



# Transmission System Code Changes – Enabler Facilities



# Proposed Transmission System Code changes – enabler lines

- IPSP identified a problem with getting remote clusters of renewable resources connected to the grid
  - Connection facilities are generator's responsibility, not transmitter's
  - Coordination may be difficult to arrange
- Board has proposed changes to address:
  - Designate a transmitter to develop and build the connection facilities; and
  - Generators share the cost on pro-rata basis when they connect, ratepayers pay for any unused capacity.



## Conditions under transmitters can be designated to develop enabler facilities

- The cluster must consist of two or more projects and be one of the following:
  - Identified in an approved IPSP;
  - Identified in a procurement directive to OPA;
  - Identified in an approved transmission plan; or
  - Identified by the OPA in the FIT process.
- For FIT process, Board expects the OPA will screen to ensure enablers are:
  - At least 10 km in length (when a line is required); and
  - At least 100 MW in total connection capacity required.



# What the enabler process will “enable”

- Get transmitter working on developing the facilities, i.e., route planning, consultation, detailed engineering, environmental approvals at an early stage, overcoming “chicken and egg”.
- Provide comfort to transmitter that they will be able to recover development costs.
- Provide comfort to generation project developers (and OPA) that the enabler facilities are being developed, encouraging more projects.
- More projects means more likely to proceed.



# Generation Connection Process



- Amendments to the DSC Generation Connection and Capacity Allocation Process [EB-2009-0088]
  - In response to *The Green Energy and Green Economy Act, 2009* new objective for the OEB to promote renewable generation
  - To support the OPA Feed-In-Tariff Program for procurement of renewable generation
  - Original proposed amendments issued May 14, 2009; revised proposed amendments issued August 10, 2009; final amendments issued September 21, 2009
  - Amended DSC is now posted on the Board's web site
- Objectives of the Proposed Amendments
  - To allow for those projects that are ready willing and able to proceed to obtain a capacity allocation to connect
  - To ensure that those projects that are granted a capacity allocation to connect do move forward and do not impede others

# Proposed Amendments to the Distribution System Code

- Move from a first-come / first serve queuing approach to a capacity allocation / ability to connect approach
- Incorporates Connection Application / Connection Impact Assessment (CIA) prerequisites
  - Capacity must be available to support the proposed connection
    - On existing or approved infrastructure
    - On the distributor's system as well as on up-stream systems [host distributor; TS; transmission system]
  - Proposed in-service date must be within 3 years [5 years for water power projects] of initial application date or in accordance with the timelines in an OPA contract
  - Projects must be able to demonstrate site control
  - Projects must provide full technical information required by the distributor to complete the CIA study

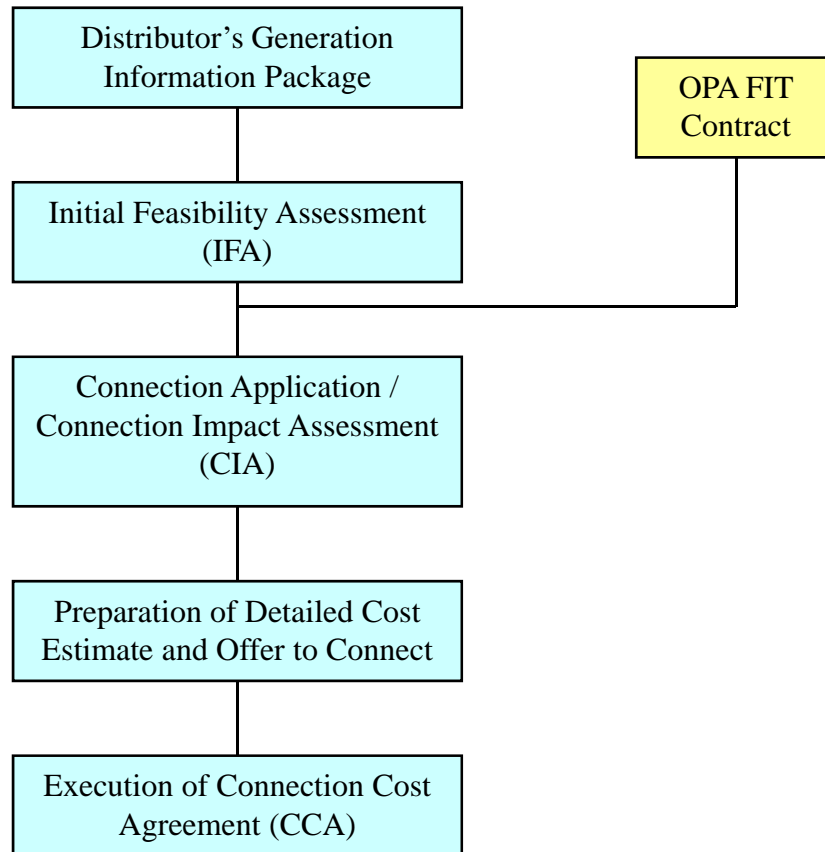


# Proposed Amendments to the Distribution System Code (Cont'd)

- **Requires a stronger commitment at the time of execution of the Connection Cost Agreement (CCA)**
  - Connection Cost and Capacity Allocation security deposits
    - A Connection Cost Deposit equal to 100% of estimated allocated cost to connect on execution of the CCA
    - A Capacity Allocation Deposit equal to \$20,000 per MW payable on execution of the CCA [Not applicable to OPA FIT projects]
    - An Additional Capacity Allocation Deposit of \$20,000 per MW payable 15 months after execution of the CCA if the project is not yet connected to the distribution system [Not applicable to OPA FIT projects]
  - Execution of the CCA within 6 months of receiving a capacity allocation
  - Scheduled in-service date must be within 3 years / 5 years of initial application date, or in accordance with an OPA contract
  - Requires generators to complete their engineering design and provide detailed electrical drawings to the distributor at least 6 months before the proposed in-service date or as required by the distributor
- **Deals with projects that already have a capacity allocation**
  - Proponents must pay connection cost and capacity allocation deposits if they wish to proceed with their project
    - Projects with a CCA - within 60 days of being notified by the distributor
    - Projects without a CCA - may be allowed additional time [eg: if 12 month time limit not yet reached or a required SIA is not yet completed]
  - Distributors must notify proponents of their requirements within 60 days of the amendments coming into force



# The Generation Connection Process



- The Distributor's Generation Information Package [Section 6.2.3]
  - An added requirement to include the basis for feeder and substation technical capacity limits associated with the connection of generation [eg: feeder design current carrying capacity and substation transformer reverse flow capability]
- The Initial Feasibility Assessment (IFA) [Section 6.2.9.1]
  - An added requirement to provide, upon request, information about the amount of additional accumulated generation that can be accommodated on specific feeders and/or substations

- The Connection Application / Connection Impact Assessment (CIA) [Section 6.2.4.1]
  - This step now occurs after OPA has issued its FIT Contract [except in the case of MicroFIT]
  - Project prerequisites have been incorporated
- Capacity Allocation [Section 6.2.4.1]
  - Distributors will now allocate capacity only after all CIA's / technical reviews have been completed [distributor CIA; host distributor CIA; transmitter TS review]

# Generation Connection Process (Cont'd)

- Removal of allocated capacity [Section 6.2.4.1]
  - If legacy projects do not pay deposits in the time allotted
  - If there is a material change to the generation project that can not be accommodated within the initial CIA / capacity allocation
  - If a CCA is not executed within 6 months of receiving a capacity allocation
  - If proponents default on the terms and conditions of an executed CCA
  - If proponents default on an OPA Contract



# Generation Connection Process (Cont'd)

- Cost Estimates and Offer to Connect [Section 6.2.12 / 6.2.16]
  - No change from existing requirements
  - For small size generation facilities, distributors shall provide the CIA, detailed cost estimate and offer to connect within:
    - 60 days if no system reinforcement or expansion is required
    - 90 days if system reinforcement or expansion is required
  - For mid-size or large generation facilities,
    - CIA to be provided within 60 days for mid-size or 90 days for large generation facilities
    - Detailed cost estimates and offer to connect to be provided within 90 days of receipt of payment or 30 days after receipt of comments from a transmitter or host distributor
- Connection Cost Agreement (CCA) [Section 6.2.18]
  - New mandatory terms and conditions added



# Connection Cost Responsibility



# Connection Cost Responsibility Amendments

- Purpose:
  - Facilitate implementation of the Government’s policy objectives regarding renewable generation
  - New objective for the OEB to “promote the use and generation of electricity from renewable energy sources”
  - New deemed licence conditions for distributors:
    - plans for the expansion or reinforcement of their respective systems to accommodate the connection of renewable energy generation facilities
    - expand or reinforce their respective systems to accommodate the connection of renewable energy generation facilities



# Previous Cost Responsibility Rules

- Generator responsible for paying all of the costs of connecting, including upstream distribution and transmission upgrades



# Adopted Cost Responsibility Rules

- New cost responsibility rules based on type of investment:
  - Connection Assets (generator responsible)
  - Expansions (\$90,000/MW cap; distributor/generator responsible)
  - Renewable Enabling Improvements (distributor responsible)



# Consultation Process

- Notice issued on June 5, 2009
  - 28 comments received
- Revised Notice issued on September 11, 2009
  - 14 comments received
- Final Notice issued on October 21, 2009



- Definition of Connection Assets (No Change):

*“portion of the distribution system used to connect a customer to the existing main distribution system, and consists of the assets between the point of connection on a distributor’s main distribution system and the ownership demarcation point with that customer”*

- The generator will continue to be responsible for the cost of the connection assets

# Expansions

- Revised Definition of Expansion

*“a modification or addition to the main distribution system in response to one or more requests for one or more additional customer connections that otherwise could not be made, for example, by increasing the length of the main distribution system, and includes the modifications or additions to the main distribution system identified in section 3.2.30 but in respect of a renewable energy generation facility excludes a renewable enabling improvement”*

- Section 3.2.30 identifies the following:

- Building a new line
- Upgrades from single-phase to three-phase
- Rebuilding a line with a larger size conductor
- Rebuilding an existing line to provide an additional circuit to the generator
- Converting a lower voltage line to higher voltage



# Cost Responsibility for Expansions

- Expansion costs up to and including \$90,000/MW to be allocated to the distributor
  - Expansion costs above \$90,000/MW to be allocated to the generator unless the expansion is in a Board-approved plan, in which case all of the expansion costs are allocated to the distributor
  - Upstream upgrades to the system of a host distributor or of a transmitter are not to be included in the cap calculation. Upstream cost triggered by a specific generation connection on the distribution system would continue to be paid for by the generator



# Cost Responsibility for Expansions

- Applications with Multiple Connections:
  - Expansion cost cap based on the aggregate capacity of the generation projects
  - Costs in excess of the cap allocated on a pro rata basis based on capacity



# Renewable Enabling Improvements

- **New Definition:**

*“a modification or addition to the main distribution system identified in section 3.3.2 that is made to enable the main distribution system to accommodate generation from renewable energy generation facilities”*
- **Section 3.3.2 identifies the following:**
  - modifications or additions to allow for and accommodate 2-way electrical flows, as opposed to radial flow
  - modifications to, or the addition of, electrical protection equipment
  - modifications to, or the addition of, voltage regulating equipment
  - the provision of protection against islanding (transfer trip or equivalent)
- **Costs for Renewable Enabling Improvements are the distributor’s responsibility**



- Responsibility for Upstream Costs:
  - Generator continues to pay
- Treatment of Transformer Stations:
  - Connection to a distributor that requires upgrade to a TS that is owned by the distributor and has been deemed to be a distribution asset in its rate base would be considered an “expansion”
  - Other TS upgrades (i.e., to a host distributor or transmitter owned TX) would be considered upstream costs with cost responsibility falling on the generator

- **Contestability:**
  - Expansions contestable where the cost exceeds the renewable expansion cap
- **Administration of Rebates:**
  - Renewable expansion cap reduced by rebate amount
  - Decision on whether eligible renewable generators should receive rebates deferred

# Adopted Amendments: Coming Into Force

- With respect to expansions that are associated with an application to connect, the assignment of cost responsibility as set out in the Amendments, apply only to the extent that the expansion relates to an application to connect made after the date on which the Proposed Amendments come into force
  - Application occurs when the generator files with a distributor the necessary materials to formally request a connection to the distribution system as described in the applicable portion of Appendix F of the DSC



# Summary of New Connection Cost Responsibility Rules

Investment Type	Previous Cost Responsibility	New Cost Responsibility
<p>Connection Assets</p> <ul style="list-style-type: none"> <li>• Dedicated facilities to connect a customer to the existing main distribution system.</li> <li>• Not expected to be shared by other users.</li> </ul>	Generator	Generator
<p>Expansion, including:</p> <ul style="list-style-type: none"> <li>• Rebuilding single-phase to the generation facility location</li> <li>• Rebuilding an existing line with larger size conductor to the generation facility location</li> <li>• Converting a lower voltage line to operate at higher voltage</li> </ul>	Generator	<p><b>When investment triggered by a specific generator connection:</b></p> <ul style="list-style-type: none"> <li>- For costs up to cap: Distributor</li> <li>- For costs above cap: Generator</li> </ul> <p><b>When investment contained in a Board-approved plan or otherwise approved or mandated by the Board:</b> Distributor</p>
<p>Renewable enabling improvements:</p> <ul style="list-style-type: none"> <li>• Accommodating 2-way electrical flows</li> <li>• Electrical protection facilities</li> <li>• Voltage regulating equipment</li> <li>• Protection against islanding (transfer trip or equivalent)</li> </ul>	Generator	Distributor



# How are new and existing projects affected?



# Dealing with New Projects

## Distributor Treatment (as per DSC) of New Generation Projects

Type	Will the generator be required to pay Capacity Allocation Deposit (s)? <sup>[1]</sup>	Will the generator be eligible for the new connection cost responsibility rules for renewable projects? <sup>[2]</sup>
Capacity allocation exempt seeking FIT or microFIT	No	Yes
Larger renewable project seeking FIT	No	Yes
Other renewable (no OPA contract)	Yes	Yes
Nonrenewable project	Yes (unless equivalent security is paid to the OPA)	No

<sup>[1]</sup> For new projects where Connection Cost Agreement is executed after September 21, 2009 unless project is required to pay an equivalent security to the OPA (as is required in the FIT contract)

<sup>[2]</sup> For renewable projects that applied for connection after October 21, 2009



# Dealing with Existing Generation Projects under OPA Transition Options

## Distributor Treatment (as per DSC) of Existing Generation Projects with CIA

<b>Contract status</b>	<b>Will the generator need to rescind CIA?</b>	<b>Will the generator be required to pay Capacity Allocation Deposit (s)?<sup>[1]</sup></b>	<b>Will the generator be eligible for the new connection cost responsibility rules for renewable projects?<sup>[2]</sup></b>
Unchanged (RESOP or no OPA contract)	No	Yes	No
Amended RESOP <sup>[3]</sup>	No	Yes	No
RESOP (or no OPA contract) to FIT	Yes	No	Yes
Capacity Allocation exempt RESOP to FIT	N/A	N/A	N/A
Non-Renewable	No	Yes	No

<sup>[1]</sup> For new projects where Connection Cost Agreement is executed after September 21, 2009 [FIT Contracted exempted] or for existing projects that had a capacity allocation on September 21, 2009 and did not rescind that existing capacity allocation

<sup>[2]</sup> For renewable projects that applied for connection after October 21, 2009

<sup>[3]</sup> OPA has provided transition options to certain RESOP projects, extending the in-service date by one year for some, increasing contract payments for others. Although the extension options require the payment of a security to the OPA, these projects will nevertheless be obliged to pay capacity allocation deposits per the DSC.



- Board's reforms are part of the larger set of reforms to implement the Green Energy Act.
- We have been and will be working with other agencies to ensure such reforms are consistent, while remaining aware of our obligations to protect consumers.
- For more information
  - [www.oeb.gov.on.ca](http://www.oeb.gov.on.ca)