



Ontario Energy Board

Commission de l'énergie de l'Ontario

Green Energy Act Implementation

Board Staff Presentation to

CanWEA

December 4, 2009

Overview

- Introduction (Peter Fraser)
- Transmission Connection and Enabler Facilities (Peter Fraser)
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Connecting to the Transmission System



Connecting to the transmission system

- The process for connecting to the transmission system is set out by the IESO.
 - Anyone planning to construct a new or modified connection to the IESO-controlled grid is required to apply to the IESO and complete the Connection Assessment and Approval (CAA) process.
- The responsibility for the connection is set out in the Board's Transmission System Code.
 - Normally, generators are required to provide their own dedicated connection facilities to connect to the existing transmission system; that is, they have to plan, design, construct, own and maintain these facilities.
 - If the connection facilities include a transmission line longer than 2 km, a Leave to Construct is required from the Board.



Transmission System Code changes – enabler lines

- However, the 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 made changes to address this exceptional situation:
 - 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 (Distribution System)



Overview

- Amendments to the DSC Generation Connection and Capacity Allocation Process [EB-2009-0088]
 - Final Amendments were issued and came into force on September 21, 2009
 - The Amended DSC is now posted on the Board's website
- Objectives of the 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



Benefits for Generators

- 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]



Benefits for Generators

- Additional information available for Generators:
 - Generation Information Package [Section 6.2.3]
 - Include feeder and substation technical capacity limits associated with the connection of generation [e.g.: feeder design current carrying capacity and substation transformer reverse flow capability]
 - Establishing Technical Capacity Limits based on how the distribution system is planned and designed.
 - Initial Feasibility Assessment (IFA) [Section 6.2.9.1]
 - Distributors to provide, upon request, information about the amount of additional accumulated generation that can be accommodated on specific feeders and/or substations



Generation Connection Requirements

- Prerequisites Incorporated - Connection Application / Connection Impact Assessment (CIA)
 - Capacity must be available to support the proposed connection, or in accordance with an OPA contract
 - On existing or approved infrastructure
 - On the distributor's system
 - On up-stream systems [host distributor; TS; transmission system]
 - Proposed in-service date must be within 3 years [5 years for water power projects]
 - Projects must be able to demonstrate site control
 - Projects must provide full technical information required by the distributor to complete the CIA study



Generation Connection Requirements

- **New Commitments at the time of execution of the Connection Cost Agreement (CCA)**
 - Generators to complete / deliver: engineering design and provide detailed electrical drawings at least 6 months before the proposed in-service date or as required by the distributor
 - Connection Cost and Capacity Allocation security deposits
 - Connection Cost Deposit equal to 100% of estimated allocated cost to connect
 - Capacity Allocation Deposit equal to \$20,000 per MW [Not applicable to OPA FIT projects]
 - Additional Capacity Allocation Deposit equal to \$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]



Generation Connection Requirements

- **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 [e.g.: if 12 month time limit not yet reached or a required SIA is not yet completed]
 - November 21, 2009 – Deadline for Distributors to notify Proponents with capacity allocations



Generation Connection Requirements

- **Removal of allocated capacity [Section 6.2.4.1]**
 - If existing projects that already have a capacity allocation do not pay required 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
- **Cost Estimates and Offer to Connect [Section 6.2.12 / 6.2.16]**
 - No change from existing requirements
- **Connection Cost Agreement [Section 6.2.18]**
 - New mandatory terms and conditions added



Capacity Allocation Exempt Generators

[EB-2008-0102 Amendments that came into force Feb, 12/09]

- Capacity Allocation Exempt category of generators are small size generators that are:
 - Less than or equal to 250 kW on lines operating at ≤ 15 kV
 - Less than or equal to 500 kW on lines operating at > 15 kV
- Capacity Allocation Exempt Generators are exempt from the capacity allocation process (section 6.2.4.1) but for all other purposes [eg: requiring a CIA], they are treated the same as small size generators.
- Capacity Allocation Exempt generators with FIT contracts are exempt from the requirement to pay the distributor a Capacity Allocation Deposit and an Additional Capacity Allocation Deposit. [Although OPA does not require Capacity Allocation Exempt generators to pay application security, these generators do have to pay completion and performance security to the OPA]





Connection Cost Responsibility for Distributed Renewable Generation



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)



Connection Assets

- 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:**
 - Modification 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**
 - Upstream upgrades to the system of a host distributor or of a transmitter continue to be paid for by the generator



- 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

Other Matters (cont'd)

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





FIT/MicroFIT Account Treatment



Accounting treatment for FIT and MicroFIT Generators

- As before, the connecting generator can choose the connection configuration (series, parallel, direct)
- Amendments approved September 21, 2009 require, for FIT or microFIT generators only, regardless of configuration:
 - separate accounts generator and the associated load
 - Associated loads to pay energy, distribution, and NCEC based on “gross load” (*“the total amount of electricity consumed at the load customer’s premises, whether withdrawn from the distribution system or supplied by the embedded retail generator.”*)



Account Charges

- The proposed development of new customer account charges for retail generation accounts [EB-2009-0326] was initiated September 21, 2009 and is presently underway.



Summary and Transition Issues

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

Contract status	Will the generator need to rescind CIA?	Will the generator be required to pay Capacity Allocation Deposit (s)? ^[1]	Will the generator be eligible for the new connection cost responsibility rules for renewable projects? ^[2]	Will the generator be required to have separate / Independent Account Treatment wrt Associated Load at the Same Location? ^[3] (this affects metering, billing & settlement)
Unchanged (RESOP or no OPA contract)	No	Yes	No	Depends on Wiring Arrangement
Amended RESOP ^[4]	No	Yes	No	Depends on Wiring Arrangement
RESOP (or no OPA contract) to FIT	Yes	No	Yes	Yes
RESOP to Micro-FIT	N/A	N/A	N/A	Yes (including those already in-service) ^[5]
Non-Renewable	No	Yes	No	Depends on Wiring Arrangement

^[1] 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

^[2] For renewable projects that applied for connection after October 21, 2009

^[3] For all FIT or Micro-FIT contracted projects otherwise account treatment depends on wiring / metering arrangement

^[4] 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.

^[5] On October 30, the OPA announced that it has offered projects up to 10 kW capacity with RESOP contracts, including those in service, an option to move to a microFIT contract. Up to 150 projects would be eligible, but must exercise this option by November 30, 2009.



Dealing with New Projects

Distributor Treatment (as per DSC and RSC) of New Generation Projects


Type	Will the generator be required to pay Capacity Allocation Deposit (s)? ^[1]	Will the generator be eligible for the new connection cost responsibility rules for renewable projects? ^[2]	Will the generator be required to have separate / Independent Account Treatment wrt Associated Load at the Same Location? ^[3] (this affects metering, billing & settlement)
Capacity allocation exempt seeking FIT or microFIT	No	Yes	Yes
Larger renewable project seeking FIT	No	Yes	Yes
Other renewable (no OPA contract)	Yes	Yes	Depends on Wiring Arrangement
Non renewable project	Yes (unless equivalent security is paid to the OPA)	No	Depends on Wiring Arrangement

^[1] 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)

^[2] For renewable projects that applied for connection after October 21, 2009

^[3] For all FIT or Micro-FIT contracted projects otherwise account treatment depends on wiring / metering arrangement





Transmission Planning



Minister's letter and OEB approvals

- Minister's letter issued September 21 to Hydro One
 - Minister, in his role as shareholder, directed Hydro One to begin work on developing 20 transmission projects and a number of distribution projects including “seeking approvals”.
- OEB has important approvals role
 - Review and approve transmission plans
 - Approve of transmission project leave to construct
 - Recovery of costs in electricity rates
- Environmental Assessment is a separate approvals process



Transmission Planning

- Under new legislation, OEB can require transmitters to bring forward their implementation plans and once approved, have transmitters carry out these plans
- Board will be working with transmitters to develop appropriate guidelines



The Integrated Power System Plan

- The Ontario Power Authority has a statutory obligation to prepare and file an Integrated Power System Plan with the Board.
- Board must review this plan to determine if it is consistent with the directions from the Minister and is economically prudent and cost effective.
- OPA filed IPSP August 29, 2007, the hearing was suspended October 2008. Timing of refiling is not known.



Reporting



Ontario Regulation 326/09

- Mandatory Information RE Generation Connection
 - Distributors are to make the following information available to the public:
 - Updated quarterly
 - Capacity availability on the distributors' system
 - » feeders
 - » substations
 - List of all current applications by feeder connection
 - » application date
 - » size of generator

Q. Where can we find the information?

- A. Hydro One has posted on their website information as it relates to the Distribution System.
- The remaining distributors are required to make it available to the public, quarterly.



Generator Licence



Overview

- With the introduction and proclamation of the Green Energy Act a renewable energy supply procurement program known as the Feed-in Tariff (FIT) program has replaced the former Renewable Energy Standard Offer Program (RESOP). All FIT contract generators greater than 500 kilowatts are required to obtain a license from the Board pursuant to s. 57 of the *Ontario Energy Board Act, 1998*.
- To address the requirement to licence FIT generators the OEB designed an application form and application instructions for prospective FIT applicants.
 - On December 1, 2009 the new FIT application form was posted on the OEB website:
<http://www.oeb.gov.on.ca/OEB/Licences/Apply+for+a+Licence/Apply+for+a+Licence+-+Electricity+Generation>



Licence Application

- Prerequisite
 - Before applying for a licence the applicants must have entered into a contract with the OPA under the FIT program and have received from the OPA a Notice to Proceed for the generation facility/facilities.
- Exemption
 - MicroFit generators and those under 500 kilowatts do not need an OEB generator licence.
- Cost / Fees
 - \$100 for an applicant with a name plate capacity of 10 megawatts (MW) or less; or
 - \$800 for an applicant with a name plate capacity of more than 10 MW.
 - an annual fee of \$800 for generators larger than 10 MW.
- Process Timeline
 - FIT licence applications process timeline is now 60 days vs. standard 90 days.





Communications



- OEB's dedicated Green Energy Webpage
 - All current Green Energy Initiatives will be updated here
 - Webinars
 - FAQ
 - Interpretation Bulletins



Dedicated Generator Web Page

- Generator Webpage
 - FAQ
 - Final presentation will be posted
 - Applying for a generator licence
 - Access to Related Codes and Regulations
 - Industry Links

<http://www.oeb.gov.on.ca/OEB/Industry+Relations/Information+for+Generators>



Generators have questions

- Contact the OEB:
 - Market Operations Email:
market.operations@oeb.gov.on.ca
 - Responds to questions
 - Interim response within 2 business days
 - Final response (standard) 7 days

