# APPENDIX 2

## Definitions

**Anti Islanding (See Islanding) -** The generator shall cease to generate power in the event of loss of LDC supply, and will not provide backup power in the event of loss of LDC supply

**Applicant** — same as EG Developer

**Back-up Power** — Electric energy or capacity supplied by an LDC to replace energy ordinarily generated by embedded generation facility equipment during an unscheduled outage of the distribution system.

**CSA** – Canadian Safety Association, Canada's nationally recognized testing and certification body.

**Certified Equipment** — A generating, control or protective system that has been certified by a nationally recognized testing laboratory or standard, such as CSA, Underwriters Laboratory (UL), IEEE, as meeting acceptable safety and reliability standards.

**Commissioning Test** — The initial process of documenting and verifying the performance of an embedded generation facility so that it operates in conformity with the design specifications.

**Conductor** – An electrical wire that carries electricity

**Connection Agreement** — a written set of operating procedures to specify how the embedded generator facility will interact with the LDC's distribution system and the responsibilities and accountabilities of the parties

**Connection Impact Assessment (CIA)** – a review done by the LDC to determine what impact an EG will have on its distribution facilities with respect to voltage, equipment loading, short circuits up to and including the transmission system which may be owned and operated by others requiring additional and separate assessments.

**Customer** — Any person who is receiving electric service from an LDC's distribution system.

**Designated Point of Contact** — Each LDC shall designate one point of contact for all customer inquiries related to embedded generation facilities and from which interested parties can obtain a copy of interconnection guidelines - which include the appropriate application forms and interconnection agreements.

**Distributed Generation** — same as Embedded Generation

**Distribution Feeder/Line** — An electric line from an LDC substation or other supply point to customers that is operated at 50 kV or less, or as determined by the LDC.

**Distribution Substation** — A facility that reduces the voltage of the electricity supply from sub transmission voltages less than 50 kV to even lower distribution voltages less than 50 kV.

**Distribution System** — All electrical wires, equipment, and other facilities owned or provided by an LDC that are normally operated at 50 kV or less.

**Distribution System Code (DSC)** — A code issued by the Ontario Energy Board that prescribes the requirements for local distribution companies and customers who are served by the distribution system. Specifically, Appendices F of the code outlines the procedures to be followed for processing and connecting embedded generation facilities and F.2 is an overview of the technical requirements. http://www.oeb.gov.on.ca/documents/dscappf_100304.pdf

**Distribution System Study** — A study to determine if a distribution system upgrade is needed to accommodate the proposed embedded generation facility and to determine the cost of any such upgrade.

**Embedded Generation (EG) Developer** — The legally responsible person applying to an LDC to interconnect an embedded generation facility to the LDC's distribution system.

**Embedded Generation (EG) Facility** — A facility for the generation of electricity that is located near the point where the electricity will be used or is in a location that will support the functioning of the electric power distribution grid. Also known as Distributed Generation ("DG") and Parallel Generation

**Engineering Review** — A study that may be undertaken by an LDC, in response to its receipt of a completed standard application form for interconnection, to determine the suitability of the installation.

**ESA** – Electrical Safety Authority

**Fault** — An equipment failure, conductor failure, short circuit, or other condition resulting from abnormally high amounts of current from the power source.

**Feeder** – a common term to describe an electrical distribution line.

**Grid** – a generic term that describes the electricity system. While normally referring to the transmission system it is occasionally used to refer to the distribution system.

**Feed In Tariff (FIT) –** The program that replaced RESOP. It was very similar but rules were adjusted and power purchase prices amended.

**HOEP** — The Hourly Ontario Energy Price is an average of the market price set at each five-minute interval within that hour.

**IEEE** — Institute of Electrical and Electronics Engineers.

**Independent Electricity System Operator (IESO)** — An entity supervising the collective transmission facilities of a power region; the IESO is charged with nondiscriminatory coordination of market transactions, system-wide transmission operation, and network reliability.

**Interconnection** — The physical connection of an embedded generation facility to the distribution system so that parallel operation can occur.

**Interconnection Disconnect Switch** — A mechanical device used to disconnect an embedded generation facility from a distribution system. Also known as an isolation device.

**Inverter** — A machine, device or system that converts direct current power to alternating current power.

**Islanding** — A condition on the distribution system in which an embedded generation facility delivers power to customers using a portion of the distribution system that is electrically isolated from the remainder of the distribution system.

**kV** – kilovolt (1000 volts)

**kW** – kilowatt (1000 watts)

**Load displacement: -** a generation facility which connected on the customer side of the electricity meter generates power for their own use and not for the purpose of sale. The EG systems that provide load displacement are intended to reduce the amount of electricity purchased from the LDC and are not intended to provide surplus electricity into the LDC's electricity system.

**Local Distribution Company** — A local distribution company or LDC manages and operates the electricity distribution system and currently bills for electricity services at the retail level in Ontario.

**MW** – megawatt (1000 kW)

**Material Modification** – Any modification that changes the maximum electrical output of an embedded generation facility or changes the interconnection equipment, including:

a) Changing from certified to non-certified devices.
b) Replacing a component with a component of different functionality or UL or CSA listing.
c) Changes to the Interconnection Point

**Nationally Recognized Testing Laboratory** — Any testing laboratory recognized by the ESA or CSA as having an approved equipment accreditation program.

**Net metering** — An arrangement where EG facilities can offset their associated load consumption and are compensated for any extra energy delivered to the electricity system. In Ontario, legislation permits embedded generation facilities using renewable resources with a capacity of 500 kW or less to be eligible for net metering.

**OEB** — Ontario Energy Board

**Parallel Operation** — The operation, for a finite time, of an embedded generation facility while the facility is connected to the energized distribution system.

**Parallelling Equipment** — The generating and protective equipment system that interfaces and synchronizes an embedded generation facility with the distribution system.

**Point of Common Coupling (PCC)** — The point where the electrical conductors of the distribution system are connected to the customer's conductors and where any transfer of electric power between the customer and the distribution system takes place.

**Point of Interconnection (POI)**— The point where the embedded generation facility is electrically connected to the customer’s electrical system.

**Preliminary Review** — A review at the feasibility stage to determine the suitability of an embedded generation site and the LDC distribution facilities available for connection

**Protective Equipment** — Devices used on a Distribution System or at an EG facility that, using hardware and software, are designed to prevent unsafe operating conditions from occurring and to protect personnel and equipment from electrical faults on the distribution system or within the EG.

**Request for Proposal (RFP)** - Prior to RESOP and FIT ,Renewable Energy Contracts were awarded on the basis of a competitive bid.

**Renewable Energy Standard Offer Program (RESOP) –** RESOP replaced RFPs for smaller renewable generation and enable all that were eligible to sign up to connect their projects at prices that were set and guaranteed by the OPA. At the time it was one of the first such programs in the world.

**Single Phase Electricity –** single phase electricity is where the alternating current power is carried by two wires – a "live" and a neutral. More wires are visible on many residences because the single phase is split.

**Supervisory Control and Data Acquisition (SCADA)** — A system of remote control and telemetry used to monitor and control the electric system.

**Switchgear** — Components for switching, protecting, monitoring and controlling electric power systems.

**Synchronize** — The process of connecting two previously separated alternating current apparatuses after matching frequency, voltage, phase angles, etc. (e.g., paralleling a generator to the electric system).

**Technical Review** — a more comprehensive evaluation of the embedded generation proposal than the preliminary review to establish that the proposal and the equipment meet the technical guidelines for safety, power quality and reliability.

**Telemetry** — The transmission of embedded generation operating data using telecommunications techniques.

**Three Phase Electricity -** three phase electricity is where the alternating current power is carried by three wires and the waveforms of current and voltage are 120 degrees apart.

**Transfer Switch** — A switch designed so that it will disconnect the load from one power source and reconnect it to another source.

**Transformer** – a piece of electrical equipment that converts electricity from one voltage to another, usually down in a distribution system.

**Transformer Station** — A facility that reduces the voltage of the electricity supply from transmission voltages greater than 50 kV to distribution voltages less than 50 kV.

**Transmission Lines/System** – the network of wires and towers that operate at over 50 kV to move electricity over long distances form generating station to large load centres.

**UL** — Underwriters Laboratories.

**Unit** — same as embedded generation facility.