

Application filing handbook for Enphase expansion systems

System expansion application process overview by utility

	Permission to Operate (PTO) application process status	Application method	Application fee	Online tool	Application support documentation required	Application steps	Configuring system to zero export
 Pacific Gas and Electric Company An EDISON INTERNATIONAL Company	Accepting and approving PTO applications	Online	\$800	PG&E Your Projects Portal	• Anti-islanding method letter • Building permit and inspection certificate • Single-line drawing • Site plan	See slides 3–9	New system must be configured to zero export See slides 42–44
 SOUTHERN CALIFORNIA EDISON An EDISON INTERNATIONAL Company	Accepting and approving PTO applications	Online	\$800	Grid Interconnect on Processing Tool (GIPT)	• Single-line drawing showing the location of all Current Transformers (CTs) in the new and existing systems (sample on slide 22) • UL3141 PCS Certificate of Compliance • PCS Sequence of Operations • IQ System Controller Concept of Operations (for backup systems) • Homeowner proof of insurance	See slides 10–24	New system must be configured to zero export See slides 42–44
 SDGE An EDISON INTERNATIONAL Company	Accepting and approving PTO applications	Online	\$800	Distribution Interconnect on Information System (DIIS)	• Single-line drawing showing the location of all Current Transformers (CTs) in the new and existing systems • UL3141 PCS Certificate of Compliance • Homeowner proof of insurance	See slides 25–41	New system must be configured to zero export See slides 42–44

Application process steps for Pacific Gas & Electric Company (PG&E)

PG&E application process (1 of 6)

- 1 Log in to the PG&E Your Projects portal and click **Start New Application**.
- 2 Select **Connect Solar Panels, Wind Turbines, or Other Generating Equipment**.
- 3 Choose **Complex Self Generation**.
- 4 Select **NBT/NEM Multiple Tariff**.
- 5 Choose **NBT/NEM + Non-Export**.

The screenshot displays the PG&E Your Projects portal interface. At the top, a navigation bar includes links for Home, My Projects, My Orders, Help, and a user profile (lrangel1973). The main content area is divided into several sections:

- Outstanding Actions:** A message stating "There are no outstanding actions at this time."
- What's New:** A list of updates including 2024 Updates, Receiving PG&E Encrypted Email, New Inverter Standards, NEW Guide - Map Select Functionality, NEW Guide - How to Submit a Zero Net Energy Application, NEW Guide - Net Billing Tariff (NBT), NEW Updates: NEM2 Meter & SAID automated validation, NEW Guide - PG&E's Meter Collar Program, and NEW Guide - How to Submit a Meter Collar Appointment Request.
- Start New Application:** A prominent orange button with a red circle '1' next to it.
- Solar Contractor Search for a Lot:** A button with a red circle '1' next to it.

Below these sections, a "Start Application" section contains a grid of application options:

- New Service/Change to Existing Service for Electric and Gas:** For customers requesting new electric or gas services or changes to existing services, including electric vehicle charging stations, panel upgrades etc. Including New Service with Solar.
- Connect Solar Panels, Wind Turbines, or Other Generating Equipment:** For customers connecting generating equipment to a home or building, installing emergency generators, or selling power. For New Load and Generating Facility, please use the "New Service for Electric and Gas" workflow. (Marked with a red circle '2')
- Change to PG&E owned Facilities:** For customers requesting PG&E equipment/utility infrastructure to be removed or relocated i.e. A box or pedestal, A Pole or pole attachments, Streetlights, Gas valve covers, pipes, etc.
- Simple Solar, Wind and/or Energy Storage:** Larger Generating Facilities and Advanced Programs. Generating system 30 kilowatts (kW) or less.
- Complex Self Generation:** (Marked with a red circle '3')
- Standby Emergency Generator:** Backup Power.
- Sell Power:** Generating systems built to sell power to PG&E or on the open market.
- Expanded NBT/NEM and Larger Paired Storage:** Applying for renewable generating facility over 30kW.
- NEM Fuel Cell:** Applying for renewable fuel cell generating facility.
- NEM Virtual:** Applying for a virtual net energy metering arrangement on a property.
- NEM CDCR:** Applying for tariff treatment for California Department of Corrections and Rehabilitation.
- NBT/NEM Multiple Tariff:** Applying for multiple tariff generating facility. (Marked with a red circle '4')
- Non-Export:** Applying for a Non-Export generator.
- RES-BCT:** Applying for a renewable generating facility to serve Local Government as defined in RES-BCT tariff.
- NBT/NEM + Non-Export:** (Marked with a red circle '5')
- NBT/NEM Aggregation + Non-Export:** Closed for new applications.
- NEM Fuel Cell + Non-Export:** Closed for new applications.
- NBT/NEM + NEM Fuel Cell:** Closed for new applications.
- NBT/NEM + NEM Fuel Cell + Non-Export:** Closed for new applications.

A "Submit" button is located at the bottom right of the application grid.

PG&E application process (2 of 6)

- 6 Enter the **Electric Service Agreement Number** and **Electric Badge Meter Number**.

Project Info

Customer and Facility Info

Program

- ☐ Simple Solar, Wind and/or Energy Storage
- ☒ Complex Self Generation
- ☐ Standby Emergency Generator
- ☐ Sell Power

Sub Program

- ☐ Expanded NBT/NEM and Larger Paired Storage
- ☐ NEM Fuel Cell
- ☐ NEM Virtual
- ☐ NEM CDCR
- ☒ NBT/NEM Multiple Tariff
- ☐ Non-Export
- ☐ RES-BCT

NEM Multiple Tariff

- ☒ NBT/NEM + Non-Export
- ☐ NBT/NEM Aggregation + Non-Export
- ☐ NEM Fuel Cell + Non-Export
- ☐ NBT/NEM + NEM Fuel Cell
- ☐ NBT/NEM + NEM Fuel Cell + Non-Export

Service Type

- ☒ New Generating Facility (Existing Electric Service)
- ☐ Upgrade Existing Generating Facility
- ☐ New Generating Facility and New Load Service

Is this application for new construction?

- ☐ Yes
- ☒ No

Was this system required by Title 24 or other building code?

- ☐ Yes
- ☒ No

6

Electric Service Agreement Number

Electric Badge Meter Number

PG&E application process (3 of 6)

In the **Contact Info** section, complete the required fields for:

7.1 **Customer Contact**

7.2 **Contractor**

7.3 **Authorized Contact**

Contact Info

Note: When making selections from a dropdown, other fields on the page will be auto-populated.

Customer Contact7.1

Customer Contact

Please select a value

First Name

Last Name

Company Name optional

Title optional

Mailing Address

Zip

City

State

Phone

Extn optional

E-mail

Save this contact to Address Book optional

Contractor7.2

Self-Installed?

Yes

No

Authorized Contact7.3

First Name

Last Name

Company Name optional

Mailing Address

Zip

City

State

Phone

Extn optional

Email

Confirm Email

Save this contact to Address Book optional

Save and Continue

ENPHASE

6

PG&E application process (4 of 6)

- 8
- The existing system information will populate into the form.

System #1

Existing Equipment

Program

Please select a value

Tech Type

Solar PV

Generator Type

Inverter-External

Fuel Type

Solar

Will this Generator be used as a Backup?

☐ Yes ☒ No

Please Select an Anti-Island Detection Method optional

☐ Group 1 : Frequency Shift with continuous positive frequency feedback

☐ Group 2A : Frequency Shift with discontinuous or stepped positive frequency feedback

☐ Group 2B : Frequency Shift similar to Group 2A except with a dead zone around 60Hz

☐ Group 2C : Frequency shift with unidirectional frequency feedback

☐ Group 3 : Monitors change of impedance

☐ Group 4 : Monitors shift at a harmonic frequency (multiple of the fundamental)

☐ Group 5 : Passive methods like rate of change of frequency, vector shift

☐ Group 6 : Produces negative sequence current and monitor voltage

☐ Group 7 : I do not know

Do you plan to limit export?

☐ Yes ☒ No

☒ Enter Manufacturer Not In List optional

1. First, try selecting your equipment Make & Model from the drop-down list of California Energy Commission (CEC) approved equipment. This option avoids delays during application review.

2. If you cannot find your Make & Model on the list, PG&E will need to ensure your equipment complies with Sections L.2-L.4 and Section L.7 of Electric Rule No. 21 (Rule 21).

The simplest way to ensure compliance is to contact the CEC (Solar Equipment Lists Program) to have the equipment added.

Alternatively, you can go through PG&E's manual process for equipment review to ensure safety and compliance with Sections L.2-L.4 and Section L.7 of Electric Rule No. 21 (Rule 21), which requires submission of the same certification documents that are required by the CEC.

If model numbers are entered manually, please upload equipment specification sheets in the Documents section for review.

If you need further assistance with this, please contact the Solar Equipment Contact Center at solarequipment@energy.ca.gov, or call (916) 654-4120.

8

Manufacturer

Enphase Energy Inc.

Model

IQ7-60-2-US [240V] [S11-JUN20]

Quantity

15

Nameplate Rating (kW)

0.240

Inverter Efficiency

0.97

Output Voltage Rating

240.000

Phase

Single Phase

Power Factor

1.00

Power Factor Adjustment Max

0.00

Power Factor Adjustment Min

0.00

☐ Short Circuit Contribution exceeds 1.2 per unit optional

Total Gen (kW)

3.6

PG&E application process (5 of 6)

- 9 Click **Add New System**, and **System #2** will appear.
- 10 When using zero export with Enphase Power Control, choose **Non-Export** in the **Program** field and **Group 1** as the **Anti-Island Detection Method**.
- 11 In the **Operating Mode** field, choose **Parallel Only (No Export)** and then **PCS Non-Export (Option 8)** in the **Protection** field.

The screenshot displays the PG&E application process for System #2. The interface is divided into two main panels. The left panel, titled 'System #2', contains a 'New Equipment' button and a 'Program' dropdown menu set to 'Non-Export'. Below this, there are dropdowns for 'Tech Type' (Solar PV), 'Generator Type' (Inverter-External), and 'Fuel Type' (Solar). A checkbox 'Will this Generator be used as a Backup?' is set to 'No'. Under 'Please Select an Anti-Island Detection Method', 'Group 1: Frequency Shift with continuous positive frequency feedback' is selected. The right panel shows the 'Manufacturer' (Enphase Energy Inc.), 'Model' (IQ8PLUS-72-M-US [240V] [511-SB] + IQ Gateway/CTs [CRD-PCS Non-Export]), 'Operating Mode' (Parallel Only (No Export)), and 'Protection' (PCS Non-Export (Option 8)). Below these are sections for 'Qualifying Facility (QF?)', 'Quantity', 'Manually Enter Fixed Power Factor Value', 'Volt-VAR Smart Inverter Setting', and 'Volt-Watt Smart Inverter Setting'. The 'Volt-VAR Smart Inverter Setting' section includes a table for 'Volt-VAR Voltage Values' and 'Volt-VAR Reactive Values'. The 'Volt-Watt Smart Inverter Setting' section includes a table for 'Volt-Watt Voltage Values' and 'Volt-Watt Real Power Values'.

V1	V2	V3	V4
92.00	96.70	103.30	107.00

Q1	Q2	Q3	Q4
30.00	0.00	0.00	-30.00

V1	V2	V3	V4
100.00	106.00	108.00	110.00

P1	P2	P3	P4
100.00	100.00	50.00	0.00

PG&E application process (6 of 6)

- 12 Add the requested documents, along with other required information, as shown at right:

- **Anti-islanding Method**
- **Building Permit & Inspection Certificate**
- **Single-Line Drawing**
- **Site Plans and Diagrams**

- 13 Review and submit the application

- 14 Email **rule21gen@pge.com** with the application number, explaining that this is a NEM expansion system (see sample email below). Copy your regional Enphase FAE.

Subject: NEM expansion application #XXXXXX

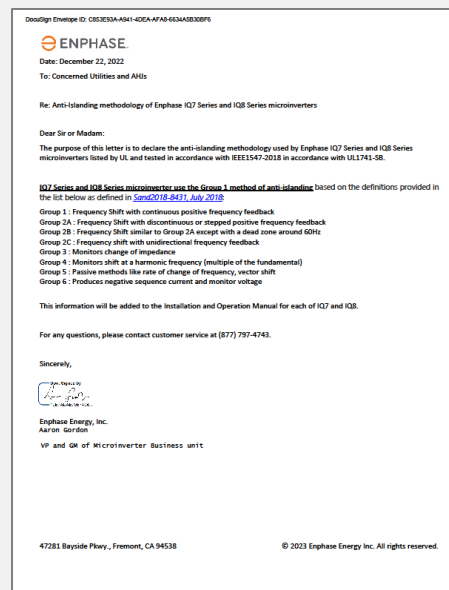
Dear PG&E interconnection team,

Application #XXXXXX for a NEM expansion system has been submitted for your review and approval.

Please acknowledge receipt of this application and let us know if you have any questions.

Thank you,
[Your name, business name, and phone number]

[Click here to download](#)
the manufacturer's declaration
of anti-islanding



Documents

Please attach all necessary documents. Any missing documents will cause a delay in processing.

Allowed file types are .pdf, .jpeg, .jpg, .gif, .xls, .xlsx, .zip, .bmp, .png, and .tiff. Please note that the allowed types may vary depending on the document type.

Maximum allowed file size is 40 MB

If you need to upload more than one document for a given document type, please zip the files and upload the zip

Manufacturer's Documentation for Anti-islanding Method **REQUIRED**

Choose a file for upload or drag and drop one into this area

Not
Uploaded

Building Permit # *optional*

Assessor's Parcel Number (APN) *optional*

Final Building Permit & Inspection Certificate

Choose a file for upload or drag and drop one into this area

Not
Uploaded

Building Permit Date Applied *optional*

Building Permit Final Sign-off Date *optional*

Single-Line Drawing **REQUIRED**

Choose a file for upload or drag and drop one into this area

Not
Uploaded

Site Plans and Diagrams **REQUIRED**

Choose a file for upload or drag and drop one into this area

Not
Uploaded

AC Disconnect Variance Requested

☐ Yes ☐ No

Application process steps for Southern California Edison (SCE)

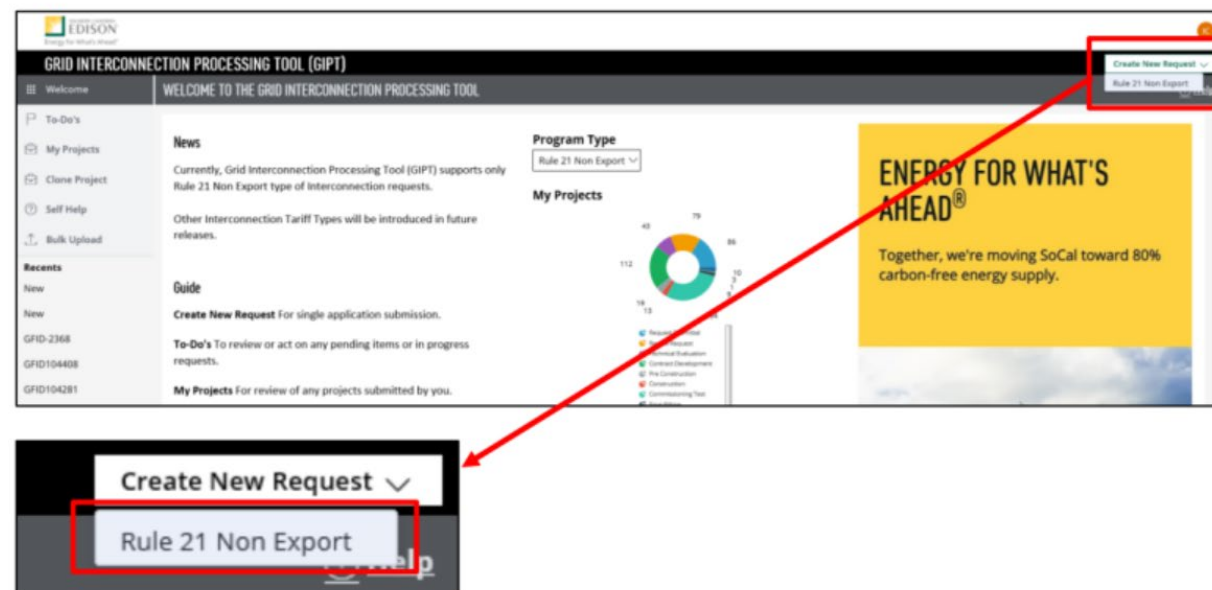
The original document can be found [here](#).

SCE application process (1 of 14)

Creating a new request

To create a new interconnection request:

1. Log on to GIPT. Registration is mandatory for first-time users. For a complete guide, please see [Grid Interconnection Processing Tool \(GIPT\) information](#).
2. From the **Create New Request** drop-down list on the upper right, select **Rule 21 Non Export**.



SCE application process (2 of 14)

Overview of interconnection request sections

To create a new interconnection request, you must complete all required areas on the right. SCE's guidance, shown in the following screenshots, covers only the most common deficiency sections and fields.

The screenshot displays the GRID INTERCONNECTION PROCESSING TOOL (GIPT) interface. The main content area is titled "Project and Contact Information" and includes sections for "Project Information" (with fields for Project Name and ExpirationDate) and "Operating Mode" (with radio buttons for Parallel Operation, Momentary Parallel (MP) Operation, and Isolated Operation). Below this is a table with columns "Operating Mode" and "Description".

A red box highlights the right-hand navigation menu, which lists the following sections: Project Information, Facility Information, Generating Unit Details, Additional Information, Attachments, Preliminary Screening, Checklist, and Forms and Payment. A red arrow points from this menu to a larger, detailed view of the same menu below the main content area.

Project Information

- Facility Information
- Generating Unit Details
- Additional Information
- Attachments
- Preliminary Screening
- Checklist
- Forms and Payment

SCE application process (3 of 14)

Project and Contact information

1. The **Parallel Operation** mode must be selected.
2. In the **Agreement Options** section, “Will you be requesting a 3rd party agreement with SCE?” must be answered **No** for the correct options to appear.
3. A **Generating Facility Interconnection Agreement (Multiple Tariff) (Form 14-773)** must be the selected **Agreement Type**.

Project and Contact Information

Project Information [Help](#)

Project Name * Expiration Date (Month-Date-Year)

Operating Mode [Help](#)

Select the Operating Mode of the Generating Facility *

☒ Parallel Operation 

☐ Momentary Parallel (MP) Operation

☐ Isolated Operation

Operating Mode	Description
Parallel Operation	The Generating Facility will interconnect and operate "in parallel" with SCE's Distribution System for more than one (1) second
Momentary Parallel (MP) Operation	The Generating Facility will interconnect and operate on a "momentary parallel" basis with SCE's Distribution System for a duration of one (1) second or less through transfer switches or operating schemes specifically designed and engineered for such operation
Isolated Operation	The Generating Facility will be "isolated" and prevented from becoming interconnected with SCE's Distribution System through a transfer switch or operating scheme specifically designed and engineered for such operation

Agreement Options

Will you be requesting a 3rd party agreement with SCE? * 

Will the Generating Facility be owned by a (third) party other than the name appearing on the SCE service account in "Name shown on SCE Service Account" *

Please select Agreement Type

☐ A Generating Facility Interconnection Agreement (Non-Export) (Form 14-731)

☐ A Generating Facility Interconnection Agreement (Inadvertent Export) (Form 14-745)

☒ A Generating Facility Interconnection Agreement (Multiple Tariff) (Form 14-773)

☐ A Generating Facility Interconnection Agreement (Multiple Tariff) (Form 14-972)

☐ Other

SCE application process (4 of 14)

4. The **Contractual Notice Recipients - Contact Information** should be the **Customer Contact Information** as any future notices regarding the interconnection agreement will be sent to that address.

Facility Information

1. The **Operating Date** must be at least 60 calendar days in the future.
2. **Multiple Tariff** must be selected under **Operating Option**.

Contractual Notice Recipients - Contact Information

▼ **Customer Contact Information**

Please select the options from the dropdown to copy information

Select ▼

Contact Person * **Email ***

e.g. William Wilson e.g. name@domain.com

Mailing Street Address *

e.g. 2244 Walnut Grove Avenue

City * **State *** **Zip Code ***

e.g. Rosemead e.g. CA e.g. 91770

Phone * **Fax**

e.g. 9092741106 e.g. 9092741106

Company Name

Facility Information

Operation Information [Help](#)

Operating Date (Month-Date-Year) *

1 -- -- -- 2

Please indicate how this generating facility will be operated (select all that apply) *

2

Operating Option	Description
Combined Heat and Power	The operation of the Generating Facility will produce thermal energy for a process other than generating electricity
Multiple Tariff	The Generating Facility has a combination of non-NBT or non-NEM generator(s) and NBT or NEM Generator(s) (i.e., an existing facility with NBT or NEM generator(s) and planning to add non-NBT or non-NEM generator(s))
Peak Shaving/Demand Management	The Generating Facility will be operated primarily to reduce electrical demands of the host Customer facility during SCE's "peak pricing periods"
Primary Power Source	The Generating Facility will be used as the primary source of electric power and power supplied by SCE to the host Customer's loads will be required for supplemental, standby, or backup power purposes only
Standby / Emergency / Backup	The Generating Facility will normally be operated only when SCE's electric service is not available

SCE application process (5 of 14)

3. **Option 8 - Non-Export utilizing Certified Control Systems (Mm1)** must be selected in the **Protection Option** drop-down.
4. The **Regulatory Code** question “Will the Generating Facility qualify as an eligible Net Metering Renewable Electrical Generation Facility as defined in sections 2827, 2827.1 or 2827.10 of the California Public Utilities code?” must be answered **Yes** where the customer is seeking to install a non-NEM generator behind the same point of common coupling (PCC) as an existing NEM generator.

Protection Option

Please select Protection Option ★ 3

Select

- Select
- Option 1 - Reverse Power Protection
- Option 2 - Minimum Power Protection
- Option 3 - Certified Non-Islanding Protection
- Option 4 - Relative Generating Facility Rating
- Option 5 - Inadvertent Export Section M
- Option 6 - Inadvertent Export UL-1741 Mm
- Option 7 - Non-Export AC/DC Converter
- Option 8 - Non-Export utilizing Certified Control Systems (Mm1)**
- Option 10 - Non-Export w/Inadvertent Export utilizing Certified Control Systems (Mm3)
- N/A - Notification Only

Regulatory Code [Help](#)

Will any portion of the Generating Facility operate in a Combined Heat and Power mode such that it meets the requirements for Cogeneration as defined in Section 216.6 of the California Public Utilities Code?

Will the Generating Facility qualify as an eligible Net Energy Metering Renewable Electrical Generation Facility as defined in Sections 2827, 2827.1 or 2827.10 of the California Public Utilities Code?

This Application cannot be used for interconnecting Net Energy Metering (NEM) Generating Facilities. Application Form 14-957 (available at www.sce.com/nem) is required for all NEM Generating Facility interconnection requests. However, for Multiple Tariff requests, where the Customer is seeking to install a non-NEM generator behind the same Point of Common Coupling (PCC) as an existing NEM generator, this Application is applicable

Please indicate if Generating Facility will meet the annual Efficiency and Operating Standards of PUC Code 218.5. (Applicable to Co-Generation only)?

SCE application process (6 of 14)

Generating Unit Details

1. Click **Add Item** to add **New** and **Existing Generator(s)**.

For the new and existing generators, add the number of inverters, manufacturer, and model number, and nameplate rating. This information must match the SLD.

a. Please note the following:

- i. The application **does not** require Solar PV module information listed as a “Generator.” Instead, list the inverter information.
- ii. If unable to obtain existing equipment SLD/information, site verification will be necessary to input **Existing Generator Info**. Please see “Checklist” section (see step 10 of 12) on how to add applicant comment.

The screenshot shows the 'Generating Unit Details' form. It includes a table for 'Existing and New Generator Info' with columns for Generator Status, Quantity, Generator Type, Prime Mover Type, and Generator Details. Below this is a summary table with columns for Total, New Generators, Existing Generators, and All Generators. Two red callout boxes provide additional context: one points to the 'Quantity' column, stating it refers to 'Generator Type' not 'prime mover', and another points to the 'Additional Details' column for existing generators, stating it contains the 'Existing NEM label'.

Generating Unit Details				
Existing and New Generator Info				
+ Add item x Delete				
Generator Status	Quantity	Generator Type	Prime Mover Type	Generator Details
New	1	Inverter	Select	Additional Details
Existing	1	Inverter	Select	Additional Details

Total	New Generators	Existing Generators	All Generators
Gross Name Plate Rating (kVA)	0	0	0
Gross Name Plate Rating (kW)	0	0	0
Net Name Plate Rating (kW)	0	0	0
Generator Units	1	1	2

SCE application process (7 of 14)

2. Under **Additional Details**, please note the following:
 - a. Check your inverter specification sheet or the California Energy Commission (CEC) [list of eligible inverter equipment](#) for individual unit Nameplate Ratings.
 - i. **Gross Nameplate Rating (kVA) (individual unit):** The total gross generating capacity of a Generator or Generating Facility as designed by the manufacturer(s) or Generator(s)
 - ii. **Gross Nameplate Rating (kw) (individual unit):** The total gross generating capacity of a Generator or Generating Facility as designed by the manufacturer(s) or the Generator(s)

The screenshot shows the 'Generating Unit Details' form. It includes a table for 'Existing and New Generator Info' and a summary table at the bottom. Two red callout boxes provide additional context: one points to the 'Quantity' field, stating it refers to 'Generator Type' not 'prime mover', and another points to the 'Additional Details' link for an existing generator, stating the 'Existing NEM label' is located there.

Generating Unit Details

Existing and New Generator Info [Help](#)

+ [Add item](#) × [Delete](#)

Generator Status	Quantity	Generator Type	Prime Mover Type	Generator Details
New	1	Inverter	Select	Additional Details ×
Existing	1	Inverter	Select	Additional Details ×

Total	New Generators	Existing Generators	All Generators
Gross Name Plate Rating (kVA)	0	0	0
Gross Name Plate Rating (kW)	0	0	0
Net Name Plate Rating (kW)	0	0	0
Generator Units	1	1	2

SCE Application Process (8 of 14)

- iii. **Net Nameplate Rating (kW) (individual unit):** The Gross Rating minus the consumption of electrical power of the auxiliary load
- b. Please select the existing NEM program from the drop-down.

The screenshot shows a web form for SCE application. A red arrow points from the bottom left towards the 'Is this existing generation currently served under the NEM program?' dropdown, which is set to 'Yes - NEM 1.0'. A red text annotation 'Please check your inverter specification sheet' is placed over the form fields for Gross Nameplate Rating (kVA), Gross Nameplate Rating (kW), and Net Nameplate Rating (kW).

Manufacturer *	
Model *	
Software Version *	
Is the Inverter Certified as a Smart Inverter in accordance with Rule 21 Section Hh by a Nationally Recognized Testing Laboratory (NRTL)? *	☐ Yes ☐ No
Is the Generator Certified by a Nationally Recognized Testing Laboratory (NRTL) according to Rule 21? *	☐ Yes ☐ No
Gross Nameplate Rating (kVA) (individual unit) *	(individual unit)
Gross Nameplate Rating (kW) (individual unit) *	(individual unit)
Net Nameplate Rating (kW) (individual unit) *	(individual unit)
Operating Voltage *	
Please select Units to enter Operating Voltage *	☒ Volts ☐ kV
PF Rating (%) *	Power Factor Rating should not be less than 88
PF Adjustment Range Lead (Min) (%) *	
PF Adjustment Range Lag (Max) (%) *	
Wiring Configuration *	Select
Neutral Grounding System *	☐ Ungrounded ☐ Solidly Grounded ☐ Ground Resistor ☐ Others
Short Circuit Current produced by Generator (Amps) *	
In-Rush Current (Amps) *	
Host Customer's Service Entrance (Main Panel) Continuous Current Rating (Amps) *	
Per Unit Short Circuit Duty Contribution *	
Is this existing generation currently served under the NEM program?	Yes - NEM 1.0
Cancel Submit	

SCE application process (9 of 14)

Energy Storage Charging Function

The **Rated Charge Demand** [Rated Discharge] **(Load in kW)** is for the energy storage/battery only. Please refer to the manufacturer specification sheet.

Additional information

1. Expedited **Processing Options** are not eligible for Multiple Tariff.
2. Please note the following for **Microgrid System Operations**:
 - If **Yes** is selected for microgrid, additional technical requirements will be needed such as sequence of operations to ensure microgrid system complies with all Rule 21 section Hh.h requirements.
3. Complete the **Program Participation** section by selecting all programs that your project participates in or intends to participate in. This is not an application for any particular program.

Net Energy Metering (for an existing facility) should be selected.

Energy Storage Charging Function

Rated Charge Demand (Load in kW) *

Estimated annual Net Energy Usage of the energy Storage Device(s) and/or Electric Vehicle(s) (kWh) *

Maximum Charging Demand, if different than Rated Charging Demand (kW) *

Will the Distribution System be used to charge the Storage Device(s) and/or Electric Vehicle(s) *

Source of energy for charging *

Mechanism to prevent charging from the Distribution System *

Will charging the Storage Device(s) and/or Electric Vehicle(s) increase the host facility's existing peak load demand? *

Energy Storage System Operations

Describe the intended use of the storage device *

Additional Information

Processing Options

Please indicate below if the Generating Facility exclusively employs Non-Export AC/DC Converter(s) and Customer requests expedited review pursuant to Rule 21 Section F.1.b subject to the eligibility requirements of Rule 21 Section O

Yes No

Microgrid System Operations

Please indicate if the Generating Facility will be operated as a Microgrid System? *

Yes No

Program Participation

Please select all programs which this project may be participating in, as applicable: (Note: A selection of a program does not guarantee eligibility and is for informational purposes only. Most programs require a separate application or request.)

Net Energy Metering (for an existing facility)

Self Generation Incentive Program

Accelerated PTO Pilot program (subject to further evaluation)

Local Capacity Resource

IDER

Other (please specify)

Notification Only Process (for Pre-Approved Developers ONLY)

Emergency Load Reduction Program (ELRP)

SCE application process (10 of 14)

4. In the **Additional Technical Information** section, the answer to “Is a Control Scheme being used?” must be **Yes**. Additionally, UL 3141 certified equipment must be selected from the **SCE Approved Control System** list.

- If not listed, please select “other” and input the equipment make and model. Supporting documentation will be required to verify UL 3141 certification and compliance.

Attachments

1. Upload all required technical documentation in the **Attachments** section.
- **Single Line Diagrams (SLD)** – on the single line diagram, indicate the location of all power control system CTs. The placement of these CTs is crucial for achieving UL 3141 certification and maintaining NEM integrity. Please refer to [NEM interconnection handbook](#) Section 5 for detailed Single Line Diagram requirements.

Additional Technical Information

Is this a Line-side or Load-side tap? Line Side Load Side

If this is a Line-side tap, a line-side tap letter should be attached. (A sample letter is available in the NEM Interconnection Handbook; the sample is sufficient for a non-NEM request as well.)

Is a Control Scheme being used? Yes No

Please select the SCE Approved Control System Select

Does this facility include Vehicle-to-grid (V2G) devices? Yes No

Attachments

In order to submit this request, please provide a Single Line Diagram attachment.

For small storage projects (<11 kW) that intend to participate in the Wildfire Resiliency Incentive program:

Due to condensed review timeframes associated with the program, please provide the following documentation at this time:

- Final Inspection form from the Authority Having Jurisdiction (AHJ)
- Certificate of Liability insurance documentation
- A Single Line Diagram (SLD). We encourage you to use pre-approved SLDs that match your request. If the pre-approved templates are not in alignment with your request, then please provide your own.

Failure to provide documentation up-front will increase review and correspondence timelines for this request. A plot plan is not required for these submittals.

*Please see our pre-approved Single Line Diagrams and other reference materials here:
<https://www.sce.com/business/generating-your-own-power/Grid-Interconnections/Interconnecting-Generation-under-Rule-21>

Please note, residential generators over 10kW will require the producer, , to provide Commercial General Liability insurance in accordance with Section 8.1(c) of the Generating Facility Interconnection Agreement (GFI). Please confirm the producer, , will adhere to this requirement through the entirety of the Generating Facility Interconnection Agreement (GFI) upon execution.

☐ I acknowledge the above statement

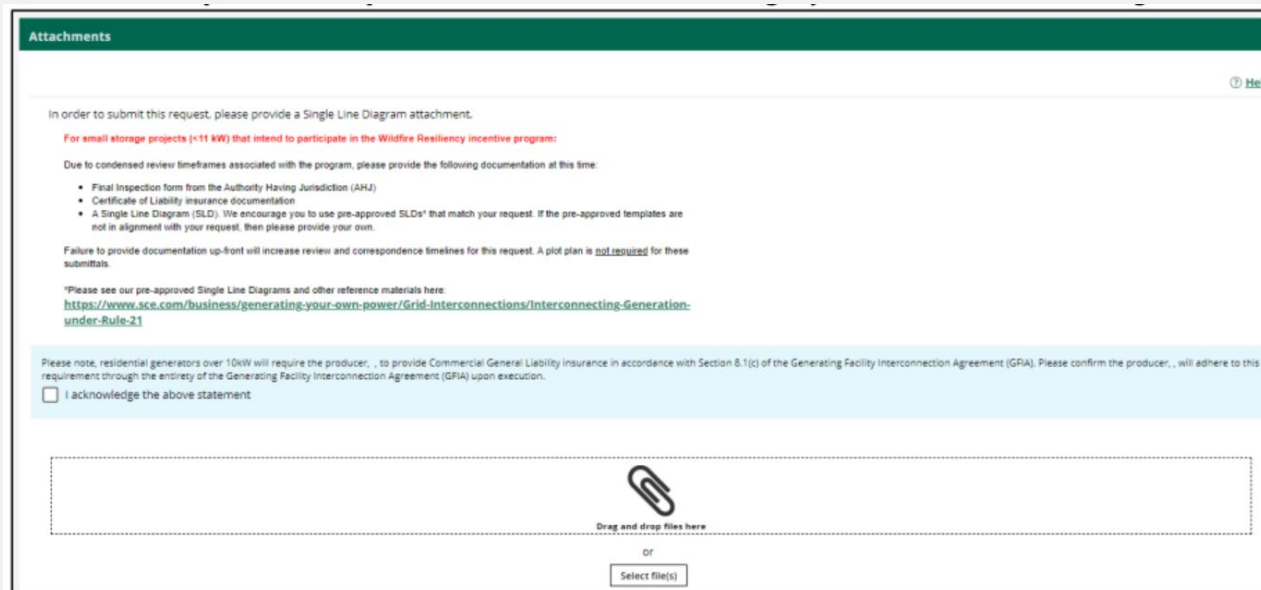
Drag and drop files here

or

Select file(s)

SCE application process (11 of 14)

- **Plot Plan** – Plot plan is required for Line Side Taps and construction projects requiring “new service” connection. Sample can be found here (on page 10).
- **Certification of Compliance** – Only needed if not an SCE-approved Control system.
- **PCS Sequence of Operations** – submit for all systems
- **IQ system Controller Concept of Operations** – submit for backup systems only



The screenshot shows a web form titled "Attachments" with a green header. The main content area is white and contains the following text:

In order to submit this request, please provide a Single Line Diagram attachment.

For small storage projects (<11 kW) that intend to participate in the Wildfire Resiliency incentive program:

Due to condensed review timeframes associated with the program, please provide the following documentation at this time:

- Final Inspection form from the Authority Having Jurisdiction (AHJ)
- Certificate of Liability insurance documentation
- A Single Line Diagram (SLD). We encourage you to use pre-approved SLDs* that match your request. If the pre-approved templates are not in alignment with your request, then please provide your own.

Failure to provide documentation up-front will increase review and correspondence timelines for this request. A plot plan is not required for these submittals.

*Please see our pre-approved Single Line Diagrams and other reference materials here:
<https://www.sce.com/business/generating-your-own-power/Grid-Interconnections/Interconnecting-Generation-under-Rule-21>

Please note, residential generators over 10kW will require the producer, , to provide Commercial General Liability insurance in accordance with Section 8.1(c) of the Generating Facility Interconnection Agreement (GRIA). Please confirm the producer, , will adhere to this requirement through the entirety of the Generating Facility Interconnection Agreement (GRIA) upon execution.

☐ I acknowledge the above statement

Below the text is a large dashed rectangular box for file upload. To the right of the box is a paperclip icon and the text "Drag and drop files here". Below the box is the word "or" and a button labeled "Select file(s)".

SCE application process (12 of 14)

2. When done, click **continue** or use the topics on the right to proceed to the next area until you get to the **Forms and Payment** section.

Checklist

1. Under **Self Review** in the **Checklist** section, select **Yes** for “Is any existing generation listed in your interconnection request?” and **Add Comment** if existing equipment was site verified and include the date of verification in the event SCE records differ from what is at the site.

Forms and Payment

1. The application review requires a non-refundable fee of \$800. Payment is mandatory for Parallel options. Instructions on how to make this payment are included in the [GIPT user guide](#).

Checklist

Self Review [Help](#)

Is the facility behind a single, clearly marked and accessible disconnect? Yes No [Add Comment](#)

Comment Added by

No Items

Is the disconnect visible on your Single Line Diagram and Plot Plan/Site plan? Yes No [Add Comment](#)

Comment Added by

No Items

Is any existing generation listed in your interconnection request? Yes No NA [Add Comment](#)

Comment Added by

No Items

Forms and Payment

Forms and Agreements [Help](#)

Rule21 Application Form [Download](#)

Payments Due [Help](#)

Application Fee \$800.00

Note - Application fee payment is required before the interconnection request can be submitted. Only the Automated Clearing House (ACH) payment method is acceptable online at this time. Other methods of online payment are being explored and will be introduced at the appropriate time. When payment is completed, you will be directed back to this screen to Click on Finish to continue. If this does not occur, click on your "To Do's" to open this case to take you to this Forms and Payment screen and Click on Finish to continue.

[Make a Payment](#)

SCE Application Process (13 of 14)

2. Click **Download** to review the Rule 21 application form. It includes all the information you provided. If you have any questions, contact SCE. Otherwise, proceed with completing the payment.
3. Click **Make a Payment** to proceed to payment.
4. Refer to the section: Making a Payment for information on how to make a payment.
5. Click **Save**.
6. Click **Finish**.



Your payment transaction is incomplete until you click **Finish**; you must click **Finish** for the case to move forward.

Application process steps for San Diego Gas & Electric (SDG&E)

The original document can be found [here](#).

SDG&E application process (1 of 16)

Starting an SDG&E application

- The first paragraphs are informational, describing SDG&E's multiple tariff use case.
- To begin an application, visit [SDG&E's Distribution Interconnection Information System \(DIIS\)](#).
- Note: An \$800 interconnection application fee applies to multiple tariff applications.
- Once logged into the DIIS portal, choose **DG Rule 21 Application**.

SDGE™

Interconnection Application Guide for SDG&E Multiple Tariff Facilities

Per [SDG&E Electric Schedule NEM-ST](#) (Special Condition 9.b; Sheet 27):
"Customers making modifications and/or additions to their REGF that exceed the 10 percent or 1 kW limit referenced above have the option of either: 1) metering the additions and/or modifications separately under another eligible tariff or other authorized process, or 2) having the entire REGF served under another eligible tariff, subject to the terms and conditions contained therein."

Essentially, what this means is that the required application request will be for a NEM Multiple Tariff Facility interconnection which provides for parallel operation of a non-NEM Generating Facility (or the Non-Export portion) in combination with the existing NEM facility.

- For more information regarding Multiple Tariff Facility provisions please reference Special Condition 5 on Sheet 14 of Schedule NEM-ST (link provided above).

If a contractor or customer decides to move forward with the first option noted above, they can do so by logging into SDG&E's Distribution Interconnection Information System (DIIS) [Net Energy Metering | San Diego Gas & Electric](#). When clicking on the "Start a New Application" option you'll want to select the "DG Rule 21 Application" option as illustrated in the screenshot below.

- Please note that an **\$800 Interconnection Application Fee** is required for this application. An invoice will be sent with payment instructions. Application review will commence upon receipt of payment.

Start a New Application

NEM/NBT Less than 10kW Application

NEM/NBT Greater than 10kW Application

DG Rule 21 Application

Backup Generators Application

Page 1 of 3

SDG&E application process (2 of 16)

Continuing an SDG&E application

- In section B of the DIIS application, choose **Existing facility with NEM generator(s) and planning to add non-NEM generator(s)**.
- Applicants must fill out a separate PDF ([Form 142-05203](#)) and upload the completed form to the application. For full instructions on Form 142-05203, see step 4 in subsequent slides.
- Departing load changes will apply to NEM-MT applications in SDG&E territory.
- System owners must have a homeowner's insurance policy and show proof of this during the application phase. Complete [Form 117-2160](#).
- If the expansion system has batteries attached, two [142-05203](#) forms are required—one for the PV system and one for the battery system.
- This section contains informational notes:
 - Link to [full SDG&E tariff](#)
 - Customer support phone numbers



When you get to Section B of the application, please select the "Existing facility with NEM generator(s) and planning to add non-NEM generator(s)" option as illustrated in the screenshot below.

B. Describe each of the Generators

* Required Field

- ☐ New facility installing non-NEM generator(s) and NEM generators at the same time.
- ☐ Existing facility with non-NEM generator(s) and planning to add NEM generator(s).
- ☒ Existing facility with NEM generator(s) and planning to add non-NEM generator(s).
- ☐ Existing facility with NEM generator(s) and planning to add NEM generator(s) under a different NEM tariff.

A completed **paper application is required** to be uploaded to the electronic submittal. You may find the hard copy application Form 142-05203 [here](#).

It's also important to note that the Non-NEM (or Non-Export) portion may be subject to departing load demand charges. See [SDG&E Electric Schedule CGDL-CRS](#) and [SDG&E Electric Schedule E-DEPART](#) for more information.

Additionally, **insurance requirements apply** to this type of application and must be met to receive Permission to Operate (PTO). Please refer to Generating Facility Interconnection Agreement [Form 117-2160](#), Section 9. We will also require contractors/customers to fill out this form and sign.

And last, if a battery storage is being installed behind the non-export system, please note that this will **require a separate DG Rule 21 application**.

Additional Resources

- [SDG&E's Electric Tariff Books](#) to access your OAS tariff which will be necessary when conducting an analysis for departing load charges.
- For questions regarding departing load demand charges:
 - Residential and Unassigned Commercial Customers - Contact SDG&E's Customer Contact Center.
 - Residential: 1-800-411-7343
 - Unassigned Commercial: 1-800-336-7343
 - Assigned Commercial Customer – Contact your Account Executive

SDG&E application process (3 of 16)

Continuing an SDG&E application

- For additional interconnection questions, SDG&E customer support can be contacted through these channels.



- For questions regarding the interconnection application process:
 - Email Netmetering@sdge.com or,
 - Call 1-858-636-5585

SDG&E application process (4 of 16)

Instructions for filling out Form 142-05203

- This application must be filled out and attached to the applicant's submittal in the DIIS system.
- If batteries are attached to the expansion system, one PV and one ESS application must be submitted.
- Scroll to the bottom of page 2 and select **Fast Track Process**.

Note: For solar and wind Net Energy Metering ("NEM") projects, please refer to the following SDG&E web site:
<http://www.sdge.com/nem>

Selecting the Study Process

Please check one:

☒ **Fast Track Process**

☐ **Detailed Study**

- Will be either an Independent Study Process, Distribution Group Study Process or Transmission Cluster Study Process, dependent upon the Electrical Independence Test.

2

Form 142-05203
(05/021)

SDG&E application process (5 of 16)

Continuing an SDG&E application

Page 3:

- Input the **Customer Election Account Information** in Section A.
- Input the **Project Contact Information** for the generating facility in Section B.

Part 2 – Identifying the Generating Facility's Location and Responsible Parties

Project Name:	Date Received:	Generating Facility ID:	Application Expiration Date (Refer to Part 2, Section E)
(For SDG&E Use Only)			

A. Customer Electric Account Information (Behind which meter and to which electric Service Account will the Generating Facility be interconnected for parallel operation with SDG&E?)

Name shown on SDG&E Service Account		Electric Account Number	Meter Number
-------------------------------------	--	-------------------------	--------------

NOTE: Customer Electric account must match the customer's utility bill account information.

Meter Location Street Address		City	State	Zip
-------------------------------	--	------	-------	-----

Customer Electric Account Contact Information (Who is the customer contact for progress updates and/or additional information?)

Contact Person		Company Name
----------------	--	--------------

Phone	Fax	E-mail
-------	-----	--------

Mailing Address		City	State	Zip
-----------------	--	------	-------	-----

B. Project Contact Information (Who is the project contact for this Generating Facility?)

Project Contact Person (Optional)		Company Name
-----------------------------------	--	--------------

Phone	Fax	E-mail
-------	-----	--------

Mailing Address		City	State	Zip
-----------------	--	------	-------	-----

B.1. Will the Generating Facility be owned by a (third) party other than the name appearing on the SDG&E service account in A. above (please check)? ☐ Yes ☐ No

3 Form 142-05203 (05/021)

SDG&E application process (6 of 16)

Continuing an SDG&E application

Page 4

- Input expected energy output, and the contact person who will execute the utility agreement.
- Choose C.1 if Customer owned
- Choose C.2 if 3rd party owned
- Input contact information from the customer or 3rd party.

Part 2 Cont'd – Identifying the Generating Facility's Location and Responsible Parties

B.2. Will any portion of the Generating Facility operate in a Combined Heat and Power mode such that it meets the requirements for Cogeneration as defined in Section 216.6 of the California Public Utilities Code? ☐ Yes ☐ No

B.3. Will the Generating Facility qualify as an eligible Net Energy Metering Renewable Electrical Generation Facility as defined in Sections 2827, 2827.1 or 2827.10 of the California Public Utilities Code? ☐ Yes ☐ No

B.4. What is the estimated annual energy production of the Generating Facility? kWh

C. 1. Customer - Generation Facility Interconnection Agreement ("GFIA") (applicable where customer is the signatory on the GFIA) or Customer Generation Agreement ("CGA") Information (applicable where a 3rd party is the signatory on the GFIA; see also Section C.2 below)

Please identify the party who will sign and execute the GFIA or CGA, as applicable.

Enter customer information if system is customer owned

Person Executing the GFIA/CGA Title of Person Executing GFIA/CGA

Name of Legal Entity to be entered in the Signatures Section of the GFIA/CGA Type of Entity (e.g., a Delaware Corporation; a California Municipality)

C.2. 3rd Party Owner/Producer – GFIA Information (If applicable)

Please identify the 3rd party who will sign and execute the GFIA.

Enter 3rd party owner information if system is owned by 3rd party

Person Executing the GFIA Title of Person Executing GFIA

Name of Legal Entity to be entered in the Signatures Section of the GFIA Type of Entity (e.g., a Delaware Corporation; a California Municipality)

C.3 Contractual Notice Recipients – Contact Information

Customer

Contact Person Company Name (if applicable)

Phone Fax (if applicable) Email (required)

Mailing Address City State Zip Code

Contact info for C.1 or C.2 above

4

Form 142-05203 (05/021)

SDG&E application process (7 of 16)

Continuing an SDG&E application

Page 5

- Input contact information if owned by 3rd party.
- Operating Date: Input expected PTO date.
- Expiration date: Input 12 months after the application date.
- Input **No** for Cost Envelope Option Election for upgrades.

SDG&E
Southern California Edison

GENERATING FACILITY INTERCONNECTION APPLICATION

Part 2 Cont'd - Identifying the Generating Facility's Location and Responsible Parties

3rd Party Owner/Producer (if applicable)

Contact Person: _____ Company Name (if applicable): _____

Phone: _____ Fax (if applicable): _____ Email (required): _____

Mailing Address: _____ City: _____ State: _____ Zip Code: _____

D. Operating Date (What date is this Generating Facility expected to begin operation?)
expected PTO date

E. Expiration Date* (The date the status of this Application is changed to "withdrawn" by SDG&E?)
12 months after application date

* The information submitted in this Application will remain active and valid for a period of 12 months from the date the Application was accepted by SDG&E as a "completed" Application. If the project has not received written authorization to operate in parallel, or that reasonable proof the project is going forward has not been submitted to SDG&E by that time, the Application will be considered "withdrawn". Any Interconnection Request, Supplemental Review or Detailed Study fees paid to SDG&E for corresponding reviews/studies completed by SDG&E will be forfeited.

F. Estimated Versus Actual Cost Responsibility

If actual costs for (1) detailed interconnection studies, and/or (2) interconnection Facilities and distribution system modifications exceed the original estimated amounts, Applicant will be responsible for costs above the estimated amounts, and SDG&E will refund the difference.

G. Cost Envelope Option Election for Upgrades

Please indicate below if Customer elects to participate in the Cost Envelope Option pursuant to Rule 21 Section F.7 for the costs associated with any applicable Interconnection Facilities and/or Distribution Upgrades (check below):

☐ Yes
☒ No

If "Yes" is selected, Customer must provide all of the following additional information as part of this Application:

1. Final location of the Point of Common Coupling: [provide a description of the physical location of the Point of Common Coupling and indicate on the site drawing provided under 5 below]
2. Final location of the Point of Interconnection: [provide a description of the physical location of the Point of Interconnection and indicate on the site drawing provided under 5 below]
3. Confirmation of service voltage:

5 Form 142-05203 (05/021)

SDG&E application process (8 of 16)

Continuing an SDG&E application

Page 6

- H does not apply to AC NEM expansion systems. Select **No**.
- Select option 1: Parallel Operation.

Part 2 Cont'd – Identifying the Generating Facility's Location and Responsible Parties

4. Confirmation that technical data provided in the Application is accurate, including equipment type and manufacturer:

5. A site drawing on a scale of 1:30 or less, which shows the final location of the Point of Common Coupling, Point of Interconnection, and final location and routing of conductors and equipment between the Point of Common Coupling and Point of Interconnection:

6. Identification of any constraints or limitations related to the siting or routing of conductors and equipment between the Point of Common Coupling and the Point of Interconnection: [provide a description of the constraints/limitations and indicate their location on the site drawing provided under 5 above]

H. Expedited Review for Non-Export AC/DC Converters

Please indicate below if the Generating Facility exclusively employs Non-Export AC/DC Converter(s) and Customer requests expedited review pursuant to Rule 21 Section F.1.b subject to the eligibility requirements of Rule 21 Section O (check below):

☐ Yes
☒ No

Part 3 - Describing the Generating Facility and Host Customer's Electrical Facilities

A. (MP&I)	Indicate the operating mode of the Generating Facility	operating mode options: ☒ 1 ☐ 2 ☐ 3 (Choose one)
--------------	--	--

Select parallel operation

Instructions and Notes

Choose from the following operating mode options:

1. **Parallel Operation:** The Generating Facility will interconnect and operate "in parallel" with SDG&E's Distribution System for more than one (1) second.

2. **Momentary Parallel Operation (MP):** The Generating Facility will interconnect and operate on a "momentary parallel" basis with SDG&E's Distribution System for a duration of one (1) second or less through transfer switches or operating schemes specifically designed and engineered for such operation.

3. **Isolated Operation (I):** The Generating Facility will be "isolated" and prevented from becoming interconnected with SDG&E's Distribution System through a transfer switch or operating scheme specifically designed and engineered for such operation.

If the answer is operating mode option 1, "parallel operation," please supply all of the information requested for the Generating Facility. Be sure to supply adequate information including diagrams and written descriptions regarding the protective relays that will be used to detect faults or abnormal operating conditions on SDG&E's Distribution System.

If the answer is operating mode option 2, "momentary parallel operation," only questions A, E and F of this Part 3 and questions A, B, E, F, J, M, N, O and T of Part 4 need be answered. Be sure, however, to supply adequate information including diagrams and written descriptions regarding the switching device or scheme that will be used to limit the parallel operation period to one second or less. Please also describe the back up or protective device and controls that will trip the Generating Facility should the transfer switch or scheme not complete the transfer in one second or less.

If the answer is operating mode option 3, "Isolated Operation," only questions A, E, and F of this Part 3 and questions A, B, F, and T of Part 4 need be answered. Be sure, however, to supply adequate information including diagrams and written descriptions regarding the isolating switching device or scheme that will be used to prevent the Generating Facility from operating in parallel with SDG&E's Distribution System.

6

Form 142-05203
(05/021)

SDG&E application process (9 of 16)

Continuing an SDG&E application

Page 7

- Select option 9 for “Net Energy Metering Agreement: Multiple Tariff”.

**GENERATING FACILITY INTERCONNECTION APPLICATION**

Part 3 Cont'd - Describing the Generating Facility and Host Customer's Electrical Facilities

B. Parallel Operation Applications Only	If the Answer to Section A above was operating mode option 1, please indicate the type of agreement that is being requested with this Application. If operating mode option 2 or 3 was selected, please skip to questions E and F. If agreement options 2, 3, 5, 7, 8, 9, or 10 to this Section B are chosen, please provide an estimate of the maximum kW the Generating Facility is expected to export to SDG&E's Distribution System. If SDG&E determines that the amount of power to be exported is significant in relation to the capacity available on its Distribution System, it may request additional information, including time of delivery or seasonal kW/kWh estimates.	agreement options: 1 2 3 4 5 6 7 8 9 10 (Choose all that apply) Maximum kW
---	---	--

Instructions and Notes

Sample agreements are available from SDG&E for review. Choose from the following thirteen (13) agreement options:

Customer Owned Generating Facility (not NEM eligible)

1. A Generating Facility Interconnection Agreement (Form 142-05202) that provides for parallel operation of the Generating Facility, but does not provide for exporting power to SDG&E's Distribution System.

2. A Generating Facility Interconnection Agreement (Inadvertent Export) (Form 142-0544) that provides for parallel operation of the Generating Facility, and the occasional, inadvertent, non-compensated, export of power to SDG&E's Distribution System

3. A Generating Facility Interconnection Agreement (Continuous Export) (Form 142-0545) that provides for parallel operation of the Generating Facility, and, continuous export of power to SDG&E's Distribution System.

4. A Generating Facility Interconnection Agreement (Form 142-0543) that provides for parallel operation of the third party owned Generating Facility, but does not provide for exporting power to SDG&E's Distribution System.

5. A Generating Facility Interconnection Inadvertent Export Agreement (Form 142-0542) that provides for parallel operation of the third party owned Generating Facility and the occasional, inadvertent, non-compensated, export of power to SDG&E's Distribution System for one second or less.

6. A Customer Generation Agreement (Form 142-0541) that defines the relationship between the Customer whose name appears on SDG&E's electric service account (this agreement must be executed in addition to 5 and 6).

Net Energy Metering Generating Facility

If Applicant intends to operate the Generating Facility under one of SDG&E's Net Energy Metering tariffs, following a bi-directional metering installation, the meter and disconnect switch must be installed in a location acceptable to SDG&E. Access to the meter and disconnect switch located on Applicant's premises must be in accordance with SDG&E Electric Rule 16, Section A 11.

7. A Net Energy Metering Agreement (Form 142-02760) that provides for parallel operation of a qualifying solar and/or wind Generating Facility, and exporting power to SDG&E's Distribution System under the terms of SDG&E's Net Energy Metering tariffs. This option is available only to Renewable Electrical Generating Facilities, as defined in SDG&E's Net Energy Metering tariffs.

8. A Net Energy Metering Agreement: Fuel Cell (Form 142-02762) that provides for parallel operation of a qualifying fuel cell Generating Facility with a capacity of not more than 1,000 kW, and exporting power to SDG&E's Distribution System for credit under the terms of SDG&E's Net Energy Metering tariffs. This option is available only to eligible Generating Facilities as defined in SDG&E's Net Energy Metering tariffs

7

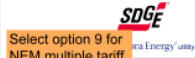
Form 142-05203
(05/021)

SDG&E application process (10 of 16)

Continuing an SDG&E application

Page 8

- Leave table C blank since option 9 was selected.



Select option 9 for
NEM multiple tariff

GENERATING FACILITY INTERCONNECTION APPLICATION

Part 3 Cont'd - Describing the Generating Facility and Host Customer's Electrical Facilities

9. **A Net Energy Metering Agreement: Multiple Tariff (Form 117-2160)** that provides for parallel operation of a Generating Facility that consists of generators 1) eligible for service under applicable net energy metering tariffs exporting power to SDG&E's Distribution System under the terms of SDG&E's Net Energy Metering tariffs and 2) generators not eligible to receive the same tariff treatment under a Net Metering tariff. All Generating Facility Generators are electrically connected behind the same Point of Common Coupling. This option is available only to Renewable Electrical Generating Facilities, as defined in SDG&E's Net Energy Metering and other applicable tariffs.

10. **Other, please describe:** _____

C.
Parallel
Operation
Applications
Only

If the answer to Section B above was agreement option 1 or 5, or 3 or 6, please indicate the protection option that will be used to prevent energy from being exported to SDG&E's Distribution System.

Leave blank since option 9 was selected.

If the answer to Section B above was agreement option 1 or 5 and the answer to the question above is protection option 3 or 4, please indicate if expedited processing pursuant to Section N of Rule 21 is requested (*currently applicable to non-export inverter-based energy storage generating facilities only*).

If protection option 3 to this Section C is selected, please provide the continuous current rating of the host Customer facility's service entrance equipment (service panel rating):

If protection option 4 to this Section C is selected, please provide the minimum load of the host Customer facility:

Protection Option:

_ 1	_ 2	_ 3	_ 4
_ 5 _ 6			
(Choose one)			

Yes ___ No ___ N/A ___

leave blank

Amps

leave blank

kW

Instructions and Notes

Refer to SDG&E's Rule 21, Section G.1.i for additional information as to how to answer this question. If the Generating Facility will *never* export power to SDG&E's Distribution System, a simpler, lower cost, protection scheme may be used to control the interface between the Generating Facility and SDG&E's Distribution System. Choose from the following six protection options:

- A reverse-power protection device will be installed to measure any export of power and trip the Generating Facility or open an intertie breaker to isolate the Generating Facility if limits are exceeded.
- An under-power protection device will be installed to measure the inflow of power and trip or reduce the output of the Generating Facility if limits are not maintained.
- The Generating Facility Interconnection Facility equipment has been certified as Non-islanding and the incidental export of power will be limited by the design of the interconnection. If this option is to be used, the continuous amp rating of the service entrance equipment (service panel rating) that is used by the host Customer facility must be stated in the space provided above.
- The Gross Nameplate Rating of the Generating Facility will not exceed 50% of the host Customer facility's minimum electrical load. If this option is to be used, the minimum load of the host Customer facility must be stated in the space provided above.
- The Generating Facility utilizes only UL-1741 or UL-1741 SA-listed grid support (non-islanding) inverters and meets other minimum requirements as described in Section M of Rule 21 to ensure conditional (inadvertent) export of electric power from the Generation Facility to Distribution Provider's Distribution or Transmission System that is limited in size, duration and cumulative impact.
- The Generating Facility utilizes only Non-Export AC/DC Converter(s). This protection option is applicable only for agreement options 1 or 5 above (Non-Export).

Note: With the approval of SDG&E, a Producer that wishes to retain the option to export power from a Generating Facility to SDG&E's Distribution System may use a different protection scheme that provides for the detection of faults and other abnormal operating conditions.

8

Form 142-05203
(05/021)

SDG&E application process (11 of 16)

Continuing an SDG&E application

Page 9

- Select option 6: Multiple Tariff.
- Residential systems will not be a FERC qualifying facility. Select NO.

SDGE
Sempia Energy's utility

AC short circuit fault current rating can be found on "output data" section of Enphase inverter datasheet.
Multiply this number times quantity of inverters.
Example: IQ8A has short circuit fault rating of 2A.
(20) IQ8As = 40A fault current

Part 3 Cont'd - Describing the Generating Facility and Host Customer's Electrical Facilities

D. Parallel Operation Applications Only

What is the maximum 3-phase fault current that will be contributed by the Generating Facility to a 3-phase fault at the Point of Common Coupling (PCC)? (If the Generating Facility is single phase in design, please provide the contribution for a line-to-line fault.)
Please indicate the short circuit interrupting rating of the host Customer facility's service panel:

Amps
Amps

Input AIC rating of main panel. This can be found on the main panel decal, or main breaker enclosure

Instructions and Notes
Refer to SDG&E's Rule 21 Sections H.4.a. and G.1.f for significance and additional information. To determine this value, any transformers and/or significant lengths of interconnecting conductor used between each of the Generators (if there are more than one) that make up the Generating Facility and the PCC must be taken into account. The details, impedance, and arrangement of such transformers and interconnecting conductors should be shown on the single-line diagram that is provided. Consult an electrical engineer or the equipment supplier if assistance is needed in answering this question.
It is expected that most Applicants will want to reserve the flexibility to operate any or all of their Generators in parallel. If the design of the proposed Generating Facility limits the amount of generation that may be interconnected at any time to SDG&E's Distribution System, please describe the assumptions used in calculating the maximum fault current contribution value.

E. (NPSU) Please indicate how this Generating Facility will be operated.

1 2 3 4 5 6 7
(Please choose all options that may apply.)

Instructions and Notes
Choose from the following operation options:

1. **Combined Heat and Power or Cogeneration** – Where the operation of the Generating Facility will produce thermal energy for a process other than generating electricity.
2. **Peak Shaving/Demand Management** – Where the Generating Facility will be operated primarily to reduce electrical demands of the host Customer facility during SDG&E's "peak pricing periods".
3. **Primary Power Source** – Where the Generating Facility will be used as the primary source of electric power and power supplied by SDG&E to the host Customer's loads will be required for supplemental, standby, or backup power purposes only.
4. **Standby / Emergency / Backup** – Where the Generating Facility will normally be operated only when SDG&E's electric service is not available.
5. **Net Energy Metering** – Where the Generating Facility qualifies and receives service under one of SDG&E's Net Energy Metering tariffs.
6. **Multiple Tariff** – Generating Facilities that have a combination of generator(s) eligible for service under one or more of SDG&E's NEM tariffs and/or generator(s) eligible to receive service under other, non-NEM eligible SDG&E tariffs. Check one of the options listed in Part 4.
7. Other, please describe: Additional information on page 15 & 16 of application

F. (NPSU) Please indicate if Qualifying Facility Status will be obtained from the FERC for this Generating Facility.

Yes
No

9 Form 142-05203 (05/021)

SDG&E application process (12 of 16)

Continuing an SDG&E application

Page 10

- Select Not Applicable since cogeneration does not apply.
- Input existing facility with NEM generator(s) and planning to add non-NEM generator(s).

Part 3 Cont'd - Describing the Generating Facility and Host Customer's Electrical Facilities

Instructions and Notes
Parties operating Generating Facilities complying with all of the requirements for qualification as either a small power production facility or cogeneration facility pursuant to the regulations of the FERC (18 Code of Federal Regulations Part 292, Section 292.203 et seq.) implementing the Public Utility Regulatory Policies Act of 1978 (16 U.S.C.A. Section 796, et seq.), or any successor requirements for "Qualifying Facilities," may seek certification from FERC to have the Generating Facility designated as a Qualifying Facility or "QF." In summary, QF's are Generating Facilities using renewable or alternative fuels as a primary energy source or facilities that utilize the generation process for some other useful purpose. QF's enjoy certain rights and p

QF status is not required to interconnect and operate in parallel with SDG&E's Distribution System.

G.	Please indicate if Generating Facility will meet the annual Efficiency and Operating Standards of PUC Code 216.6 (Applicable to Cogeneration Only)	☐ Yes ☐ No ☒ N/A
----	--	--

Part 4 - Describe each of the Generators (See Instructions.) Use additional sheets, if necessary.

- ☐ New facility installing non-NEM generator(s) and NEM generators at the same time.
- ☐ Existing facility with non-NEM generator(s) and planning to add NEM generator(s). Please provide data for the table below.
- ☒ Existing facility with NEM generator(s) and planning to add non-NEM generator(s). Please provide data for the table below.
- ☐ Existing facility with NEM generator(s) and planning to add NEM generator(s) under a different NEM tariff. Please provide data for the table below.
- ☐ Existing facility with non-NEM generator(s) and planning to add non-NEM generator(s). Please provide data for the table below.

Non-export expansion is considered a non-NEM generator

10 Form 142-05203 (05/021)

SDG&E application process (13 of 16)

Continuing an SDG&E application

Page 11

- Input fields for legacy and expansion systems as shown to the right.



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GENERATING FACILITY INTERCONNECTION APPLICATION

Legacy system information

Expansion system information

Part 4 Cont'd – Describe each of the Generators (See Instructions.) Use additional sheets, if necessary.

Instructions	Generator Information	Existing Generator Type	Existing Generator Type	New Generator Type	New Generator Type	Totals For All Generators
#	Please indicate the number of each "type" of Generator being installed. (See Instructions)	enter qty of legacy inverters		enter quantity of Enphase inverters		
A (MVA)	Gen/Inverter/Converter Manufacturer	Enter mfr of legacy inverters		enter mfr of new inverters (Enphase)		
B (MVA)	Gen/Inverter/Converter Model	PV inverter or battery type		PV inverter or battery type		
C	Gen/Inverter/Converter Software Version	minimum sw version if applicable (or leave blank)		gateway sw 8.2.127 and higher		
D	Is the Generator Certified "yes" if rule 21 certified	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	
E (MVA)	Generator Design (Choose One)	☐ Synchronous ☐ Induction ☐ Inverter	☐ Synchronous ☐ Induction ☐ Inverter	☐ Synchronous ☐ Induction ☐ Inverter	☐ Synchronous ☐ Induction ☐ Inverter	
E.1	If the Generator Type is an Inverter, is the Inverter Certified as a Smart Inverter in accordance with Rule 21 Section H.b by a Nationally Recognized Testing Laboratory (NRTL)?	☐ Yes ☐ No refer to legacy mfr. inverter documentation	☐ Yes ☐ No	☐ Yes ☐ No		
E.2	If the Generator Type is a Converter, does the Converter meet the NonExport AC/DC Converter requirements of Rule 21 Section H.3.e?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No leave this blank		Legacy + Expansion system info
F (MVA)	Gross Nameplate Rating (kVA)	system kVA size (inverter nameplate)		system kVA size (inverter nameplate)		sum of legacy and expansion capacity
G	Gross Nameplate Rating (kW)	only input if manufacturer provides separate kw rating		leave blank		
H	Net Nameplate Rating (kW)	only input if manufacturer provides separate kw rating		leave blank		
I	Energy Storage Electrical Source Function (in addition, please complete section H for further description regarding operations)	Max kWh Capacity: _____ Rated kW Charge: _____ Rated kW Discharge: _____ List (if any) Device Used to Limit Discharge (inverter/ Power Control/etc.): _____	Max kWh Capacity: _____ Rated kW Charge: _____ Rated kW Discharge: _____ List (if any) Device Used to Limit Discharge (inverter/ Power Control/etc.): _____	Max kWh Capacity: _____ Rated kW Charge: _____ Rated kW Discharge: _____ List (if any) Device Used to Limit Discharge (inverter/ Power Control/etc.): _____ Specify Power Control systems: NEM integrity mode	Max kWh Capacity: _____ Rated kW Charge: _____ Rated kW Discharge: _____ List (if any) Device Used to Limit Discharge (inverter/ Power Control/etc.): _____	input information for battery application. Leave blank for PV application

11

Form 142-05203 (05/02/11)

SDG&E application process (14 of 16)

Continuing an SDG&E application

Page 12

- Continue filling out the table as shown to the right.

Part 4 Cont'd – Describe each of the Generators (See Instructions.) Use additional sheets, if necessary.

Instr.	Generator Information	Existing Generator Type	Existing Generator Type	New Generator Type	New Generator Type
J (MP)	Operating Voltage (Volts or kV)	240V		240V	
K	Power Factor Rating (%)	Min. _____ Max. _____		Min. 0.85 Max. 0.85	Min. _____ Max. _____
L	PF Adjustment Range (%)				
M (MP)	Wiring Configuration (Choose One)	Single-Phase Three-Phase		Single-Phase Three-Phase	Single-Phase Three-Phase
N (MP)	3-Phase Winding Configuration (Choose One)	3 Wire Delta 3 Wire Wye 4 Wire Wye	3 Wire Delta 3 Wire Wye 4 Wire Wye	3 Wire Delta 3 Wire Wye 4 Wire Wye	3 Wire Delta 3 Wire Wye 4 Wire Wye
O (MP)	Neutral Grounding System Used (Choose One)	Ungrounded Solidly Grounded Ground Resistor _____ Ohms	Ungrounded Solidly Grounded Ground Resistor _____ Ohms	Ungrounded Solidly Grounded Ground Resistor _____ Ohms	Ungrounded Solidly Grounded Ground Resistor _____ Ohms
P	For Synchronous Generators Only: Synchronous Reactance: _____ (Xd %) Transient Reactance: _____ (Xd %) Subtransient Reactance: _____ (Xd %)			Leave Blank	
Q	For Induction Generators Only: Locked Rotor Current: _____ (Amps) OR Stator Resistance: _____ (%) Stator Leakage Reactance: _____ (%) Rotor Resistance: _____ (%) Rotor Leakage Reactance: _____ (%)			Leave Blank	
R	Short Circuit Current Produced by Generator: _____ (Amps)				input same value from part 3, box D (Amps)
S	For Generators that are Started as a "Motor" Only: 1. In-Rush Current: _____ (Amps) 2. Host Customer's Service Entrance Panel (Main Panel) Continuous Current Rating: _____ (Amps)			Leave Blank	

12

Form 142-05203
(05/021)

SDG&E application process (15 of 16)

Continuing an SDG&E application

Page 13

- Continue filling out table as shown to the right.

9 = PV panels

Part 4 Cont'd – Describe each of the Generators (See Instructions.) Use additional sheets, if necessary.

Instructions	Generator Information	Existing Generator Type	Existing Generator Type	New Generator Type	New Generator Type
T (MP&I)	(Circle One)	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
U	AC Disconnect	Manufacturer Model# Rating (amps)	Manufacturer Model# Rating (amps)	Manufacturer Only fill out if AC disconnect is required Rating (amps)	Manufacturer Model# Rating (amps)
V	Photovoltaic (PV) Panel	Manufacturer Add Legacy system PV module details Nameplate Rating (kW/unit) CEC Rating (kW/unit) Quantity of Panels Total Capacity (kW)	Manufacturer Model# Nameplate Rating (kW/unit) CEC Rating (kW/unit) Quantity of Panels Total Capacity (kW)	Manufacturer Add Expansion system PV module details Nameplate Rating (kW/unit) CEC Rating (kW/unit) Quantity of Panels Total Capacity (kW)	Manufacturer Model# Nameplate Rating (kW/unit) CEC Rating (kW/unit) Quantity of Panels Total Capacity (kW)
W	Energy Storage (ES) System	Manufacturer Model# Quantity of Units	Manufacturer Model# Quantity of Units	Manufacturer expansion battery details if applicable. Leave blank for PV only application	Manufacturer Model# Quantity of Units
X	Lineside Tap	__Yes __No	__Yes __No	__Yes __No	

13

Form 142-05203
(05/021)

SDG&E application process (16 of 16)

Continuing an SDG&E application

In Form 142-05203, skip ahead to page 17 (pages 14-16 are instructional notes only).

Page 17

- Input battery information as shown to the right.
- Note: If no batteries, all fields are left blank.

GENERATING FACILITY INTERCONNECTION APPLICATION

NOTE: This form only used for battery application, not for PV application

Part 5. Information Required for Energy Storage (if applicable)

Energy Storage System Operations

Describe the intended use of the storage device (Example of this can be peak shaving, export to grid, load shifting, etc. The intended use may be taken into account in the study process.):

Energy Storage Charging Function:

Rated Charge Demand (Load): Battery AC nameplate kW

Estimated annual Net Energy Usage* of the ESD: (1) IQ5P annually = 55 kwh annually
Multiply 55 x quantity of IQ5P batteries and enter sum total. kWh

*Net Energy Usage = (kWh input, including charging, storage device auxiliary loads, and losses) – (kWh output, including discharging)

Will the distribution grid be used to charge the storage device (yes/no): No

If no: Provide technical description of control systems including:

Source of energy for charging: New Solar PV system described in this application

Mechanism to prevent charging from the Distribution System: PCS Power Control Systems

If yes: Will charging the storage system from the grid increase the host facility's current peak load demand (yes/no): No

- **Yes:** Provide the amount of added peak demand in (kW): kW
- **No:** Provide technical description of charger control systems including charging periods, source of energy (if applicable), and/ or mechanism to prevent increasing the host facility's peak load demand:
Battery is only charged from solar.

Generating Facility:

Including all generation sources such as PV, storage, and other technologies, provide the following information:

Will the generating facility export power to the grid (yes/no): No

If yes, specify Generating Facility's maximum coincident export to the grid: kW

If all generation sources are not simultaneously exporting to the grid, provide technical description of the controls systems for this function that prevent simultaneous export:
Power Control Systems, UL 3141

17

Form 142-05203
(05/021)

How to configure an expansion system for zero export

How to configure an expansion system for zero export

For all system expansions, the new system must be configured to zero export.

There are two ways to do this:

- Using the Enphase Installer App
- Using Enphase Enlighten Manager

Follow the steps on the next slides to ensure that the system expansion is properly configured.

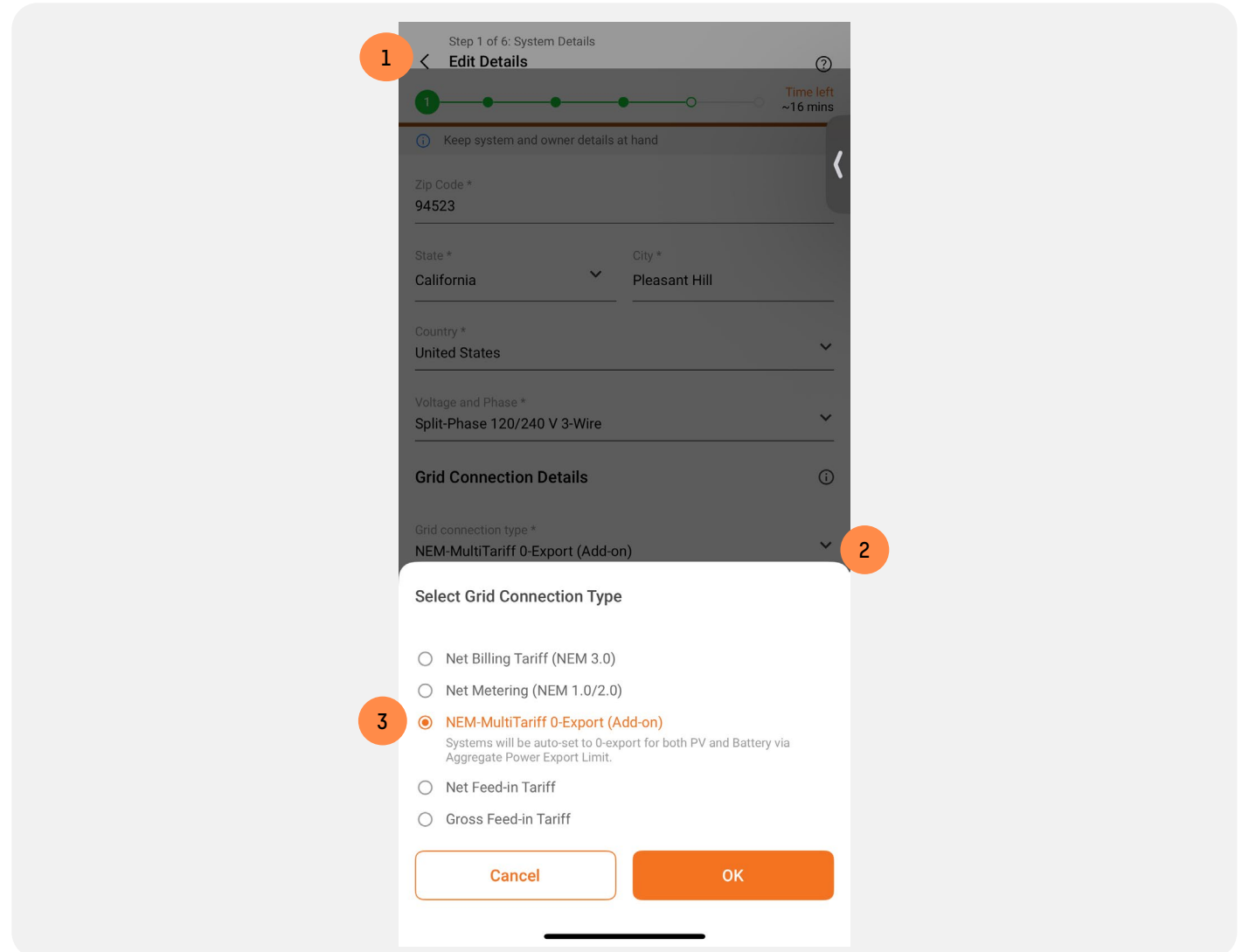
Setting zero export using the Enphase Installer App

Aggregate power export limiting (APEL) is required for all systems participating in NEM zero export system expansions.

To configure APEL using the Enphase Installer App, follow these steps while commissioning the system:

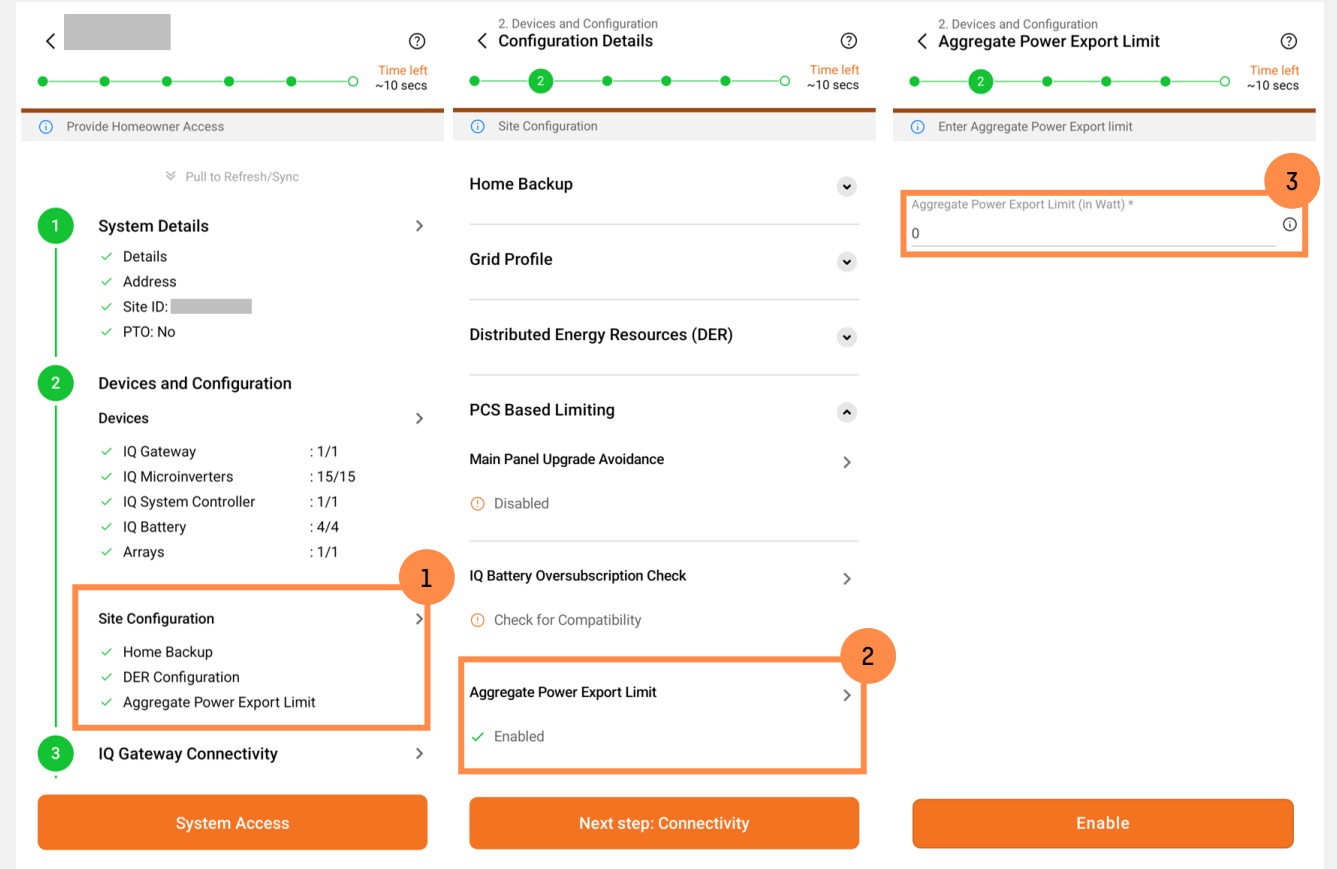
- 1 Tap **System Details** in step 1 of the Enphase Installer App.
- 2 Access the drop-down menu under “**Grid Connection Type**”.
- 3 Select **NEM-MultiTariff 0-Export (Add-on)**.

By selecting this grid connection type, the Enphase Installer App will automatically enable zero export PCS on the expansion system.



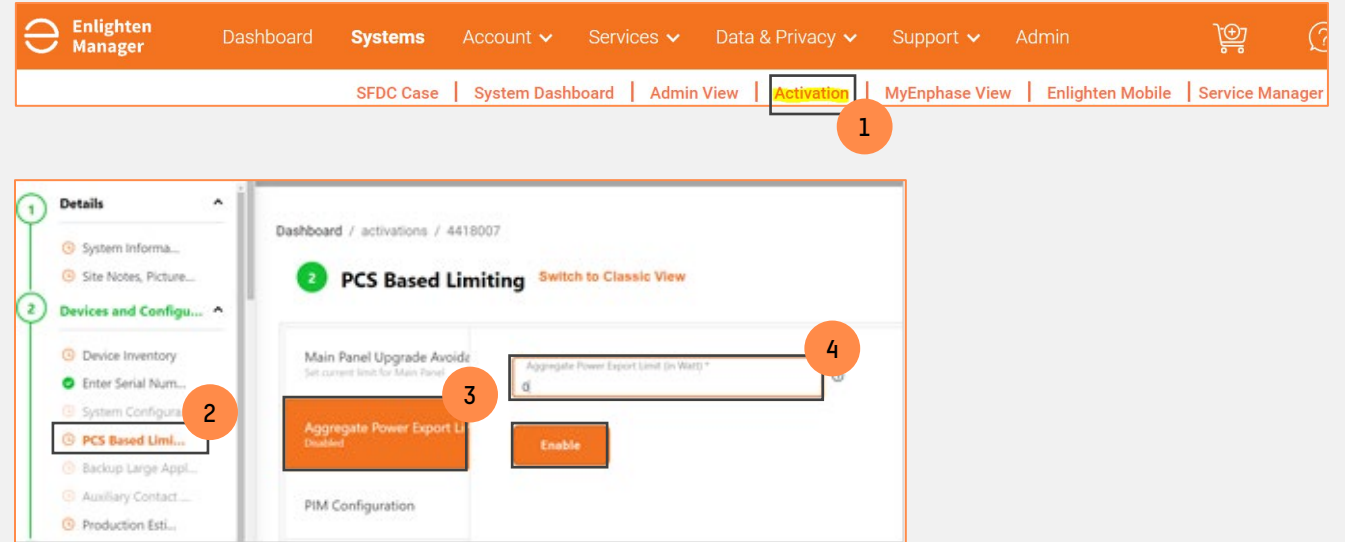
Verify zero-export settings are set under “Configuration Details”

- 1 Tap **Site Configuration** in step 2 of the Enphase Installer App.
- 2 Tap the **Aggregate Power Export Limit** submenu.
- 3 Verify **Aggregate Power Export Limit (in Watt)** is 0.



Verify zero export is set using Enlighten Manager

- 1 Click the **Activation** tab.
- 2 Click **PCS Based Limiting**.
- 3 Click **Aggregate Power Export Limit**.
- 4 Check that **Aggregate Power Export Limit (in Watts)** is set to 0.



Revision history

Revision	Date	Description
MKT-00914-7.0	July 2025	New guidance added to commissioning instructions for marking sites as NEM-MT, facilitating zero export PCS.
MKT-00914-6.0	May 2025	Internal release.
MKT-00914-5.0	March 2025	Updated the document link of PCS Sequence of Operations.
MKT-00914-4.0	January 2025	Added instruction obtained from SCE and SDG&E application guidance documents.
MKT-00914-3.0	November 2024	Corrected SCE screenshot that showed incorrect parameter selected.
MKT-00914-2.0	November 2024	Added instructions for configuring an expansion system for zero export.
MKT-00914-1.0	October 2024	Initial release.



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