



Distributed Energy Resource (DER) Non-Micro Generator Information Package (>10 kW)

Last updated: June 2, 2025



Table of Contents

1. Abbreviations:	2
2. Introduction:	2
2.1 Responsibilities of Elexicon:	3
2.2 Responsibilities of the Customer:	3
3. Elexicon Service Area:	3
3.1 Elexicon Contact Information:	3
4. Generator Classification	3
4.1 Sites with Multiple DERs	5
4.2 Sites with Derated Equipment	5
4.2.1 Conditions for Accepting Derated Capacity of DER Units or Inverters	5
5. Small, Mid-Sized, & Large Generation Connection Process	5
6. Fees Schedule	12
7. Technical Requirements	13
7.1 Single Phase Design Requirements – Single Line Diagram:	13
7.2 Load Displacement Strategy – Non Exporting DERs	13
7.3 Label Requirements:	14
7.3.1 Lamacoid SLD Sample:	15
7.3.2 Main Service Metering Cabinet Label Template:	15
7.4 Sample Installation with Lamacoid Plates	16
7.5 Small, Mid-Sized or Large DER Three Phase Design Requirements:	16
7.6 Three Phase Metering Requirements:	17
7.6.1 Customer to:	17
7.6.2 Elexicon to:	18
7.7 Three Phase DER Project Requirements:	18
8. Reference Links	20



1. Abbreviations:

- **DER - Distributed Energy Resources**

Electricity generation systems like solar panels, wind turbines, battery storage, combined heat and power systems, and other energy technologies that can operate either connected to the power grid or independently (off-grid).

- **LDC - Local Distribution Company**

The company responsible for delivering electricity from the main power grid to homes and businesses in a specific area. Elexicon is the electricity distributor for the service areas shown in “Elexicon Service Area”.

- **PCIR - Preliminary Consultation Information Request**

A request submitted to the local distribution company (LDC) to gather initial technical and procedural information before proceeding with a distributed energy resource (DER) connection application.

- **PCR - Preliminary Consultation Response**

The response provided by the LDC following a PCIR, outlining key connection requirements, feasibility, and any potential technical constraints or upgrades necessary for the DER project.

- **CIA - Connection Impact Assessment**

A detailed engineering study conducted by the LDC to evaluate the impact of connecting a DER to the distribution system. It identifies potential issues such as voltage fluctuations, system stability, and protection coordination.

- **SCADA - Supervisory Control and Data Acquisition**

A system used by utilities to monitor and control DERs and other equipment remotely. SCADA facilitates real-time data acquisition, operational control, and system performance monitoring.

2. Introduction:

This guideline serves as a reference to help Elexicon customers understand the overall information, process, requirements, and available options for connecting small, mid-sized, & large generation (>10 kW) facilities to Elexicon's distribution system. It is intended as a general guide; final design approvals for all generators will be determined by the Standards and System Studies - DER Team.



2.1 Responsibilities of Elexicon:

Elexicon is responsible for maintaining the safety, reliability, and efficiency of its distribution system while ensuring that new generation connections do not negatively impact the system or existing customers. Additionally, Elexicon acts as the liaison between the Generator and Hydro One Networks Inc.

2.2 Responsibilities of the Customer:

- The generator/customer shall safely design, construct, operate, and maintain their generation facility. This includes the installation of all necessary metering, protection, and control devices to ensure safe and reliable operation.
- The Customer may consider engaging a consultant to assist with the connection requirements, process, and approvals. They must also obtain all necessary approvals from applicable agencies before a connection is permitted.
- The Customer must fulfill all submission requirements, finalize the necessary agreements, and ensure that all required payments to Elexicon are made.

3. Elexicon Service Area:

Ajax, Beaverton, Belleville, Bowmanville, Cannington, Gravenhurst, Newcastle, Orono, Pickering, Port Hope, Port Perry, Sunderland, Uxbridge, and Whitby.

3.1 Elexicon Contact Information:

Address: 55 Taunton Road East, Ajax, Ontario, L1T 3V3

Email: DxGenerationPlanning@elexiconenergy.com

Phone: [1-888-420-0070](tel:1-888-420-0070)

For all email inquiries, **customers and generators must include the generator site address and municipality in the email subject line** to ensure efficient processing.

4. Generator Classification

Elexicon Energy supports the incorporation of these generation facilities within the electrical distribution system in its service territory. The process is guided by the latest revision of the Distribution System Code (DSC) issued by the [Ontario Energy Board](#). The Code sets out the minimum obligations that a licensed electricity distributor (such as an LDC) must meet in



carrying out its obligations. The latest revision of the Code can be found on the official website of the OEB under [Industry Relations/Rules, Codes, Guidelines and Codes](#). DERs are classified based on the size of the project and their location within the distribution system. This classification determines the applicable connection process and whether additional assessments are required by a host distributor, transmitter, and/or a System Impact Assessment (SIA) conducted by the Independent Electricity System Operator (IESO). Table 1 outlines the DER size categories and the corresponding anticipated study requirements based on project size and voltage level.

The classification of DERs, primarily based on their nameplate rated capacity. The Section 4.1 and 4.2 provide further clarification on how capacity rating is determined, particularly for sites with multiple DERs or derated equipment.

Table 1. Generation Facilities Classification

DER Classification	Rating	Potential Studies
Micro	$\leq 10\text{kW}$	None
Small	(a) $\leq 500\text{ kW}$ connected on distribution system voltage $< 15\text{ kV}$ (b) $\leq 1\text{ MW}$ connected on distribution system voltage $\geq 15\text{ kV}$	<ol style="list-style-type: none"> 1. Distributor 2. Host Distributor (if applicable) 3. Transmitter (if $> 500\text{kW}$)
Mid- Size	(a) $\leq 10\text{ MW}$ but $> 500\text{ kW}$ connected on distribution system voltage $< 15\text{ kV}$ (b) $> 1\text{ MW}$ but $\leq 10\text{ MW}$ connected on distribution system voltage $\geq 15\text{ kV}$	<ol style="list-style-type: none"> 1. Distributor 2. Host Distributor (if applicable) 3. Transmitter
Large	$> 10\text{ MW}$	<ol style="list-style-type: none"> 1. Distributor 2. Host Distributor (if applicable) 3. Transmitter 4. IESO System Impact Assessment

Elexicon will apply its [Conditions of Service](#) for any generation interconnection costs and/or any metering changes that Elexicon deems necessary to allow for settlement purposes under a specific program.



4.1 Sites with Multiple DERs

For sites with multiple Distributed Energy Resources (DERs), the nameplate rated capacity is determined based on the inverter configuration. If the DERs are connected to separate inverters, the total site capacity is calculated as the sum of the AC nameplate rated capacities of each individual DER. However, if the DERs share a common inverter, the site's nameplate rated capacity is defined by the AC nameplate rated capacity of the inverter.

4.2 Sites with Derated Equipment

For the purpose of DER classification, Elexicon Energy shall accept the statically derated capacity of a DER unit or inverter, achieved through configured power rating control, in place of its nameplate rated capacity, provided the derating has been applied at the factory. If the DER unit or inverter has been derated in the field by either the manufacturer or the installer, Elexicon Energy shall accept the derated capacity only if all applicable conditions outlined in Section 3.2.1 are met. Transformers do not affect the capacity rating of a DER facility

4.2.1 Conditions for Accepting Derated Capacity of DER Units or Inverters

1. The derated capacity is clearly indicated on the equipment, adjacent to the nameplate.
2. Proper labelling must specify site specific power and current values.
3. Documentation provided by the inverter manufacturer must state the maximum continuous derated output current in amperes. Alternatively, the programmed limit may be demonstrated to Elexicon Energy's satisfaction, such as through certification from a licensed electrician or Professional Engineer.
4. A restricted access protocol must be in place to prevent unauthorized capacity changes. Customers must submit a certificate or statement from a licensed electrician or professional engineer confirming that the unit's access control protocols adhere to Elexicon Energy's security requirements, such as restricted user access, password protection, or other secure means of preventing unauthorized modifications.

The applicant will also need to comply with other industry requirements with respect to derated capacity.

5. Small, Mid-Sized, & Large Generation Connection Process

Proponents applying for the connection of distributed energy resources (DER) to the Elexicon's distribution system must complete the following process:

1. Preliminary Consultation Information Request

Complete the [Preliminary Consultation Information Request \(PCIR\) form](#) and send an e-mail it to DxGenerationPlanning@elexiconenergy.com to check whether there is capacity to accommodate a DER at your location (some areas of our system may have restricted capacity and may not be able to connect DERs to the system at your location).



2. Preliminary Consultation Report

Elexicon will respond to a completed PCIR within 15 days with a Preliminary Consultation Report (PCR). This report will let you know whether capacity is likely available at the location, whether any changes to infrastructure (e.g. new line expansion, transformer upgrade) are required.

3. Simplified Connection Impact Assessment (CIA)

Elexicon, in alignment with Appendix E of the Ontario Energy Board's Distributed Energy Resources Connection Procedures (DERCP) Version 2, defines threshold capacities for DERs eligible for the Simplified Connection Impact Assessment (CIA) process. The simplified CIA option is applicable to non-micro DERs that exceed 10 kW but do not surpass the threshold specified in Table 2.

Projects that fall within these thresholds may be eligible for a simplified assessment process. Elexicon will confirm whether a proposed DER qualifies for the Simplified CIA process, through the preliminary consultation process.

Elexicon will continue to review its system-specific conditions and may post any additional limitations or exemptions on its DER connection webpage to ensure transparency and consistency in DER integration efforts.

Table 2. Simplified CIA Eligibility Threshold

Simplified CIA Eligibility Threshold	
Nameplate Size	Distribution System Voltage
10kW < size <= 30kW (Single Phase)	Any
10kW < size <= 50kW	<15kV
10kW < size <= 100kW	>=15kV

4. Connection Impact Assessment Package

Complete the CIA Application Package and e-mail it to DxGenerationPlanning@elexiconenergy.com. As these projects are in excess of 10 kW, all technical documents, including the CIA form, must be signed and sealed by a licensed Ontario Professional Engineer. The CIA Application Package includes:

- [The CIA Application Form](#)



- b. [Emergency Backup Generator Declaration](#) (If the DER is used as a backup generator)
 - c. [CIA Study Agreement](#)
 - d. [Single Line Diagram](#)
 - e. [DER Protection Philosophy Checklist](#)
 - f. GIS map (not required for existing customers where connecting behind their existing metering connection point)
 - g. Construction Schedule
 - h. Site Plan
 - i. Sequence of Operations
5. Elexicon CIA Screening Process

Once Elexicon receives the CIA application package, Elexicon will review within 14 days to ensure it is complete and, if complete, confirm whether the capacity that was available at the PCR stage is still available (note: capacity is not reserved until the CIA is completed).

Note: Once Elexicon receives the CIA application package, Elexicon will review within 14 days to ensure it is complete and, if complete, confirm whether the capacity that was available at the PCR stage is still available (note: capacity is not reserved until the CIA is completed). This also starts the timeframe for our completion of the CIA within:

Table 3. CIA Screening Process & Timeline

Elexicon CIA Screening Process	
Tasks	Timeline
Elexicon reviews the application for completeness and notifies the applicant if any application deficiency exists.	14 Days
Applicant to review, revise, and resubmit the CIA application package to Elexicon within the timeline. If the timeline is exceeded, it will be treated as a new application.	14 Days



Elexicon reviews the revised application for completeness and notifies the applicant of any additional information that may be needed. If application is substantially complete, Elexicon will check if capacity is still available at the location. If capacity is unavailable, the distributor will notify the applicant and may offer a flexible hosting capacity arrangement if possible.	7 Days
Elexicon notifies the applicant of within 5 calendar days of when the application is deemed substantially complete. If Capacity is available.	5 Days

6. CIA Timeline for Small, Medium, and Large Generation Facilities

The next step in the connection process is the completion of the CIA. Elexicon will provide the applicant with a complete response that includes an assessment of the proposed facility's impact on the distribution system, a detailed cost estimate for the required connection work, and an Offer to Connect. The overall CIA timelines are as follows:

Table 4. Connection Impact Assessment Timeline

DG Size	Timeline
Small	60 days of the receipt of the complete application where no distribution system reinforcement or expansion is required.
	90 days of the receipt of the complete application where a distribution system reinforcement or expansion is required.
Mid-Sized	60 days of the receipt of the complete application for a mid-sized generation facility.
	75 days of the receipt of the complete application for a mid-sized generation facility when a host distributor/transmitter CIA is also needed.
Large	90 days of the receipt of the complete application for a large generation facility;
	105 days of the receipt of the complete application for a large generation facility when a host distributor/transmitter CIA is also needed.



if the proposed DER qualifies for the Simplified CIA process. Upon receiving a complete CIA application and fee, Elexicon will complete the assessment and issue a Class 4 cost estimate within 30 days.

The outcome may result into a requirement for further studies, escalation to a full CIA, or issuance of an Offer to Connect. Elexicon will clearly communicate the result. If further studies or a full CIA are needed, Elexicon will notify the applicant and outline any additional fees. The applicant will then have 15 days to confirm their intent to proceed and submit the additional payment, if applicable.

Once confirmation and payment are received, Elexicon will complete the full CIA and provide a Class 4 cost estimate and CIA report within 15 days.

7. Hydro One Networks Inc CIA & IESO System Impact Assessment

For DER projects greater than 500 kW, the transmitter (Hydro One) will be required to perform its own CIA, at an additional cost to the customer. Elexicon will apply for a CIA on the customer's behalf. Additionally, for generation projects greater than 10 MW, a System Impact Assessment (SIA) will need to be completed by IESO (Independent Electricity System Operator). Additional requirements may be requested by IESO, further information can be found on [Overview of the Connection Process](#). Elexicon shall apply for a SIA to IESO on behalf of the customer. The Customer is allocated capacity upon completion of the CIA by Elexicon and Hydro One (if applicable)

8. Cost Estimate Timeline Extension for Mid-sized or Large Generation Facility

During the CIA process, if Elexicon anticipates that additional time will be required to complete a cost estimate for a mid-sized or large generation facility, the project will be reviewed to determine if it meets the conditions for a timeline extension as outlined below.

If the criteria are met, Elexicon will document the justification for the extension, clearly explaining how the conditions are satisfied. Elexicon will also notify the applicant, providing the reason for the additional time and the updated timeline for delivering the cost estimate.

This extension applies only to the cost estimate and does not affect the standard timeline for providing the applicant with the technical connection requirements.

The following criteria must be used by Elexicon to determine whether a cost estimate timeline extension is applicable to a specific generation project:

1. Compared to similar past projects, the proposed generation facility must involve one or more connection work items that are considered atypical or complex, where Elexicon:
 - a. Is required to conduct additional technical and cost evaluations of multiple



design or configuration options to determine the most appropriate and cost-effective solution for the applicant

- b. Is unable to obtain accurate cost estimates from external vendors or through collaboration with other utilities within the standard timeframe; or
 - c. Must perform additional system studies to support a complex operational arrangement requested by the applicant such as enabling islanding mode for microgrid operation.
2. Any additional time taken by Elexicon must result in a significant improvement in the accuracy of the cost estimate. If the expected cost variation is not material, the cost estimate will be issued concurrently with the technical connection requirements.

Elexicon may take up to 30 additional calendar days after issuing the CIA with the technical requirements to complete the cost estimate for a mid-sized or large generation project that satisfies both of the criteria outlined above.

9. Connection Cost Agreement & Connection Agreement

After capacity has been confirmed and the CIA process is complete, the process then moves to the connection agreement phase. The agreements required include:

- a. [Connection Cost Agreement](#)
- b. [Small-Mid Embedded Generation Agreement-Connection Agreement](#)

If the Customer decides to proceed with the project, Customer signs the CCA and makes the required payments

10. SCADA Monitoring

If applicable, Elexicon issues the Remote Monitoring Control Form to the customer. The customer completes the necessary fields and returns the document to Elexicon Energy.

11. Design and Build

Elexicon performs the work required to make the connection. The customer completes the construction of the generation facility and applies to the Electrical Safety Authority (ESA) for an electrical inspection. The customer submits final detailed design documents to Elexicon for review.

12. Commissioning

Customer confirms that communication is established with Elexicon for generation



metering and SCADA monitoring, as required. Customer completes and submits [Generator Commissioning Report](#) or [COVER-Letter of Equivalency for Generator](#) where applicable.

Elexicon may request to witness all testing and commissioning.

Upon confirming that the applicant has received all applicable permits, Elexicon provides the applicant permission to operate when all connection work items have been completed, and all connection requirements have been satisfied.

If the applicant has not completed its portion of connection work items or executed all planned commissioning and verification activities, but the DER facility can operate without adversely affecting the reliability and safety of the distribution system, Elexicon may grant a permission to operate. When doing so, Elexicon shall provide the applicant with a list of the incomplete tasks. Elexicon and the applicant must agree on the terms and conditions for completing these tasks, including a timeline. During this agreed period, the applicant is responsible for finalizing the remaining tasks.

13. Connection Agreement

Elexicon will require the following documentation for the [Connection Agreement](#):

- a. Single Line Diagram (as built)
- b. Contact Information (Owner, Contractual, and Operational contacts)
- c. Certificate of Insurance
- d. Commissioning Report
- e. Elexicon's confirmation of metering requirements, if applicable
- f. Elexicon's confirmation of remote monitoring, if applicable

Elexicon issues the Connection Agreement to be executed with the load customer. Customer completes and submits the Connection Agreement prior to energization.

14. Connect, Operate and Maintain

When the Commissioning Verification Form is approved, the final ESA Connection Authorization is received, and the Connection Agreement (and the Operating Agreement, if applicable) is signed, Elexicon will authorize connection of the generation facility to its distribution system.

Note: The ESA "Connection Authorization" is sent to Elexicon directly from the Electrical



Safety Authority. Elexicon will work with the customer to set up the appropriate settlement arrangement based on the project type.

Note: The ESA “Connection Authorization” is sent to Elexicon directly from the Electrical Safety Authority. Elexicon will work with the customer to set up the appropriate settlement arrangement based on the project type.

6. Fees Schedule

Please note as Elexicon is going under consolidation, the applicable fees may change at any point.

The table shown below describes the Connection Impact Assessment (CIA) charges associated with Distributed Energy Resource (DER) connections operating in parallel with the Elexicon system, based on the system size.

Table 5. Connection Impact Assessment Fees for Parallel Generation

Service Type	Connection Impact Assessment Charge (CIA)
≤ 10kW - Parallel operation with Elexicon system	Not required
>10kW but ≤ 100kW- Parallel operation with Elexicon system (Simplified CIA)	\$3,000
>10kW but < 1 MW- Parallel operation with Elexicon system	\$5,000

If the outcome of the Simplified CIA indicates that a Detailed CIA is required, the applicant will be responsible for an additional fee of \$2,000 + HST to proceed with the full assessment.



Please note that CIA fees is an estimated cost and actual costs will apply to be calculated at the end of project.

Please note that further fees may be stated in the [Connection Cost Agreement](#).

7. Technical Requirements

7.1 Single Phase Design Requirements – Single Line Diagram:

Generators/Customers are required to design and submit a Single Line Diagram (SLD) for the proposed project. The customer may consider a contractor to assist with the design.

Sample SLD for common project types within Elexicon's service area is shown here [Single Line Diagram Example](#).

The sample SLD pertains to parallel secondary connection, but Elexicon may impose additional or alternative requirements depending on the specific details of the project.

Please note that the samples are references outlining the minimum requirements only, the customer must design and submit an original SLD according to their project.

7.2 Load Displacement Strategy – Non Exporting DERs

The load displacement strategy ensures that no power is exported to the grid, as required in a load displacement project.

The load displacement strategy for non-micro-generation incorporates a level of protection through the use of a zero-export controller, which actively monitors and regulates the DER output to ensure that the generated power is entirely consumed on-site. This controller is designed to prevent any reverse power flow to the grid under all operating conditions, thereby ensuring full compliance with the zero-export requirement. For projects greater than 50 kW, a reverse power protection relay is required as a secondary level of protection.

Customers are required to submit an operational philosophy document confirming that a zero-export controller and reverse power protection relay are in place. This document must detail the controller's operating methodology and demonstrate how it ensures that no export to the grid occurs under any circumstances, in accordance with the zero-export requirement of the Load Displacement Program. Additionally, the document must explain how the reverse power protection relay operates as a protective device to promptly isolate the



DER in the event of any reverse power flow to the grid, ensuring compliance with the zero-export requirement.

7.3 Label Requirements:

All labels must be lamacoid engraved.

1. Labels placed on the main service disconnect switch shall have the following label content:
 - a. Text identifying the switch as the main service disconnect, such as "MAIN SERVICE DISCONNECT".
 - b. Text identifying the switch as a distributed generation disconnect (if applicable), such as "GENERATION DISCONNECT".
 - c. Warning text indicating the presence of two power sources in the system, such as "WARNING – TWO POWER SOURCES PARALLEL SYSTEM".
 - d. Single Line Diagram (SLD) note stating that the label must accurately reflect the physical and schematic installation.
2. Labels placed on the main service metering cabinet shall have the following label content:
 - a. Warning text indicating the presence of two power sources in the system, such as "WARNING – TWO POWER SOURCES PARALLEL SYSTEM".
 - b. Warning text specifying lockout requirements before accessing the cabinet, such as "WARNING – METERING CABINET IS CONNECTED TO THE ELEXICON POWER GRID AND GENERATOR. MAIN SERVICE AND GENERATION DISCONNECTS MUST BE OPENED AND LOCKED OUT BEFORE ACCESSING METERING CABINET".
 - c. Single Line Diagram (SLD) note stating that the label must accurately reflect the physical and schematic installation
3. Labels placed on generation disconnect shall have the following label content:
 - a. Text identifying the switch as a generation disconnect, such as "GENERATION DISCONNECT".
 - b. Warning text indicating the presence of two power sources in the system, such as "WARNING – TWO POWER SOURCES PARALLEL

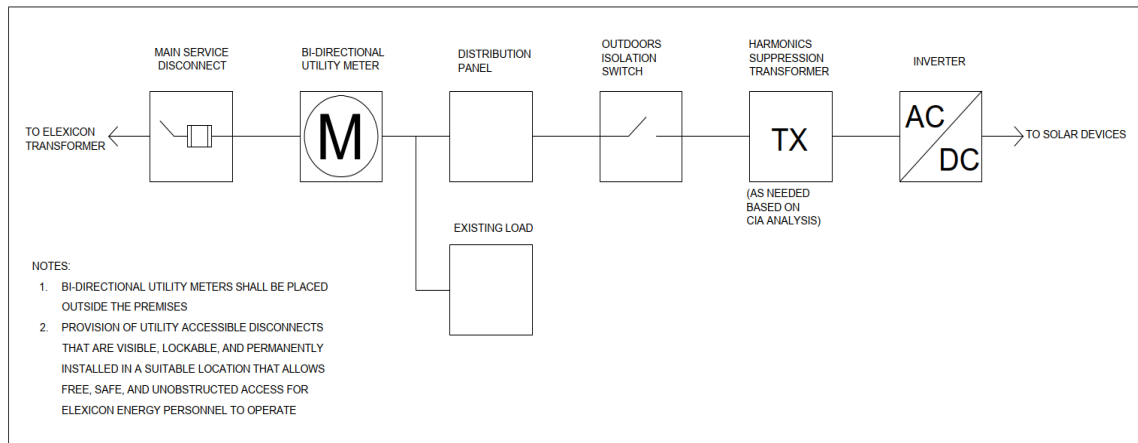


SYSTEM”.

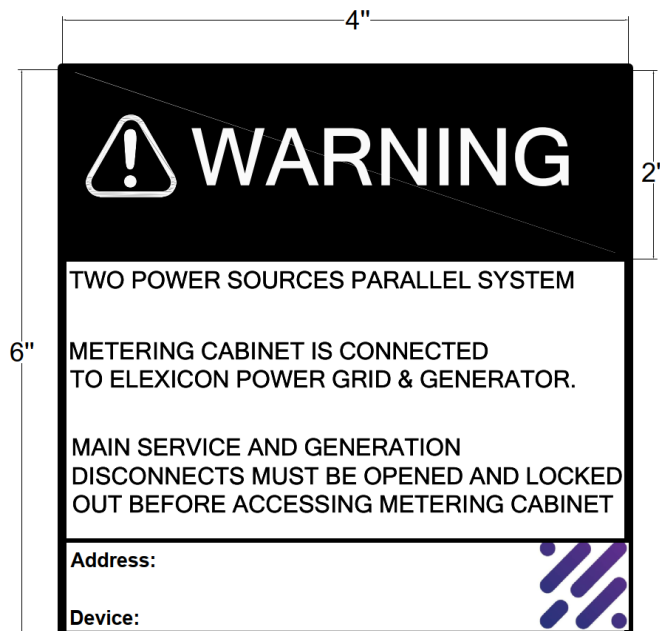
- c. Single Line Diagram (SLD) note stating that the label must accurately reflect the physical and schematic installation.

7.3.1 Lamacoid SLD Sample:

Three Phase DER Project – Lamacoid SLD Sample:



7.3.2 Main Service Metering Cabinet Label Template:

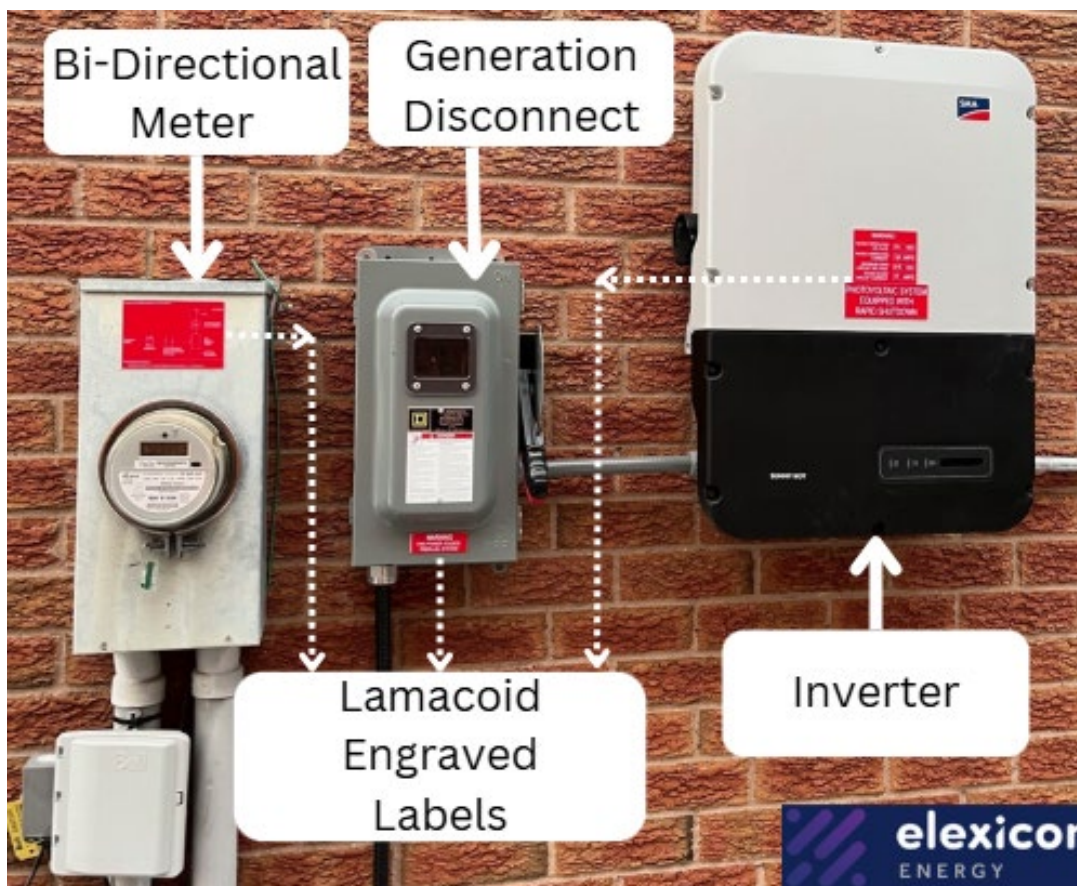


NOTES:

1. ALL TEXT ON THE LABEL MUST BE CLEARLY LEGIBLE, WITH PRIMARY HEADINGS (SUCH AS 'ALERT TYPE') USING A MINIMUM FONT HEIGHT OF 0.7 INCHES, AND GENERAL LABEL CONTENT MAINTAINING A MINIMUM HEIGHT OF 0.5 INCHES
2. NUMERALS/LETTERS AND THE BACKGROUND MUST BE IN CONTRASTING COLORS
3. METER EQUIPMENT LABELS MUST CORRESPOND TO PERMANENT UNIT/SUITE NUMBERS ATTACHED TO OR NEXT TO CORRESPONDING UNIT DOORS/SUITE ENTRANCES



7.4 Sample Installation with Lamacoid Plates



7.5 Small, Mid-Sized or Large DER Three Phase Design Requirements:

As per the [Single Line Diagram Example](#), the Single Line Diagram (SLD) must include the following elements:

- A. The disconnect switch.
- B. The step-up transformer (if applicable).
- C. The meter location.
- D. The connection point to the existing service.



7.6 Three Phase Metering Requirements:

7.6.1 Customer to:

- A. The customer must supply and install the meter base and generation disconnect switch. Refer to the “Approved List of Meter Bases” below. For more information, please contact DxGenerationPlanning@elexiconenergy.com

Table 6. List of Approved Meter Bases

Approved List of Meter Bases	
Manufacturer	Model
Microelectric	BDA2
Hydel	HC22R
Eaton	2K2

- B. All installations must comply with Elexicon Metering Standards.
- C. Metering must have operational control of the low voltage (LV) disconnect switches to allow for proper isolation of metering points.
- D. All metering and generation disconnect switches must be mounted inside the main electrical room.
- E. Ensure the installed meter socket's location complies with building and fire codes to maintain safe and accessible placement
- F. A neutral connection is required for Generation Metering (Gross Load Billing – GLB metering). The customer must install neutral wiring to the GLB metering cabinet
- G. The metering setup must be three (3) phase, four (4) wire.
- H. An isolation device must be installed within line of sight, before and after the generation metering cabinet/base, on the load side, connected in parallel with the distribution panel.
- I. A Single Line Diagram (SLD) and a plan view must be supplied and mounted next to the main meter.
- J. Metering communication and equipment will be determined based on project specifics.



K. For sites with switchgear and a meter cabinet:

- a. The cabinet must be CSA-approved and listed as a metering cabinet.
- b. The customer must provide the installation date for the metering cabinet and its associated equipment

7.6.2 Ellexicon to:

Provide and install generation meter(s) as required by the Connection Impact Assessment (CIA).

7.7 Three Phase DER Project Requirements:

1. The customer must design and submit a Single Line Diagram (SLD) of the proposed project. The original SLD must be provided and include:
 - a. All primary and secondary voltage facilities connected to the generator(s).
 - b. Locking scheme.
 - c. Ratings of protective devices or fuses.
 - d. Primary and secondary switchgear.
 - e. Metering facilities.
2. For projects exceeding 10 kW, a Connection Impact Assessment (CIA) is required. The customer must submit a completed, sealed, and signed SLD by a Professional Engineer and provide payment for the CIA, based on project size. The connection cost will be detailed in the Connection Cost Agreement (CCA).
3. The customer shall ensure that an effective load displacement strategy is implemented for non-exporting projects, which includes a fully functional zero-export controller designed to prevent any export of power to the grid under all operating conditions. For projects exceeding 50 kW, a reverse power protection relay shall also be installed to provide an additional layer of protection against reverse power flow.
4. The customer shall submit an operational philosophy document detailing the load displacement strategy for non-exporting projects. This document must confirm the presence of the zero-export controller and, where applicable, the reverse power protection relay. It should clearly describe the zero-export



controller's operating principles and explain how it prevents any export to the grid. Additionally, the document must explain how the reverse power protection relay functions as a protective device to promptly isolate the DER in the event of reverse power flow, ensuring full compliance with the zero-export requirement.

5. The voltage rating and phase configuration of the proposed generation connection must match the existing load connection.
6. The customer must supply and install the Distributed Generation (DG) disconnect switch(es), which must:
 - a. Be CSA-approved (or an equivalent approved under the Ontario Electrical Safety Code - OESC) and rated for the application.
 - b. Have a visible break isolation
 - c. Be accessible, weatherproof, and pad-lockable from outdoors.
7. If applicable, the main service disconnect switch may serve as the generation disconnect switches, subject to inspection and approval by Elexicon staff.
8. The customer must supply and install all required labels at designated locations, in accordance with the "Label Requirements".
9. The customer must provide the following information for review and approval by the Elexicon DER team, as requested:
 - a. Trip settings and delays at interface devices.
 - b. A coordination study of all protective devices, with time-current characteristics plotted on a log-log graph.
10. The project may be subject to an Elexicon site inspection, if required.
11. Elexicon will connect the project to its distribution system after the following conditions are met:
 - a. ESA provides Authorization to Connect directly to Elexicon.
 - b. Elexicon inspector and staff approve the connection.
 - c. All applicable service conditions and necessary approvals have been satisfied.
 - d. The customer has entered into a Connection Agreement with Elexicon.



8. Reference Links

1. Elexicon Energy Distributed Generation Main Home Page:
[Elexicon Energy Distributed Energy Resources](#)
2. Elexicon Energy Distributed Generation for Small, Mid-Sized, & Large Projects:
[Embedded Generation Greater than 10 kW - Elexicon Energy](#)
3. PCIR- Preliminary Consultation Information Request:
[Preliminary Consultation Information Request \(PCIR\) form](#)
4. Connection Impact Assessment (CIA) Application:
[The CIA Application Form](#)
5. Elexicon's Study Agreement:
[CIA Study Agreement](#)
6. Sample Protection Philosophy:
[DER Protection Philosophy Checklist](#)
7. Restricted Feeder List:
[List of Restricted Feeders](#)
8. Elexicon Energy Commissioning Verification Form:
[Generator Commissioning Report](#)
9. Elexicon Energy Confirmation of Verification Evidence Report (COVER):
[COVER-Letter of Equivalency for Generator](#)
10. Connection Cost Agreement:
[Connection Cost Agreement](#)
11. The Connection Agreement:
[Small-Mid Embedded Generation Agreement-Connection Agreement](#)
12. Elexicon Energy SCADA DER Guideline:
[DER SCADA Guideline](#)