# APPENDIX C – EMBEDDED DISTRIBUTOR OVERVIEW

## A. General Information Requirements

The Embedded Distributor shall provide load forecasts or any other information related to the Embedded Distributor's system to Hydro One, as determined and required by Hydro One. Hydro One shall not require any information from another Distributor unless it is required for the safe and reliable operation of either the Distribution System or Transmission System or in order for Hydro One to meet its obligations under any Applicable Laws or its Licences.

## B. Connection and Upgrade Charges

The following cost responsibility principles shall apply to load connections of Embedded Distributors, including, but not limited to:

- new Distribution Facilities required to meet an Embedded Distributor's supply capacity needs;
- upgrades to existing Distribution Facilities required to meet an Embedded Distributor's supply capacity needs;
- new or modified transmitter-owned connection facilities that are required to meet the needs of the Embedded Distributor; and
- system enhancements required to meet an Embedded Distributor's power quality and/or system reliability needs, independent of any supply capacity requirements.

### B.1 Need for Supply Capacity

When it is identified that the Total Normal Supply Capacity of a Distribution Facility has been reached, Hydro One will inform all Embedded Distributors served by that Distribution Facility that the Total Normal Supply Capacity has been reached.

Hydro One will request each Embedded Distributor served by the Distribution Facilities to indicate if the Embedded Distributor anticipates the need for additional capacity and, if so, to provide a load forecast for each supply point on the Distribution System that serves that Embedded Distributor.

- For each Embedded Distributor that notifies Hydro One, in writing, of its need for additional capacity, Hydro One will, in consultation with that Embedded Distributor, identify the preferred option for meeting the additional capacity requirement, in accordance with the cost responsibility provisions set out in this section B.
- Where an Embedded Distributor does not notify Hydro One, in writing, of its need for additional capacity, the Embedded Distributor's capacity entitlement at each of its supply points on the Distribution System shall be capped at the Embedded Distributor's Historical Capacity at that particular supply point.

### B.2 New or Upgraded Facility for Capacity

Where a new or upgrade to an existing Distribution Facility is required to meet the supply capacity needs of an Embedded Distributor, Hydro One shall require a capital contribution from the Embedded Distributor to cover the cost of the new or upgraded Distribution Facility, as determined using the economic evaluation methodology set out in Appendix B of the Distribution System Code. A capital contribution may be required only to the extent that the cost of the new or upgraded Distribution Facility is not recoverable in distribution rate revenues. To that end, Hydro One shall include in the economic evaluation the relevant annual distribution rate revenues over the applicable economic evaluation period that are derived from that part of the Embedded Distributor's new load that exceeds the Total Normal Supply Capacity of the existing Distribution Facilities already serving the distributor and that will be served by the new or upgraded Distribution Facility as reasonably projected by the load forecast provided by each such Embedded Distributor or by such modified load forecast as may be agreed to by the Embedded Distributor and Hydro One.

### B.3 New or Modified Transmitter-owned Connection Facilities

Where new or modified transmitter-owned connection facilities are required to meet the needs of an Embedded Distributor, Hydro One shall require a capital contribution from the Embedded Distributor in accordance with Section 3.6.1 of the DSC. Hydro One shall request that its transmission business unit, who owns the connection facility, calculate the capital contribution amount for the Embedded Distributor using the methodology and inputs described in Appendix 5 of the Transmission System Code.

### B.4 Non-Capacity System Enhancement

Where a new or upgrade to an existing Distribution Facility is needed to meet the system enhancement (i.e. power quality and/or system reliability) needs of an Embedded Distributor, and such needs are not also associated with the supply capacity needs of that Embedded Distributor, Hydro One shall require a capital contribution from that Embedded Distributor to cover the cost of the new or upgraded Distribution Facility without using the economic evaluation methodology set out in Appendix B of the Distribution System Code.

### B.5 Multiple Embedded Distributors Scenario

Where more than one Embedded Distributor benefits from a new or upgrade to an existing Distribution Facility, Hydro One shall attribute the cost to those Embedded Distributors:

1. in proportion to their respective non-coincident incremental peak load requirements, as reasonably projected by the load forecast provided by each such Embedded Distributor or by such modified load forecast as may be agreed to by the Embedded Distributors and Hydro One and, in the case of feeders, taking into account the relative length of line used by each Embedded Distributor;
2. alternatively, in accordance with any other such methodology as may be agreed to by the Embedded Distributors and Hydro One.

Where Hydro One determines that a new or upgrade to an existing Distribution Facility (as described in section B.2 above) that is required to meet an Embedded Distributor's supply capacity needs will also meet Hydro One's supply capacity or system enhancement needs, the cost attribution methodology in sub-sections (1) and (2) of this section B.4 shall be used to apportion the cost among the Embedded Distributors and Hydro One.

Where Hydro One determines that a non-capacity system enhancement (as described in section B.3 above) that is needed to meet an Embedded Distributor's needs will also meet Hydro One's supply capacity or system enhancement needs, the cost of the non-capacity system enhancement shall be shared based on Hydro One's and the Embedded Distributors' respective shares of the load on the relevant Distribution Facility or, alternatively, based on such other cost-sharing arrangement as may be agreed to by the Embedded Distributors and Hydro One.

Where Hydro One has contributed to the costs of a new or upgrade to an existing Distribution Facility to meet Hydro One's supply capacity needs, Hydro One will have a capacity allocation on the new or upgraded Distribution Facility that is equal to the Hydro One load identified in the load forecast used in the cost sharing calculation. This capacity allocation is reserved for Hydro One load, exclusive of any Embedded Distributor load, for the duration of the load forecast used for cost sharing purposes.

## C. Customer Service Contracts

Terms and conditions addressing the arrangements described in Appendix C, Sections 2.1.2 and 2.1.10 between Hydro One and Embedded Distributors shall be incorporated in a Customer Service Contract ("CSC"). Where multiple Embedded Distributors are involved, Hydro One will normally enter into separate CSC with each Embedded Distributor. Hydro One will not commence work on any new Distribution Facility or on any upgrades to existing Distribution Facilities until a CSC-is fully executed between Hydro One and the Embedded Distributor or in the event that multiple Embedded Distributors are involved, until a CSC has been executed with

each of the Embedded Distributors, and all required payments have been made in accordance with the CSC (s).

### D. Ownership Demarcation Point and Operational Demarcation Point

For an Embedded Distributor, the Ownership Demarcation Point and the Operational Demarcation Point shall be specified in the Operating Schedule of the Connection Agreement.

### E. Voltage

The Embedded Distributor shall consult with Hydro One early to confirm availability of specific voltages within the Hydro One Distribution System.

For Embedded Distributors, Hydro One supplies electricity at the following nominal voltages and phases, where available:

1. 44,000 Volts – Three Phase three-wire;
2. 16,000/27,600 Volts – Three Phase four-wire;
3. 14,400/25,000 Volts – Three Phase four-wire; or
4. 8,000/13,800 Volts – Three Phase four-wire.

### F. Metering

For Embedded Distributors, metering shall be specified in the Connection Agreement or as Hydro One shall otherwise specify.

### G. DER Facility Connections

#### G.1. Application and Information Requirements for DER Facility Connections with a Name-plate Rated Capacity > 10 kW

As the proposed connection of a DER Facility with a name-plate rated capacity that is greater than 10 kW to the Embedded Distributor's distribution system impacts Hydro One's Transmission System and Distribution System, the Embedded Distributor shall submit an application to Hydro One in respect of such proposed connection, in a form acceptable to Hydro One, as soon as is practicable and no later than fifteen (15) days after receipt of a complete application for connection. The following information will be required in the application to Hydro One:

- a description of the proposed DER Facility, including the type of technology, proposed in-service date, the proposed name-plate rated capacity of the DER Facility; and
- the Embedded Distributor's feeder line to which the DER Facility is proposing to connect.

Hydro One will make every reasonable effort to respond Promptly to an Embedded Distributor's application in respect of the proposed connection of a DER Facility with a name-plate rated capacity that is greater than 10 kW to the Embedded Distributor's distribution system and shall comply with all of the requirements of a Host Distributor identified in section 6.2 of the Distribution System Code.

#### G.2. Information Requirements for all Embedded Generation Facility Connections

The Embedded Distributor shall provide Hydro One with the following information with respect to the connection of DER Facilities to the Embedded Distributor's distribution system on a quarterly basis:

1. the number of connection impact assessments performed by the Embedded Distributor for DER Facilities with a name-plate rated capacity of greater than 10 kilowatts;
2. the amount of name-plate rated capacity of DER Facilities connected in the previous quarter, regardless of the size; and
3. the total removal/reduction of previously allocated capacity expressed in kilowatts for DER Facilities with a name-plate rated capacity of greater than 10 kilowatts.

Such information is critical to Hydro One's capability to plan for impacts of such connections on its Distribution System and Transmission System in a timely manner. Without this information, Hydro One cannot guarantee the availability of capacity for proposed projects.

Furthermore, the Embedded Distributor is responsible for timely communications with any DER Facility Owner proposing to connect a DER Facility to the Embedded Distributor's distribution system and for ensuring that Hydro One's requirements are met by the Embedded Distributor and/or the affected DER Facility Owner in the case of any issues involving Hydro One.