



**WORKS AND UTILITIES
ELECTRICAL UTILITY DIVISION**

SUMMERLAND

DISTRIBUTED GENERATION PROGRAM

APPLICATION PACKAGE

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Distributed Generation Program Process Overview

Works and Utilities, Electrical Utility Division
Phone: 250 494-0431 Fax: 250 494-3399
Email: netmetering@summerland.ca
www.summerland.ca/netmetering

The District of Summerland's Distributed Generation (DG) program provides for inverter-based generating systems of up to 30 kW capacity to be interconnected to the Summerland Distribution System and be set up for "net-metering". The program is open to existing District Electric Utility customers. An overview of the Interconnection Application and review process, and answers to common questions, are provided in this document.

The District of Summerland's technical requirements for a distributed generation interconnection are outlined in the **Distributed Generation Systems: Technical Interconnection Requirements**. Customers and their installers must review this document to ensure the distributed generation system meets all of these requirements.

Note: the Technical Interconnection Requirements document is not a replacement for electrical codes or other applicable standards.

DG Systems which are interconnected to the Summerland Distribution System under the program must meet established Canadian Electrical Code standards, District bylaws, and Electric Utility Department requirements. Please visit www.summerland.ca/netmetering to review the relevant District bylaws and guidelines.

Distributed Generation Program Application Process:

- 1) Customer picks up the District of Summerland Distributed Generation Program Application Package from Municipal Hall or downloads from www.summerland.ca/netmetering.
- 2) Customer & installer review the District of Summerland Distributed Generation Systems: Technical Interconnection Requirements.
- 3) Customer completes the following forms and drops them off at the Development Services department at Municipal Hall or emails them to netmetering@summerland.ca to begin the application process:
 - Electrical Utility Service Request Form
 - Distributed Generation Program Interconnection Application
 - If the contractor or installer is completing the forms on behalf of the customer, the 'Agent Authorization' section of the Distributed Generation Program Interconnection Application must be completed.
- 4) The application and associated documents are reviewed by the District for compliance with the Distributed Generation Technical Interconnection Requirements and for any technical or safety concerns.
- 5) Once the application is determined to be in order, the District will contact the customer to indicate the application has been approved.
- 6) The District will provide the customer with an estimate for the bi-directional meter installation.



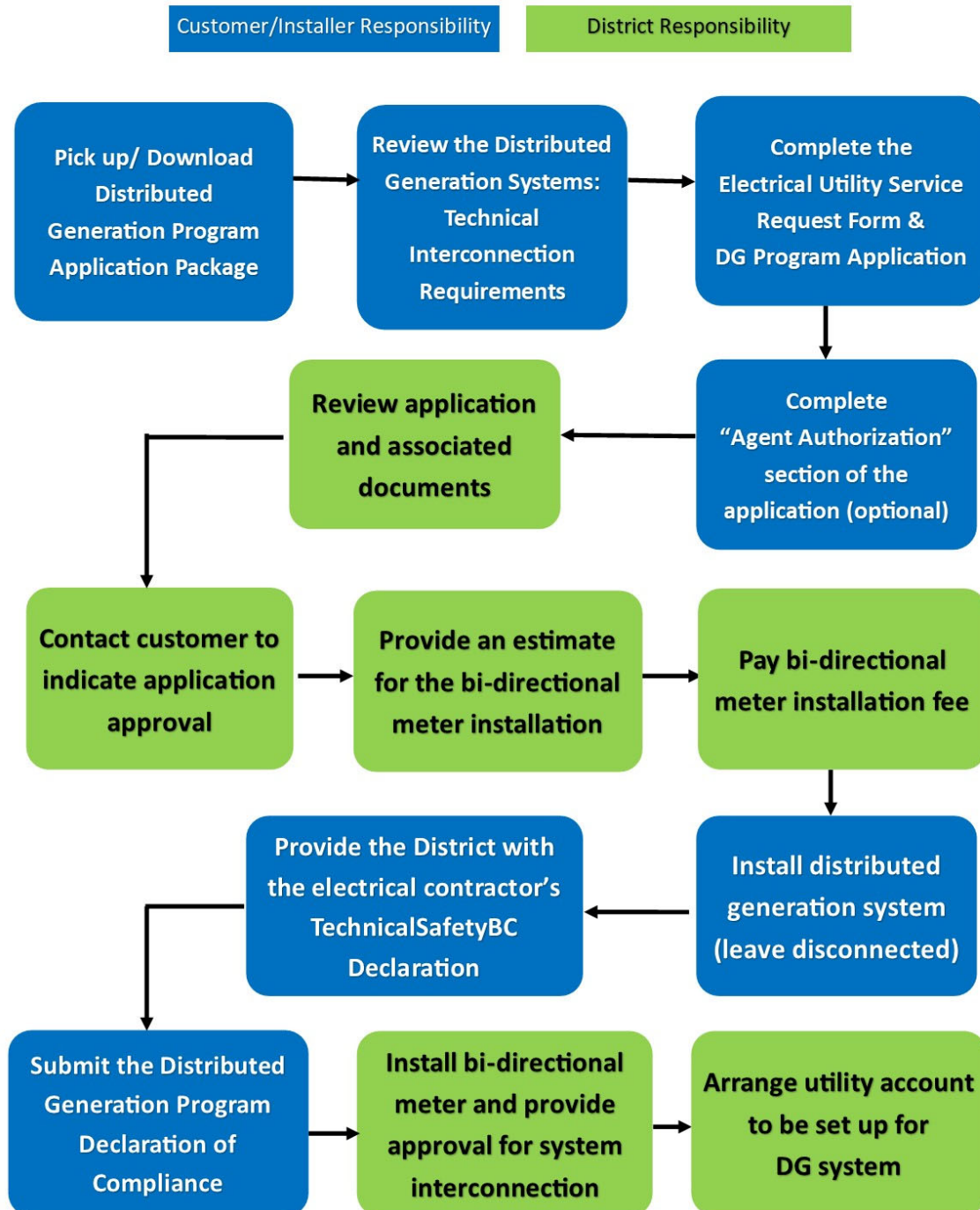
- 7) Following notice of approval of the application, the contractor proceeds with the installation of the distributed generation system, ***leaving it disconnected***.
- 8) The customer provides the District with a copy of:
 - The electrical contractor's TechnicalSafetyBC Declaration
 - The District of Summerland Distributed Generation Program Declaration of Compliance
- 9) Once the District has confirmed that the fee for the bi-directional meter has been paid, the District will review the DG installation and install the bi-directional meter at the property.
- 10) The District will email the customer approval to interconnect the distributed generation system to the Summerland Distribution System (***do not connect until approval confirmed***).
- 11) The District will arrange to have the customer's Summerland utility account set up to reflect excess energy produced by the DG system.

Distributed Generation Program Customer Checklist:

As a customer interested in Summerland's Distributed Generation Program, I have:

- ☐ implemented energy efficiency measures in my building in order to maximize the benefits of my DG system (recommended)
- ☐ reviewed the District's "Thinking about Solar for Your Home?" document (recommended)
- ☐ engaged a professional Electrician or Installer experienced with inverter-based systems
- ☐ reviewed the **Distributed Generation Systems: Technical Interconnection Requirements** and ensured my installer has as well
- ☐ reviewed all other program requirements and relevant bylaws and ensured my installer has as well
- ☐ confirmed my DG System has an aggregate nameplate rating of 30kW or less
- ☐ confirmed my DG System has been certified under CSA C22.2 No.107.1-01
- ☐ submitted an **Electrical Utility Service Request Form** to the District
- ☐ submitted a **Distributed Generation Program Interconnection Application**, including a single line diagram, to the District
- ☐ completed the "Agent Authorization" section of the application (optional)
- ☐ paid the fee for the installation of a bi-directional meter
- ☐ provided the District with the electrical contractor's **TechnicalSafetyBC Declaration**
- ☐ submitted a signed copy of the **Distributed Generation Program Declaration of Compliance**
- ☐ received approval to connect my generation system to the grid (***do not connect until approval confirmed***)

Summerland Distributed Generation Program Process





Frequently Asked Questions:

How Does Net Metering Work?

Each month, a reading will be taken from your bi-directional meter to show how much energy your property consumed from the utility grid, and how much produced energy your DG System pushed back onto the grid. If you produced more than you consumed, the excess energy will be “banked” and rolled forward to the following month where it will be applied at the retail rate (Tier 1) for electricity. At the end of the calendar year, any remaining credits will be purchased at the wholesale rate. Full details on the program and the current rates can be found in the Fees & Charges Bylaw, a link to which is at www.summerland.ca/netmetering

Please note that the rates for produced energy are subject to change.

What Does it Cost to Participate in the Program?

There is no application or program fee for the program, but customers will be responsible for the entire cost of their own generation systems including design, permits, installation & maintenance, as well as the cost of the bi-directional meter installation. These costs will vary depending on what kind of technology and what size of system is chosen.

The District will provide an estimate for the bi-directional meter installation during the application process, which is typically between \$400-\$600. This fee must be paid before the system is approved to be connected to the Summerland Distribution System.

How Long Does the Process Take?

The application review and approval time varies depending on how many active applications the District has received at that time, as well as the available inventory of bi-directional meters. While every effort is made to move customers through the process as quickly as possible, it may take up to 6 months from the time of application to being approved for interconnection.

Other factors that influence the timelines are having all of the required forms completely filled out with all required attachments, and how long your installer/contractor takes to complete the installation on your property. Working with your contractors to have all paperwork completed ahead of application and ensuring they have all required permits and materials in place will assist in moving through the process quickly.

What are my Responsibilities Once I am Granted Approval?

Distributed generation system owners are required to:

- Keep their generating systems safe and in proper working condition
- Keep maintenance records as recommended by the equipment manufacturers
- Verify correct operation of Anti-Islanding and Rapid Shutdown protective functions according to the manufacturer's recommended schedule, or at least annually
- Maintain uninhibited access to their DG System disconnecting means for the Electrical Utility and Emergency Services personnel
- Submit a new Interconnection Application for review in the event of upgrading or upsizing



Distributed Generation Systems: Technical Interconnection Requirements

Revision 1
July 2019



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1 Introduction

The District of Summerland provides a means for distribution-connected customers to connect a small energy source to the Summerland Distribution System to offset their load and participate in the Distributed Generation (DG) program.

This document contains the technical interconnection requirements for connecting small generators to Summerland's Distribution System. The total generation must have an aggregate nameplate rating of 30 kW or less. DG Systems with generation over this limit will be assessed on a case by case basis.

In this document, customers who are connecting a generator are referred to as Distributed Generation System owners. DG System owners must obtain approval from Summerland to interconnect their generator to the Summerland system.

The requirements outlined in this document are intended to:

- ensure the safety of the customer, Summerland personnel, and the public;
- maintain reliability and power quality on the Distribution System; and
- establish the range of operating conditions that DG systems will encounter.

The aggregate nameplate rating of the generators at the Point of Common Couplings shall not exceed the capacity of the customer's existing electrical service. The customer may upgrade their electrical service to meet this requirement, at their cost, subject to approval by the Summerland Electrical Utility.

How to use this document

- 1) Confirm the generator can operate within the Distribution System parameters in Section 2;
- 2) Refer to the interconnection requirements in Section 3



1.1 Disclaimers

The information contained in this document is subject to future revisions. Important notes of limitations include:

- this document is not a replacement for electrical codes or other applicable standards;
- this document is not intended or provided by Summerland as a design specification or as an instruction manual for the DG System owner, employees or agents, and the document shall not be used by the proponent, their employees, or agents for those purposes. Persons using this information do so at no risk to Summerland and they rely solely upon themselves to ensure that their use of all or part of this document is appropriate in their particular circumstance;
- the DG System owner, employees, or agents recognize that they are, at all times, solely responsible for the generation system design, construction, and operation. Summerland, its employees or agents shall not be or become the agent of the proponent in any manner howsoever arising; and
- the advice by Summerland, its employees or agents, that the generation system design or equipment meets certain Summerland requirements does not mean, expressly or by implication, that all or any of the requirements of the law or good Engineering practice have been met by the owner, and such judgement shall not be construed by the owner or others as an endorsement of the design or as a warranty by Summerland, its employees and agents, of the design or equipment, or any part thereof.

1.2 Revision History

Date	Revision	Comments
July 2019	1	Original

2 Summerland Distribution System

Under normal and emergency conditions, Summerland's Distribution System exhibits a range of electrical parameter fluctuations. They are summarized in Table 1. The DG System owner must ensure that the DG System can operate satisfactorily under these conditions and protect itself against excursions outside of these parameter ranges.

Table 1 - Distribution System Parameters

Parameter	Typical Value or Reference	Notes and Standards Referencing
System	60 Hertz (59.7 Hz to 60.2 Hz)	Refer to Clause 5.2.2 of CSA C22.2 No. 257-06.
Service Entrance Voltage	Normal Operating Conditions: +4.2 / -8.3 % Extreme Operating Conditions: +6 / -11.5 %	For 1-Phase 120/240 V, 347/600 V Y, 240 V Delta and 480 V Delta.
Harmonics	Maximum Voltage Total Harmonic Distortion (THD): < 8% Long Term THD (≥ 10 min) < 11% Short Term THD (≤ 3 sec)	Refer to Clause 4.3 of CAN/CSA C61000-2-2.
Voltage Flicker	Compatibility levels for severity indices: short-term (10 min), $P_{st} = 1.0$ long-term (2 hour), $P_{lt} = 0.8$	Compatibility levels (95 % weekly probability) for flicker in LV systems; 99 % weekly probability values must fall within 1.3×95 % levels. Refer to Table 1 of CAN/CSA- C61000-3-7.
Rapid Voltage Fluctuation	Number of Voltage Changes (n) Change (%) $n \leq 4/\text{day}$ 5-6 $n \leq 2/\text{hour} \ \& \ > 4/\text{day}$ 4 $2 < n \leq 10/\text{hour}$ 3	Rapid voltage fluctuation on the MV system can become a problem when induction generators are started; voltage rise and fall constitutes 2 changes ($n = 2$), and higher values may be permissible under abnormal system conditions. Refer to Table 6 of CAN/CSA-C61000-3-7.
Voltage Unbalance	When averaged over 10 min, under normal conditions, Summerland targets: V_U of <2% for 95% of the time and V_U of <3% for 99.9% of the time.	The voltage unbalance factor (V_U) is approximated by dividing the greatest phase deviation from the mean voltage by the mean voltage. Refer to CAN/CSA- C61000- 4-30-04 for use of symmetrical component ratios for calculation of voltage imbalance. DGs interconnecting with the Distribution System must not create objectionable voltage unbalance. Refer to Clause 7.2.5 of CAN/CSA-C22.3 No. 9-08.
Fault Levels	These vary based on circuit configuration and project location.	
System Grounding	3-phase, 4-wire multi-grounded	
Fault and Line Clearing	Summerland may use automatic reclosing (re-energizing of the line) on circuit breakers which have been tripped for faults.	The DG System must cease delivering power within 0.16 seconds after de-energization of the Distribution System (unless explicitly accepted by Summerland) and not re-energize or synchronize until the Distribution System is Stable. 5 minutes after power restoration.

3 Distributed Generation Requirements

3.1 What Qualifies as a Distributed Generation System?

For the purposes of this document, a Distributed Generation System shall meet all of the following:

- be an inverter-based system installed in accordance with *Canadian Electrical Code (CEC) Part I* and **certified** to the requirements of *CSA C22.2 No. 107.1-01* for utility interconnection; and
- has an aggregate nameplate rating of 30 kVA at 0.9 power factor at the Point of Common Coupling; and
- has revenue metering that is 200A or less and single phase; and
- use as an energy source a low-carbon or renewable resource, such as water power, solar energy, wind energy, geothermal energy, wood residue energy, energy from organic waste, and other energy sources approved by the General Manager, Electrical Utility

3.2 Requirements

This section provides the technical requirements to be met by any DG System that will be interconnected to Summerland's Distribution System.

3.2.1 Equipment

General

As applicable, DG Systems shall meet:

- *CEC Part I (see Sections 50, 64 & 84)*
- *CAN/CSA-C22.2 No. 257-06*
- *CAN/CSA-C22.3 No. 9-08*
- *CSA C22.2 No. 107.1-01*

Point of Common Coupling

The Point of Common Coupling (PCC) is the point where Summerland's Distribution System and the DG System owner's installation interconnect. This is typically at the weatherhead (for overhead service connections) or at the revenue meter base (for underground service connections). Summerland is responsible for design, construction, maintenance, and operation of all facilities on the Summerland side of the PCC. The DG System owner shall be responsible for design, construction, inspection, maintenance, and operation of all facilities on their side of the PCC.

DG System Disconnect Means

All generators interconnected with the Distribution System require a means to safely disconnect them and ensure isolation in accordance with *CEC Part I*, Section 84. Summerland's Electrical Utility does not specify the physical location of the customer's means of disconnection.

As per *CEC Part I, Section 84-030*, the DG System owner shall install a warning label at the



revenue meter location and at the Disconnect Means, and a single-line, permanent, legible diagram of the interconnected system shall be installed in a conspicuous place at the disconnecting means.

3.2.2 Protection

The generator protection shall be in accordance with CEC Part I and Appendix C: Technical Tables.

Anti-islanding

The anti-islanding requirements of *CAN/CSA-C22.2 No. 257-06* and *CSA C22.2 No. 107.1-01* requires the inverter to cease energizing the Distribution System within 0.1 seconds upon loss of the utility (Summerland) supply. This provides for the safety of electrical workers and the public.

Grid-dependent inverters are designed to only energize when the utility (Summerland) supply is present, but grid-interactive inverters can also operate in stand-alone (sometimes called off-grid) mode and must be verified to be in grid-dependent mode. A grid-interactive inverter may contain the internal disconnects and transfer switch to ensure isolation from the Summerland Distribution System while still supplying an essential load panel. See Appendix A: Definitions and References for more detailed definitions.

3.2.3 Power Quality

Inverters certified to the requirements of *CSA C22.2 No. 107.1-01* for utility interconnection meet the power quality requirements for connection to the Distribution System.

3.2.4 Commissioning & Operation

General

The DG System owner is required to confirm that all requirements of the manufacturer are met, and that the DG System installation meets the requirements of this document and *CSA C22.2 No. 257-06*. If requested, the DG System owner will provide to Summerland a list of step-by-step energizing and commissioning procedures prior to DG System commissioning.

The DG System owner shall retain a complete set of manuals, installation drawings, permits, inspection and verification test reports and make them available to Summerland if requested.

Testing & Commissioning

Prior to completion of DG System commissioning, or whenever the generator system is modified, a verification test shall be performed as recommended by the equipment manufacturer and required by *CAN/CSA-C22.2 No. 257-06* Section 7. Testing of the DG System shall include procedures to functionally test all protective elements including verification of inverter trip timing.

Maintenance & Operation

In addition to keeping all equipment well maintained and functional, the DG System owner shall verify the generator's interconnection protective functions according to the manufacturer's recommended schedule, or at least once a year as required by *CAN/CSA-C22.2 No. 257-06* Section 8. If there is no manufacturer's recommendation, operation of the disconnecting means and verifying that the inverter system automatically ceases to energize is an acceptable method



of verification. Maintenance records shall be maintained by the owner. Failure to perform and record maintenance can result in disconnection of the DG System.

The DG System owner must notify Summerland of any subsequent changes to equipment, by submitting a revised Interconnection Application form, to confirm that the proposed equipment modification still meets the requirements to qualify as a DG System.

Appendix A: Definitions and References

A.1 Definitions and Acronyms

Canadian Standards Association (CSA): An accredited standards development organisation within Canada.

Disconnecting Means: A device, group of devices, or other means whereby the conductors of a circuit can be disconnected from their source of supply.

Distributed Generation (DG): Electric power generation facilities connected to the Summerland Distribution System through the Point of Common Coupling.

Distributed Generation System Owner (DG System Owner): Any legal entity responsible for the DG System interconnected to the Distribution System for the purpose of generating electric power.

Distributed Generation System (DG System): The aggregate of the Distributed Generation electricity generator, inverter(s), control system(s), sensing device(s) or function(s), and protection devices and functions to the customer service entrance disconnect switch.

Distribution System: That part of the Summerland system that operates at 34,500 V or less and distributes electric power between Summerland substations and Points of Common Coupling.

Generator: Equipment that produces electric power. (Note: The inverter is recognized as being a “generator” from the perspective of the Distribution System)

Interconnection: The result of the process of electrically connecting a Distributed Generation System in parallel with the Distribution System.

Interconnection System: The collection of all interconnection equipment, including the utility interconnected inverter, and functions, taken as a group, used to interconnect a Distributed Generator to the rest of the customer's facilities. The interconnection system can be internal to the Distributed Generation System (see Figure B.1).

Inverter: A power electronic device, which converts DC power into AC power.

Grid-Tied Inverter (also known as *Grid-connected Inverter*): An inverter that is able to operate in *grid-parallel mode* (in which an inverter operates in parallel with the Distribution System and contains provision for synchronising its voltage, phase, and frequency to the Distribution System).

Grid-Dependent Inverter: A type of *Grid-Tied Inverter* that operates only in *grid-dependent mode* (in which an inverter operating in grid-parallel mode depends on Summerland's distribution facility to initiate and maintain its operation). As per CSA C22.2 No. 107.1-01, Section 15.3.5.4, a Grid-Dependent Inverter must cease to deliver power within 2 seconds of loss of the grid.

Grid-Interactive Inverter: A type of *Grid-Tied Inverter* that is able to operate in both *stand-alone mode* (in which an inverter operates in isolation from Summerland's distribution facility, and generates its own voltage, phase, and frequency conditions (i.e. self-commutated) and *grid-parallel mode* (see “Grid-Tied Inverter” definition) according to the availability of Summerland's distribution facility.

Island: A condition in which a portion of the Distribution System is energized by one or more Distributed Generation Systems while that portion of the Distribution System is electrically separated from the rest of the Distribution System.

Parallel Operation: The simultaneous energization of a Point of Common Coupling by the Distribution System and the Distributed Generation System.

Point of Common Coupling (PCC): The point where Summerland's Distribution System and the DG System owner's installation interconnect.

Protection Scheme (or protection system): The protection functions, including associated sensors, relaying, and power supplies, intended to protect the distribution system or interconnection equipment.

Stable or Stabilized: Refers to the Distribution System voltage returning to the normal range of level and frequency for five minutes or a time as co-ordinated with Summerland, following a disturbance.

Total Harmonic Distortion (THD): A measure of the total sum of squares of harmonic frequency signals compared to a fundamental frequency signal.

Voltage Flicker: A variation in Distribution System voltage large enough to be perceived as an objectionable change of intensity from a light bulb.

Wires Owner (Summerland): The legal entity responsible for the Distribution System within the District of Summerland.

A.2 References

- 1) CAN/CSA-C22.2 No. 257-06, "Interconnecting Inverted-Based Micro-Distributed Resources to Distribution Systems." March 2006.
- 2) CAN/CSA-C22.3 No. 9-08, "Interconnection of Distributed Resources and Electricity Supply Systems." June 2008.
- 3) CAN/CSA-C61000-2-2, "Electromagnetic Compatibility (EMC) – Part 2-2: Environment – Compatibility Levels for Low-Frequency Conducted Disturbances and Signalling in Public Low-Voltage Power Supply Systems." November 2004.
- 4) CAN/CSA-C61000-3-7, "Electromagnetic Compatibility (EMC) – Part 3-7: Limits – Assessment of emission limits for the connection of fluctuating installations to MV, HV and EHV power systems." February 2009.
- 5) CSA C22.1-12, "Canadian Electrical Code Part 1, Safety Standards for Electrical Installations, 22nd Edition" (With BC Amendments). January 2012. (CEC Part I).
- 6) CSA C22.2 No. 0-10, "General Requirements – Canadian Electrical Code, Part II, 10th Edition." September 2010. (CEC Part II)
- 7) CSA CAN-3-C235-83, "Preferred Voltage Levels for AC Systems, 0 to 50,000 Volts, Canadian Utility Distribution Systems." Reaffirmed 2010.
- 8) CSA Standard C22.2 No. 107.1-01, "General Use Power Supplies." September 2001.
- 9) IEEE 100, "The Authoritative Dictionary of IEEE Standards Terms, Seventh Edition." December 2000.
- 10) IEEE Std C37.90-2005, "IEEE Standard for Relays and Relay systems Associated with Electric Power Apparatus." January 2006.

Appendix B: Figures and Single Line Diagrams

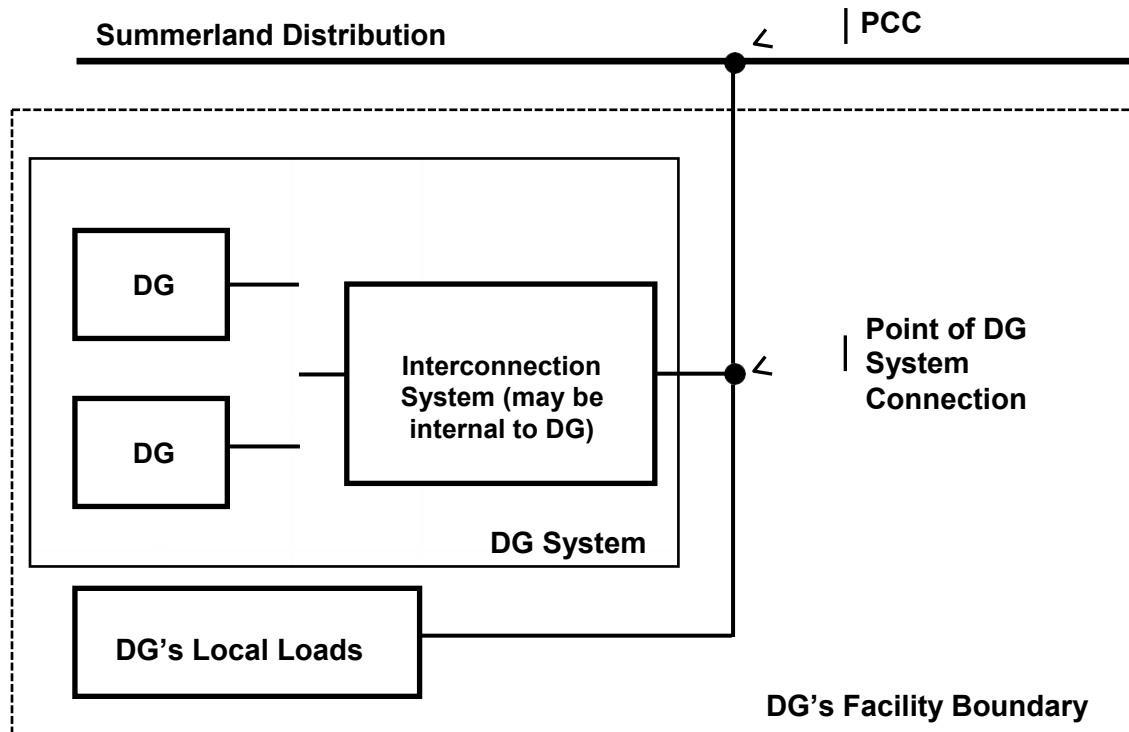


Figure B.1 – Relationship between DG System and Other Interconnection Terms (Source: Adapted From CAN/CSA-C22.2 No. 257-06 Figure 1)

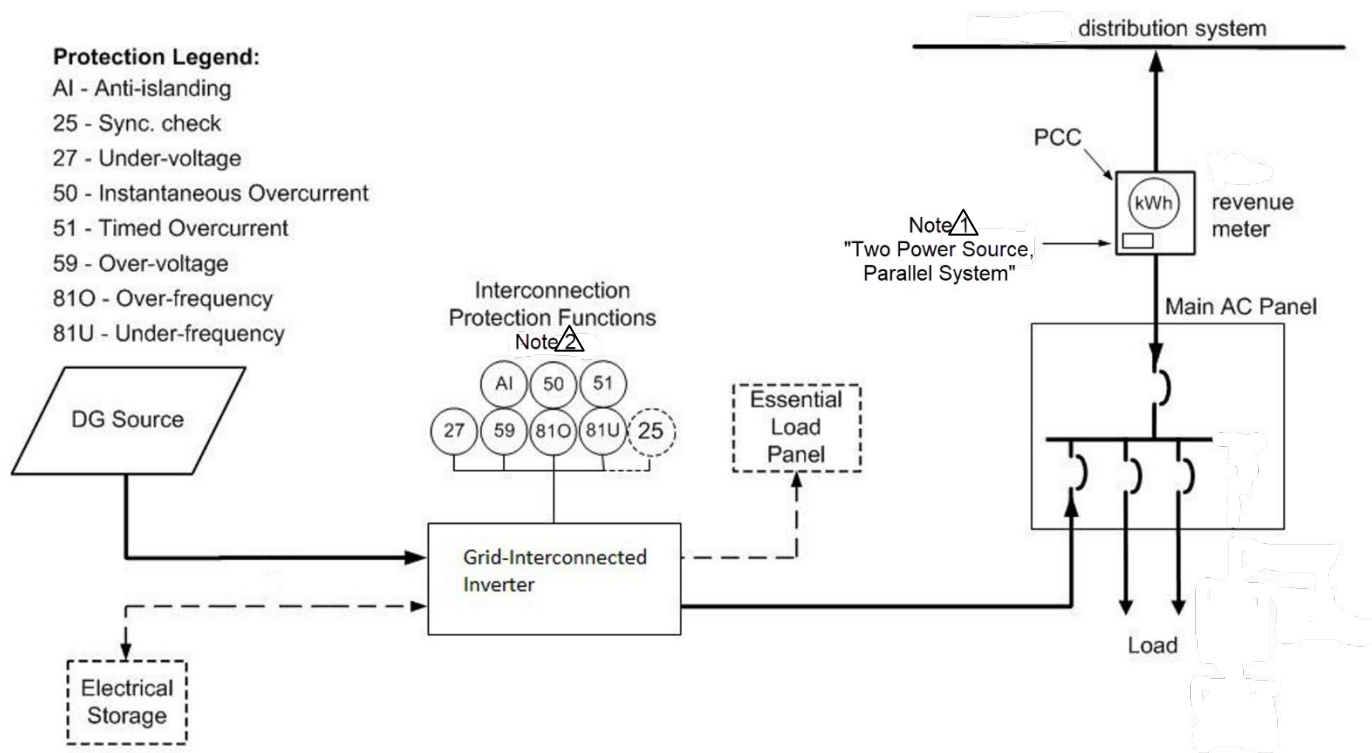


Figure B.2 – Single Line Diagram of Typical Inverter Based Generator (Source: Adapted from CAN/CSA-C22.3 No. 257-06 B-1)

Notes:

- ¹ This is a warning notice required by Clause 84-030 of the CEC Part I. Summerland requires that the notice should be a permanent label suitable for outdoor conditions, with black letters on a white background, 7.5 cm x 2.5 cm and mounted to the revenue meter base or within 0.3m of the revenue meter.
- ² Protection functions shown shall be internal to the inverter.

Appendix C: Technical Tables

Table C.2 - Interconnection Protection Function Requirements for Inverter-Based DGs
(Source: Adapted from CAN/CSA-C22.2 No. 257-06 Table D.1)

Function		1 Phase
52	AC Disconnect Means	Y
	Anti-islanding	Y
25	Automatic Synchronizing	Y
27	Under-voltage Trip	Y
59	Over-voltage Trip	Y
50	Instantaneous Overcurrent	Y
51	Timed Overcurrent	Y
81/U	Under-frequency Trip	Y
81/O	Over-frequency Trip	Y

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13211 Henry Ave, Box 159
Summerland BC V0H 1Z0
Tel: 250-494-6451 Fax: 250-494-1415
www.summerland.ca

ELECTRICAL UTILITY SERVICE REQUEST

Date	Parcel Identifier	Roll No.
------	-------------------	----------

Civic Address

Suite or Unit Nos. (if applicable)

--	--

Legal Description

Lot		Block		District Lot		Plan	
-----	--	-------	--	--------------	--	------	--

Owner Information (add additional page if more than one owner)

Registered Owner		Mailing Address
City/Province/Postal Code		
Daytime phone	Alternate phone	Email

Tenant Information (if applicable)

Name(s)		
Daytime phone	Alternate phone	E-mail

Contractor Information (if applicable)

Name/Company Name		Business Licence No:
Daytime phone	Alternate phone	E-mail

Electrician Information (if applicable)

Name/Company Name		Business Licence No:
Daytime phone	Alternate phone	E-mail

Documents Provided

Site Plan <input type="checkbox"/>	Letter of Authorization <input type="checkbox"/>	Title Search <input type="checkbox"/>	ROW/Easement Documents <input type="checkbox"/>
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Type of Development

Single Family Dwelling <input type="checkbox"/>	Commercial <input type="checkbox"/>	Industrial <input type="checkbox"/>	
New <input type="checkbox"/>	Renovation <input type="checkbox"/>	Addition <input type="checkbox"/>	
Suite <input type="checkbox"/>	RATE CODE: Residential <input type="checkbox"/>	Commercial <input type="checkbox"/> AUX <input type="checkbox"/>	
Electric Heating: Single Storey, <input type="checkbox"/>	Single Storey, <input type="checkbox"/> no basement	Second Storey, <input type="checkbox"/> with basement	Other <input type="checkbox"/> specify sq. ft.: _____

Civic Address**Suite or Unit Nos.** (if applicable)

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Requested Service

FOR OFFICE USE ONLY

	Temporary Power	ELTEMP	\$
	Service New	ELNORM	\$
	Service Change	ELNORM	\$
	Bi-Directional meter	ELNORM	\$
	Disconnect at electrical meter	Date Requested	\$
	Reconnect at electrical meter	Date Requested	\$
	Disconnect/Reconnect at electrical meter	Date Requested	\$
	Disconnect/Reconnect at pole or mast	Date Requested	\$
	Remove Service	Date Requested	\$
	Remove Rental Light	Date Requested	\$
Notes:		SUB-TOTAL	\$
		GST	\$
Cost valid 90 days from _____		TOTAL COST	\$

FOR OFFICE USE ONLY

SRN NUMBER	DATE	PAID STAMP
ROLL NO.		
UB ACCOUNT NO.		
METER NUMBER		
METER READING	DATE	

As the property owner or owner's agent, I/we agree to be governed by the bylaws of the District of Summerland in relation to the above requested services. **Should the actual costs of service installation exceed the above noted costs, the owner will be responsible for the balance owing.** In consideration of the granting of this permit, I/we hereby agree to release and indemnify the District of Summerland and its officers, employees, contractors, and agents, from and against all claims, demands, actions, proceedings, and liabilities whatsoever and all costs and expenses incurred in connection with and resulting from the granting of this permit. It is further agreed that I/we will pay the full cost of repairing any damage to District of Summerland works resulting from the building operations in respect of which this application is made. I have read the above agreement, release and indemnity and understand it.

The Customer's Electrician to contact the Summerland Electrical Utility Division PRIOR to cost being provided.

Signature of Owner(s)/Agent: _____ Date: _____

The personal information on this form is collected under the authority of the Local Government Act for the purposes of processing this application and is subject to the *Freedom of Information and Protection of Privacy Act*. Any questions regarding this collection should be directed to the Corporate Officer, District of Summerland, Box 159, Summerland, BC V0H 1Z0 or call 250-494-6451, or email corporateofficer@summerland.ca.



Distributed Generation Program Interconnection Application

Works and Utilities, Electrical Utility Division
Phone: 250 494-0431 Fax: 250 494-3399
Email: netmetering@summerland.ca
www.summerland.ca/netmetering

SITE INFORMATION			
SITE ADDRESS:		SITE NAME (if applicable):	
SUMMERLAND UTILITY ACCOUNT HOLDER NAME (AS APPEARS ON BILL):	ACCOUNT HOLDER TELEPHONE:	ACCOUNT HOLDER EMAIL:	
SERVICE AMPERAGE:	UTILITY ACCOUNT #:	EXISTING METER #:	
APPLICATION IS FOR**: <input type="checkbox"/> New Generation System <input type="checkbox"/> Addition to Existing Generation System <input type="checkbox"/> Replacement of Existing Generation System **Please note that all application types also require a completed Electrical Utility Service Request Form			

DISTRIBUTED GENERATION SYSTEM INSTALLER INFORMATION	
COMPANY NAME (if applicable):	
FIRST NAME:	LAST NAME:
TELEPHONE:	EMAIL:

DISTRIBUTED GENERATION SYSTEM INFORMATION:	
As per the District's <i>Distributed Generation Systems: Technical Interconnection Requirements</i> , the following requirements must be met:	
<ul style="list-style-type: none"> - Be an inverter-based system certified to the requirements of CSA C22 No. 107.1-01 for utility interconnections - Have an aggregate inverter nameplate output rating (nominal) of 30 kW or less - Have customer service that is 200A or less and single phase - Use as an energy source a low-carbon or renewable resource 	

ENERGY SOURCE:	<input type="checkbox"/> Wind	<input type="checkbox"/> Solar	<input type="checkbox"/> Geothermal	<input type="checkbox"/> Other (describe below)
INSTALLED GENERATION SYSTEM CAPACITY (kW):		OTHER: PLEASE DESCRIBE		
GRID-TIED INVERTER INFORMATION				
MANUFACTURER:	MODEL:	CERTIFIED CSA C22.2 NO. 107.1-01: <input type="checkbox"/> NO <input type="checkbox"/> YES		
NUMBER OF INVERTERS:	NOMINAL OUTPUT CAPACITY:	TOTAL NOMINAL OUTPUT CAPACITY:	OUTPUT VOLTAGE:	
X	kW =	kWAC	V	

SOLAR PANEL INFORMATION (if applicable)			
MANUFACTURER:		MODEL:	
NUMBER OF PANELS:	NOMINAL OUTPUT CAPACITY:	TOTAL NOMINAL OUTPUT CAPACITY:	
X	kW=	kW _{DC}	
DOES THE GENERATION SYSTEM INCLUDE BATTERY STORAGE?		<input type="checkbox"/> YES	<input type="checkbox"/> NO
IF 'YES':		kWh=	kW=

SINGLE LINE DIAGRAM
A Single Line Diagram (SLD) of the system must be provided along with this application. Below is a generic example. Please ensure the submitted SLD matches the values given on the first page of the application.

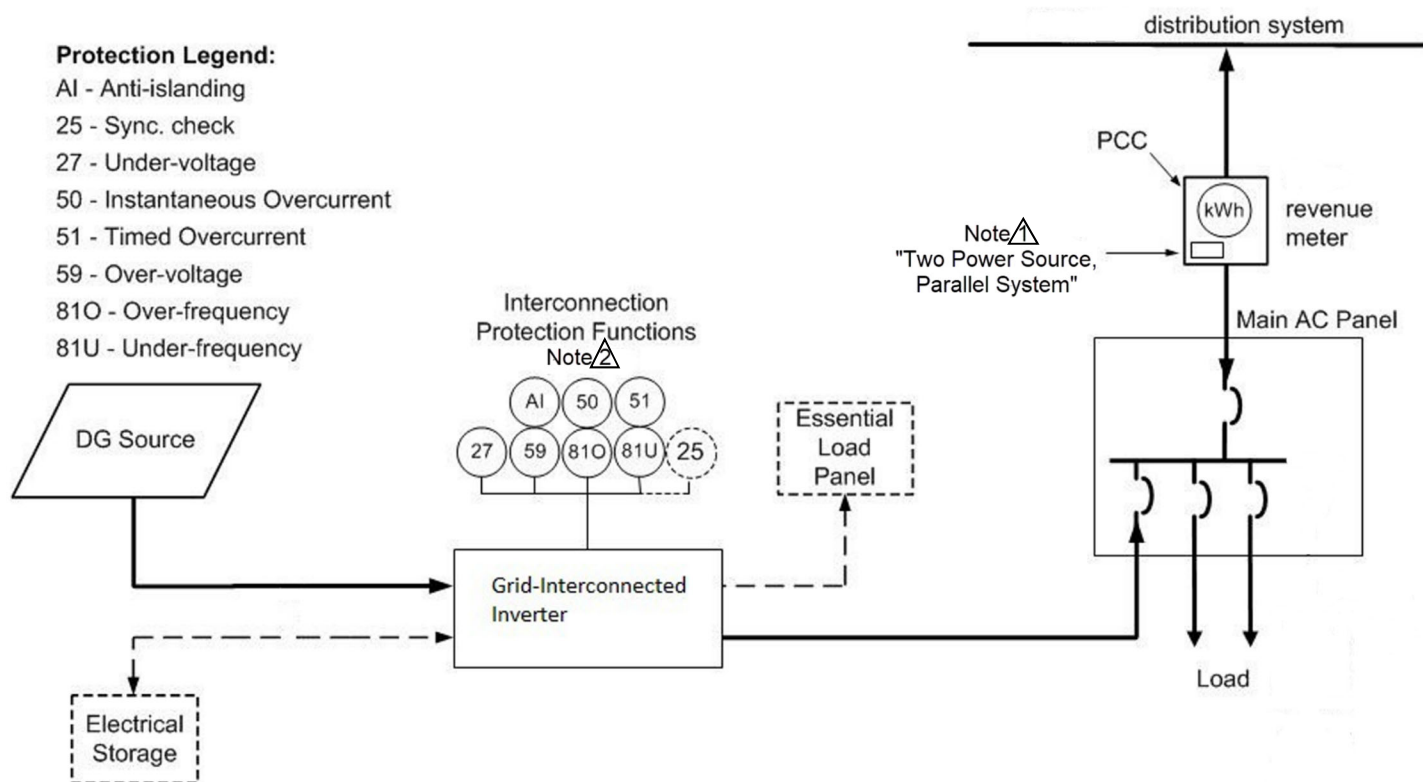


Figure 1 – Single Line Diagram of Typical Inverter Based Generator (Source: Adapted from CAN/CSA-C22.3 No. 257-06 B-1)

NOTES:
1 This is a warning notice required by Clause 84-030 of the CEC Part I. Summerland requires that the notice should be a permanent label suitable for outdoor conditions, with black letters on a white background, 7.5 cm x 2.5 cm and mounted to the revenue meter base or within 0.3m of the revenue meter.
2 Protection functions shown shall be internal to the inverter.

**OPTIONAL: AGENT AUTHORIZATION
IF YOU WISH TO DELEGATE AUTHORITY TO A THIRD PARTY, COMPLETE THE SECTION BELOW**

The undersigned utility account holder (name & account number):

Of the account for the property at the civic address:

Hereby authorizes:

To, on my behalf:

1. Submit to the District documentation related to this Distributed Generation Program Interconnection Application.
2. Discuss matters related to this Distributed Generation Program Interconnection Application with the District.
3. Receive correspondence from the District related to this Distributed Generation Program Interconnection Application.

Signature of utility account holder

Date of Authorization

Name of utility account holder (please print)

Contact Information Phone & Email

Acknowledgement:

By applying to the District of Summerland's Distributed Generation Program you acknowledge that:

- i) you have read and understand the Summerland *Distributed Generation Systems: Technical Interconnection Requirements* and agree to comply with these requirements, and design, install, operate & maintain your distributed generation system in accordance with them
- ii) rates for produced energy are subject to change from time to time and that these changes may affect the economics of your distributed generation system
- iii) approval of your application and installation of the bi-directional meter may take up to 6 months depending on the current volume of applications being processed by the District

APPLICANT SIGNATURE:

DATE:

**Thank you for completing your distributed generation program application.
Please drop off your application to the Development Services department at Municipal Hall
or email it to netmetering@summerland.ca**

What Happens Next:

1. We review your application and, once we confirm the documentation is in order, we will confirm acceptance
2. We provide you an estimate for installation of a bi-directional meter
3. Your contractor proceeds with the installation of your distributed generation system (*must leave disconnected*)
4. You provide us with a copy of: i) your electrical contractor's TechnicalSafetyBC Declaration **and**
ii) the District of Summerland Declaration of Compliance
5. We confirm the fee for the bi-directional meter is paid, review the installation, and install the bi-directional meter
6. We email you our approval to connect your generation system to the grid (*do not connect until approval confirmed*)
7. We arrange to have your Summerland utility account set up to reflect excess energy produced by your system

**All sections of this application must be completed before the District can approve
the installation of a distributed generation system.
Failure to fully complete the application will result in delays.**

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Distributed Generation Program Declaration of Compliance

Works and Utilities, Electrical Utility Division
Phone: 250 494-0431 Fax: 250 494-3399
Email: netmetering@summerland.ca
www.summerland.ca/netmetering

This declaration must be signed by the utility account holder (the Customer), the electrical contractor, and the Distributed Generation (DG) System installer before final approval for grid interconnection will be issued.

By signing this agreement, the Customer:

1. Confirms having read and agreed to comply with all requirements of the District of Summerland **Distributed Generation Systems: Technical Interconnection Requirements**;
2. Certifies the DG System has been installed to their satisfaction by the contractor(s)/installer(s); that he/she has been provided copies of all application materials, drawings, warranty information and operating manuals; and that he/she has been instructed in safe operation of the system, including emergency disconnection from the grid; and
3. Agrees to indemnify and save harmless the District for any damages to the DG system or any persons working on or near it unless damages were caused solely by the gross negligence of the District.

By signing this agreement, the contractor/installer confirms:

1. The DG System equipment and installation to be compliant with Canadian Electrical Code Part 1, in particular Sections 64 (Renewable Energy Systems) and 84 (Interconnection of Electric Power Production Sources);
2. The DG and interconnection systems provide all protection and control functions required by the District of Summerland **Distributed Generation Systems: Technical Interconnection Requirements**;
3. Having successfully completed verification testing of Anti-Islanding and Rapid Shutdown protective functions;
4. Warning notice(s) have been installed at the meter base; and;
5. TechnicalSafetyBC Declaration has been signed by the Field Safety Representative electrician and provided to Summerland Electrical Utility.

**SITE INFORMATION**

SITE ADDRESS:	SITE NAME (if applicable):
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CUSTOMER (OR AUTHORIZED AGENT) SIGNATURE

SUMMERLAND UTILITY ACCOUNT HOLDER NAME (AS APPEARS ON BILL):	ACCOUNT HOLDER TELEPHONE:	ACCOUNT HOLDER EMAIL:
SIGNATURE:		DATE SIGNED:

ELECTRICAL CONTRACTOR SIGNATURE

COMPANY NAME (if applicable):	FIRST NAME:	LAST NAME:
SIGNATURE:		DATE SIGNED:

DISTRIBUTED GENERATION SYSTEM INSTALLER SIGNATURE

COMPANY NAME (if applicable):	FIRST NAME:	LAST NAME:
SIGNATURE:		DATE SIGNED: