DERCP SAMPLE SINGLE LINE DIAGRAM

DERCP 1.0 March 22, 2025 Appendix B.

Item Number	Information to Include
1	The title block should include: • The legal name of the facility owner • Facility address/location • Project purpose • LDC assigned project ID • Revision history
2	• State utility's distribution and transmission facility (station) name(s) • State the name of utility's station feeder to which the generator is connected • State the nominal distribution supply voltage (eg. 27.6kV) • State the information for the upstream and downstream switches closest to the PCC (nomenclature, type, etc.)
3	•LDC to assign nomenclature for this switch. Note: initial submission can have the consultant/customer assigned nomenclature if a LDC designation is not yet available. The consultant/customer then has the option to replace the initial designation with LDC designation or keep both. Ensure the LDC designation is clearly marked to differentiate it from the consultant/customer designation (bolded, in brackets, etc). LDC only refers to the LDC designation when dealing with the customer. Example, when witnessing the switch used for work protection as per the LDC TIR. When submitting the new SLD with the changes, a higher revision number of the SLD should be used to track the changes.
4	• The Point of Common Coupling (PCC) is the point of demarcation between LDC and DER. It is the point where the DER is to connect to LDC's Distribution System. PCC demarcation point • LDC designated facility operating designation • If the nomenclature is not included, the SLD is considered incomplete.
5	• Fault indicators with directional functionality are required for each phase between the PCC and the first pole on the customer owned new line and should be visible from the PCC location.
6	• Provide the length(s), ownership, and size(s) of line(s) from PCC to the meter. This data is used for SSLA determination. The metering point is at the location of the CT's and not the physical meter. • To comply with LDC TIR
7	• State the number of CTs being used • State the CT ratios including both ratios if they are dual ratio • State the in-use CT ratio if dual ratio • State the ANSI/CSA CT accuracy class information (provide example on SLD after)
8	• Clearly identify existing and new facility if applicable
9	• If a new equipment (ex. transformer) is being replaced in an existing facility, it should be indicated • Ensure all existing generators or backup generators are shown
10	• LDC designation must be shown • Voltage rating • Current rating

	• Type of switch • Single/3 phase • Physically accessible to LDC Alternatively, switch information can be shown on SLD as per item number 14
11	Fuse information to include: • Fuse rating • Manufacturer make/model • Fuse type on the SLD • Example: S&C SMD-1A 50E TCC153
12	Transformer Information to include: • Winding configuration • LDC designation • Manufacturer make/model • Rating • Ratio • Transformer ownership
13	• Please detail where the existing FIT/micro-FIT generator/meter are connected (if applicable). • Include LDC ID • Show existing load • Capacity • Type For new generators: • Show the generator(s) connection(s) to the power transformer(s) • Show the operating nomenclature of the generator(s) (e.g. G1, G2, etc.) • State the nameplate capacity of the generator or individual generators, where there is more than one, in kVA / MVA. or kW / MW • For solar, state the size(s) and number of inverter(s) • State the operating power factor (PF) • State connection type (Wye, Delta, etc.) and indicate grounding • State whether the generator is induction or synchronous type.
14	This is an alternate way to item number 10 to show the information for a switch • LDC designation • Voltage rating • Current rating • Indicate which device is complaint with isolation device requirements
15	To comply with LDC TIR
16	• LDC designation • Manufacturer make/model • Current rating

	• Single/3 phase Note: initial submission can have the consultant/customer assigned nomenclature if a LDC designation is not yet available. The consultant/customer then has the option to replace the initial designation with LDC designation or keep both. Ensure the LDC designation is clearly marked to differentiate it from the consultant/customer designation (bolded, in brackets, etc). LDC only refers to the LDC designation when dealing with the customer. Example, when witnessing the switch used for work protection as per the LDC TIR. When submitting the new SLD with the changes, a higher revision number of the SLD should be used to track the changes. See SLD example.
17	• The Point of DER Connection (POC) is the point where DER unit(s)'s interconnection system connects the DER unit(s) to the DER facility. • Depending on the facility, it can be the same as the PCC
18	• Include LDC Project ID # • Inverter manufacturer make/model • MW rating • IEEE/ANSI protection elements need to be noted for the customer's inverters • Include • CSA Certification
19	• Manufacture make/model • MWh rating • Include information for gross load billing where required
20	• Teleportation equipment make/model • Flow of information/signals
21	• Relay manufacturer make/model • ANSI Device numbers used • Flow of information signals
22	Flow of signals between devices
23	Other general information required: • SLD must be stamped and signed by a Registered Professional Engineer in the Province of Ontario • All information on the SLD must be legible, and of a reasonably sized font for ease of reading • The Connection Impact Assessment provides details regarding the type and configuration of isolation devices required. • The DER facility must comply with all applicable interconnection requirements specified in the "Distributed Generation Technical Interconnection Requirements Interconnections at Voltages 50kV and Below" (TIR).

Refer to OEB, Distributed Energy Resources Connection Procedures Version 1.0, Appendix B for drawing.