Connection Impact Assessment (CIA) Application Instructions

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Bluewater Power Distribution Corporation
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1.0 GENERAL APPLICATION INFORMATION

1.1 ABOUT THE CIA FORM

The Connection Impact Assessment (CIA) application is to be completed by any proponent interested in connecting a Distributed Energy Resource (DER) with a project size over 12 kilowatts (kW) to Bluewater Power Distribution system. This includes DERs applying for a new CIA or for revision(s) to their original CIA. This form expresses an intent to enter into an agreement between Bluewater Power Distribution and the customer (or host customer[1] for Non-Exporting projects) for completion of a CIA associated with connecting a DER to the Bluewater Power Distribution's distribution grid. The CIA Application shall be part of the required servicing (electrical installation, maintenance, and operating) agreements between Bluewater Power Distribution and the proponent.

Throughout this process, Bluewater Power Distribution will be the proponent's contact with the transmission system provider (e.g. Hydro One Networks Inc.) and, if necessary, the provincial Independent Electricity System Operator (IESO).

1.2 TECHNICAL REQUIREMENTS

For technical requirements of Bluewater Power Distribution's DER projects, refer to the "DER General Connection information Package", available at:
https://bluewaterpower.com/ways-to-save/distributed-energy-resource/

1.3 SUBMISSION INSTRUCTIONS

Please return the completed form, fees and other required documents by mail to:

Bluewater Power Distribution
Attn: Design Services, DER Connections
DER Connection Application
P.O. Box 2140, 855 Confederation Street, Sarnia, ON N7T 7L6

1.4 IMPORTANT NOTES

A professional engineering, registered in Ontario, shall stamp the drawing and/or technical forms and protection philosophy; all red box fields on electronic version of form are mandatory.

Note 1: For Non-Exporting projects, the term " host customer" refers to the owner of the load facility. The term "DER owner" refers to the owner of the DER Facility.

Incomplete applications may be returned by Bluewater Power Distribution and will result in delays in processing your application. Click the "Validate Form" button.

On the top right of this page to ensure all required information is filled. If any of the required fields are not applicable to your project, type "N/A" in any required text field or "0" in any required numerical field.

Bluewater Power Distribution specific requirements and notes are found in Sections S and T, respectively.

Applicants are cautioned NOT to incur major expenses until Bluewater Power Distribution approves to connect the proposed DER facility.

All technical submissions (CIA Application, Single Line Diagrams, etc.) must be signed, dated and sealed by a Professional Engineer (P.Eng.), registered in Ontario.

The proponent will pay for the CIA cost according to the Bluewater Power Distribution offer letter.

The siting restrictions in O. Reg. 274/18 which were administered by electricity distributors such as Bluewater Power Distribution have been replaced by amendments to the Planning Act (Ontario) that puts siting and planning requirements for renewable DER facilities under municipal oversight. It is recommended that you discuss municipal permitting and approvals requirements with the planning department in the municipality, where your DER project is located before you proceed.

2.0 SECTION A – APPLICATION INFORMATION

- **Engineering Stamp:** Must be signed and sealed by a Professional Engineer (P.Eng), registered in Ontario
- **Application Type: CHOOSE ONE**.
  - New CIA Application: first application for any given project
  - CIA Revision/Rework: changes to a previous CIA
  - Capacity Increase Request
  - Modification or Addition Existing Project
  - Reconnection of Existing Generator

Your previous CIA must still be valid with Bluewater Power Distribution (i.e. your previous CIA cannot be withdrawn or expired).

- **Date**: Fill in the current date
- **Program Type: CHOOSE ONE**.
  - IESO (please specify)
  - Non-Exporting
  - Net Metering
  - Net Metering (Subdivision)
  - Off-Grid Islanded Generation
  - Other (please specify)

- **Program Type** (additional details): Use this field to provide additional details (Applicable for IESO or Other Program Type)
  - IESO (please specify)
  - Other (please specify)

- **Project Name:** Provide the exact project name of your proposed generation facility. Bluewater Power Distribution will use this name along with your Project Number (if one already exists) to identify your project in our system going forward.

- **IESO Contract Number and IESO Reference Number:** (Applicable for IESO Program Type selection).

- **Ontario Corporate Number OR Business Identification Number:** PROVIDE ONE.

- **Proposed In-Service Date:** Provide the date in dd/mm/yyyy format
  Your generation facility will officially be connected and producing energy on Bluewater Power Distribution's distribution system. If you are unsure how to determine an In-service Date, contact your Design Engineer (for new applicants) or your Bluewater Power Distribution Account Executive Manager (for existing customers).

  Important note: the In-service Date (ISD) you provide must be as accurate as possible. The Bluewater Power Distribution schedules station maintenance, outages and other work based on ISDs. Failure to provide an accurate ISD could cause delays to your project's connection timeline

- **Subdivision Project Name:** If you selected "Net Metering (Subdivision)" as the Program Type, please provide the name of the subdivision project.

- **Number of Lots**: If you selected "Net Metering (Subdivision)" as the Program Type, please provide the number of lots in the development.

- **Original CIA Project ID#** (if applicable): If this is a revision to a previous CIA Application Form that you submitted to the Bluewater Power Distribution, and that Application is still valid with the Bluewater Power Distribution, provide your current CIA Project Number.

  - **Revised Fields:** If you are a submitting a revised CIA Application, list the fields that have changed from your previous CIA in the box provided.

3.0 SECTION B – PROJECT LOCATION

In the Project Location section, provide project location and civic address information. Please also provide the project location GPS coordinates.

4.0 SECTION C – CONTACT INFORMATION

Who is the single point of contact for this project? CHOOSE ONE.

This will be the person within your company who receives all communications regarding the project. Normally, this would be someone in a Project Management role.

He/she will be responsible for communicating information regarding your proposed facility.

In the Contact Information section, provide contact information for the Host Customer, the DER Owner if different than the host customer and consultant if applicable. Note that the Host Customer and DER Owner may be the same.

Also note that Post Office (PO) boxes and Rural Routes will not be accepted.

Only list a physical address. Aside from the Single Point of Contact, the person(s) listed may be contacted by the Bluewater Power Distribution for other matters regarding your project when necessary. Due to Privacy Laws, the Bluewater Power Distribution will only release information to the persons listed on the CIA Application Form.

5.0 SECTION D – CUSTOMER STATUS

Is there an existing Bluewater Power Distribution customer account at the project location?

- **Choose "Yes"** if there is an existing electrical connection to Bluewater Power Distribution's grid (i.e. load and/or generation) at the Project Location.

- **Choose "No"** if this generation facility will be the only connection to Bluewater Power Distribution's grid at the location.

  If you answered "Yes" to the previous question, provide the existing Bluewater Power Distribution account number (i.e. customer load account number OR generation customer account number) found in the top right corner of your bill.

- **Also select "Yes" or "No" to**
  - Is the account holder aware of this application?
  - Does your account fall within a residential-rate classification?

- **Account Holder Name registered on existing Account:** Provide the name on the existing customer account you provided in the previous question.

If you answered "No" in the previous question, leave this space blank.

- **Is the owner a HST registrant?** Normally, a business – sole proprietor, partnership, corporation – has a Harmonized Sales Tax (HST) Number as a requirement to conduct regular business in Ontario.

  If yes, provide your HST registration number. Failure to provide an accurate number will delay your application. If you are unsure of your HST number, please sign into your Canadian Revenue Agency business account to retrieve it.

6.0 SECTION E – EXISTING DER

- **Is there any existing DER facility located at the point of common coupling (PCC)?**

  Please select "Yes" if there is an existing DER facility on you premises.

  If yes, please provide the Existing Project Number, Existing Project Size (kW) and the Program Type for the Existing DER

- **Select the existing DER Type**: CHOOSE ONE.

  Synchronous, Induction, Inverter-based or Other and provide applicable power levels, ratings and reactive power values.

7.0 SECTION F – PROJECT INFORMATION

- **Station Name**: provide the name of the Bluewater Power Distribution station that your facility will connect to (e.g. "Modeland TS").

- **Feeder and Feeder Voltage**: Provide the name of the feeder that your facility will connect to (e.g. "F1" or "M1") and feeder voltage if available.

- **Project Size:** Provide the total amount of generation your facility will produce, i.e. the facility's maximum kW output.

  Important note: The project size on this application must match the project size you provided on your IESO contract (if applicable).

- **Equipment Capacity:** Provide the total amount of capacity in (kVA) of your facility's equipment.

  Important note: For more information on the technical requirements of distribution generation facilities, see Bluewater Power Distribution's Technical Interconnection Requirements (TIR). **Note:** Typically, the generator's Nameplate Capacity or Gen-Set Name Plate Capacity shall be considered as project size.

- **Fuel / Energy Type:** CHOOSE ONE. Provide the type of energy your generation facility will produce. If it is "Other", ensure to provide the type of generation you are proposing.

- **Type of connection:** CHOOSE ONE.
  - Single phase OR Three phase.
  - If this is a solar project, please select the Mounting Type.
  - If this is a water project, please answer the indicated questions.

8.0 SECTION G – STATION SERVICE LOAD INFORMATION

In the Load Information section, if required, provide Maximum Demand of Station Service Load of the DER in KW and the Average Monthly Consumption in kWh.

9.0 SECTION H – CONNECTION INFORMATION

- **DOM means "Distribution Operating Map".** From the original DOM that the Bluewater Power Distribution provided to you during your preliminary consultation meeting or in the preliminary consultation report, outline where your generation facility site will be located in reference to the existing feeder. Indicate from the Point of Expansion (POE) to Point of Common Coupling (PCC) distances.[2] Please be sure to include the project location's GPS coordinates. If you require a DOM, you can request one through our website.

  Note 2: Refer to CIA Application Form Appendix A for the definition of POE and PCC.

- **Single Line Diagram ("SLD"):** Provide an SLD of the DER's facilities including the PCC, transformer and connecting station, feeder and supply voltage. SLD shall complete with Drawing Number and revision number.

  Important note: An SLD is a very important piece of your application and must accurately reflect the project information provided on the CIA Application. Submitting an accurate SLD that meets Bluewater Power Distribution's standards ensures your application is not delayed. Failure to submit an acceptable SLD will result in your application being deemed incomplete.

  - The POE indicates the origin of the new line expansion.
  - The Point of DER Connection (PODC) means the point where the DER connects with the DER's connection assets as outlined in Appendix A of the CIA form.

- **GPS coordinates of the following:** All three GPS coordinates must be provided: POE, PCC and generation facility. GPS Format: Latitude, Longitude –Degree Decimal (e.g. 49.392, -75.570).

- **Length of line distance from the POE to the PCC:** Provide the exact distance in kilometers of the line from the POE to the PCC.

- **Length of line distance from the PCC to the DER Facility** (refer to Appendix A of CIA Application Form): Provide the exact distance in kilometers of the line from the PCC to your proposed generation facility. See Appendix A at the end of the application document for a diagram.

- **Conductor type/size:** Provide what type of conductor you will be using, including the size. E.g. ACSR/ CU/ AL and size in kcmil or AWG.

- **Fault contribution from the DER's Facilities**, with the fault location at the PCC:
  - Three-phase generators: 3-phase short circuit
  - Single-phase generators: 1-phase short circuit

- **Connection Figure:** See Appendix A at the end of the application document and choose ONE appropriate figure that is most applicable to how your proposed generator will connect.

Important Notes:

If this project requires line expansion work between the POE and PCC, Bluewater Power Distribution will provide a cost estimate to construct any line located on public road right-of-way. The cost estimate will include a breakdown of Uncontestable work (i.e. overbuild to existing line) that can only be performed by the Bluewater Power Distribution, as well as Contestable work (i.e. new construction/green-field) that can be performed by the Generator/their contractor or the Bluewater Power Distribution. (Both Uncontestable work and Contestable work requires design to Bluewater Power Distribution standards and specifications). Bluewater Power Distribution will become the owner of the line expansion.

For a Generator-owned line, the Generator may choose to apply for installation of the line on existing the Bluewater Power Distribution-owned poles. This is known as an application for Joint Use (JU) of poles. If the application is accepted, the Bluewater Power Distribution will provide the Generator with information on initial connection costs, annual pole-space rental and emergency service (ES) fees and required JU & ES Agreements.

10.0 SECTION I – ENERGY STORAGE

In the Energy Storage section, provide Number of Units, Inverter Size (enter zero if inverter is shared with generation unit(s)), Energy Storage Unit Size (kWh) and Total Energy Storage Size (kW & kWh). Select the Energy Storage Facility Control Strategy to be used and include with this application a detailed description of the control strategy according to the templates in Appendix B. Bluewater Power Distribution reserves the right to modify the control strategy as part of its Connection Impact Assessment.

11.0 SECTION J – NON EXPORTING INFORMATION

In the Non-Exporting Information section, provide the Operating Mode, Transition Type, and Time that Generator Remains Parallel to the Grid (closed transition only). For non-parallel Non-Exporting, SCADA monitoring and Gross Load Billing (GLB) may apply. For Non-Exporting generation facilities, please attach a schedule of the forecasted maximum generation output (as a function of loading of the facility). At a minimum, include the forecasted generation output information (i.e. Watts and VARs) during the minimum and maximum of the load facility to which the Non-Exporting generator is connecting (see Appendix C for template)

12.0 SECTION K –DER CHARACTERISTICS (1/1)

In the DER Characteristics section, complete all fields accordingly. For facilities with multiple DERs: If your generators have different characteristics, please use the "Add Page" button and provide the characteristics for each generator on the additional pages.

Important note:

The Bluewater Power Distribution requires that all CIA Applicants have a P.Eng. review this section. Failure to complete this section correctly will result in delays to your application.

13.0 SECTION L – INTERFACE TRANSFORMER

List all transformer information, including but not limited to, the transformer size, High voltage and low voltage levels, transformer connection type at primary and secondary side, transformer grounding connection method, transformer's impedance value, and so on, for the interface transformer, if applicable.

14.0 SECTION M – INTERMEDIATE TRANSFORMER

List all transformer information, including but not limited to, the transformer size, High voltage and low voltage levels, transformer connection type at primary and secondary side, transformer grounding connection method, transformer's impedance value, and so on, for the intermediate transformer, if applicable.

15.0 SECTION N – HIGH-VOLTAGE GROUNDING

TRANSFORMER In the Interface Transformer section, complete all fields accordingly.

At the Generator's expense, and if requested, the Bluewater Power Distribution may provide transformation up to a maximum of 500 KVA three-phase, as described in the Bluewater Power Distribution Conditions of Service. The term "High Voltage" refers to the connection voltage to Bluewater Power Distribution's distribution system and "Low Voltage" refers to the generation or any other intermediate voltage. Providing a photo of transformer equipment nameplate along with this application may help expedite your application.

16.0 SECTION O – SUBMISSION CHECKLIST

Please ensure the following items are completed prior to submission. Your application will not be processed if any part is omitted or incomplete:

Payment: Payment in full including applicable taxes (by cheque payable to "Bluewater Power Distribution")

Completed Form B stamped by a Professional Engineer, registered in Ontario

Signed Study Agreement

Single Line Diagram (SLD), of the Generator's facilities, must be stamped by a Professional Engineer, registered in Ontario

Protection Philosophy

Attach Protection Philosophy documents - Sample can be found from Bluewater Power's website

Distribution Operating Map - Can be provided by Bluewater Power upon request

Site Plan (might not required for existing load customers that are connecting a load displacement generation, net metering generation or energy storage system behind their existing metered connection point)

Load Schedules – Non-Exporting Generation Facility's load and generation schedules (if applicable)

Non-Exporting Generation Facility's mode of operation (if applicable)

Operating Strategy
Energy Storage Facility operating strategy description and parameters (if applicable)

Emergency Backup Generation Facility's mode of operation (if applicable)

17.0 SECTION P – CIA APPLICATION FEE CHECKLIST

Please ensure the following items are completed prior to submission. Your application will not be processed if any part is omitted or incomplete. Check all that apply.

Applicable CIA Fee

Please reach out Bluewater Design for Connection Impact Assessment cost.

Please enter the amount from the fee schedule. Note HST will be applicable.

Transmission Customer Impact Assessment (Tx CIA) Fee (if applicable)

A Tx CIA is required if the total nameplate generation of the project is greater than 500kW when connecting to 15kV and below, and 1MW when connecting to 27.6kV.

Note HST will be applicable.

IESO System Impact Assessment (SIA) Fee (if applicable) for the project greater than 10MW.

An SIA deposit is required if the total nameplate generation of the project is greater than 10MW. The total cost of the SIA will be Trued Up/Down upon the receipt of the SIA from the IESO. See the IESO's website SIA Application for costs.

18.0 SECTION Q – ATTACHMENTS

Please provide a description, document number and number of pages for each supporting document/drawing attachment.

19.0 SECTION R – NOTES

Please include any additional details that you think Bluewater Power Distribution should be aware of in support of this application.

20.0 SECTION S – Bluewater Power Distribution SPECIFIC

REQUIRED FIELDS This section contains specific information that is required by Bluewater Power Distribution. Please read Section T notes regarding this section if you need further details.

21.0 SECTION T – Bluewater Power Distribution SPECIFIC

ADDITIONAL NOTES

DISCLAIMER

By submitting a CIA Application, the Proponent authorizes the information collected by Bluewater Power Distribution Inc. ("Bluewater Power Distribution"), of any agreements and any information pertaining to agreements made between the Proponent and the Independent Electricity System Operator (IESO), the information set out in the CIA Application and otherwise collected in accordance with the terms hereof, the terms of Bluewater Power Distribution's Conditions of Service, Bluewater Power Distribution's Privacy Policy and the requirements of the Distribution System Code and the use of such information for the purposes of the connection of the generation facility to Bluewater Power Distribution's distribution system.