Distribution Interconnection Information System (DIIS)

Rule 21 Application User Guide

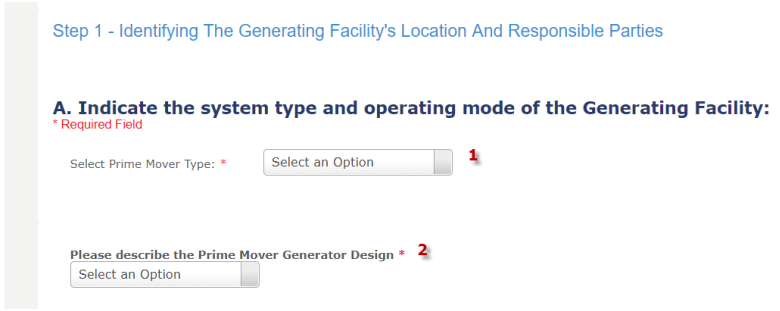
September 2017

Rule 21 Overview

- SDG&E has expanded the online Rule 21 application to capture all data from the paper application form
  - The Rule 21 application will be broken out into three steps:
    1. Identifying the Generating Facility's Location and Responsible Parties
    2. Description of the Generating Facilities
    3. Upload of documents
- For questions on the Rule 21 process visit: https://www.sdge.com/business/electric-rule-21-resources or email DGInquiries@semprautilities.com

Step 1 Prime Mover Type

1. Please indicate the type and fuel used as the “prime mover” or source of energy for the Generator
    1. Internal Combustion Engine – Natural Gas
    2. Internal Combustion Engine – Diesel Fueled
    3. Internal Combustion Engine – Other Fuel
    4. Microturbine – Natural Gas
    5. Microturbine – Other Fuel
    6. Combustion Turbine – Natural Gas
    7. Combustion Turbine – Other Fuel
    8. Steam Turbine
    9. Photovoltaic Panels
    10. Solar-thermal engine
    11. Fuel Cell – Natural Gas
    12. Fuel Cell – Other Fuel
    13. Hydroelectric Turbine
    14. Wind Turbine
    15. Energy Storage
    16. Other
2. Please indicate the design of the Generator. Designate “Inverter” anytime an inverter is used as the interface between the Generator and the electric system regardless of the primary power production/storage device used.



Step 1 Selecting Operation Type

1. Indicate the operating mode of the Generating Facility
2. If operating mode is Parallel Operation, select agreement type from the following options:

    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 4 or 5).

Net Energy Metering Generating Facility

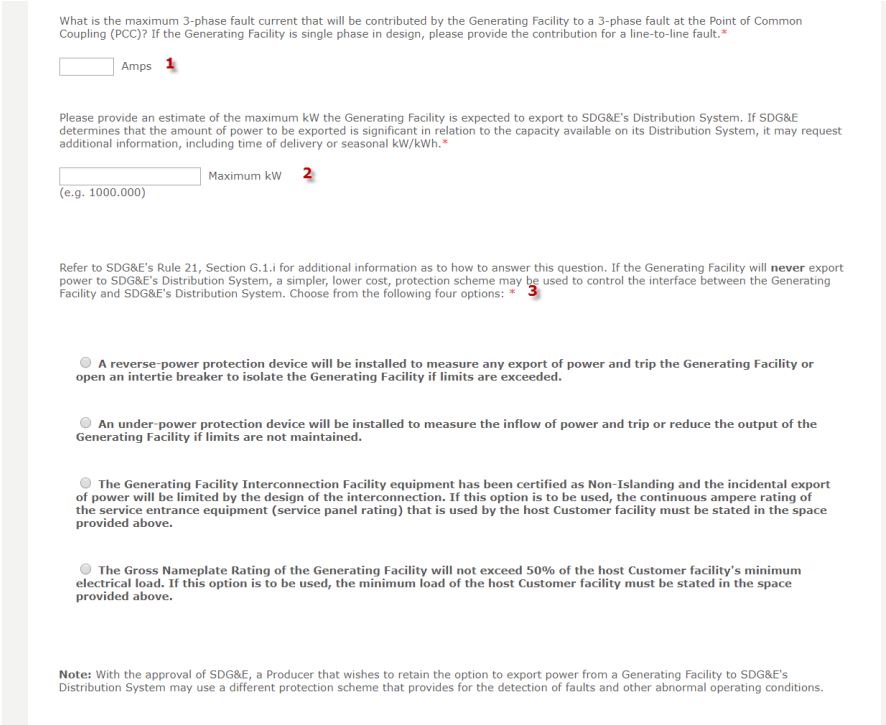
If Applicant intends to operate the Generating Facility under one of SDG&E's Net Energy Metering tariffs, following a bi-directional metering installation, the meter and disconnect switch must be installed in a location acceptable to SDG&E. Access to the meter and disconnect switch located on Applicant's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

1. 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.
2. 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
3. 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
4. Other, please describe

Step 1 Parallel Operation Only

For Parallel Operation only, answer the following:

1. Indicate the maximum 3-phase fault current
2. 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.
3. Please indicate the protection option that will be used to prevent energy from being exported to SDG&E's Distribution System.



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.*

Amps 1

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.*

Maximum kW 2
(e.g. 1000.000)

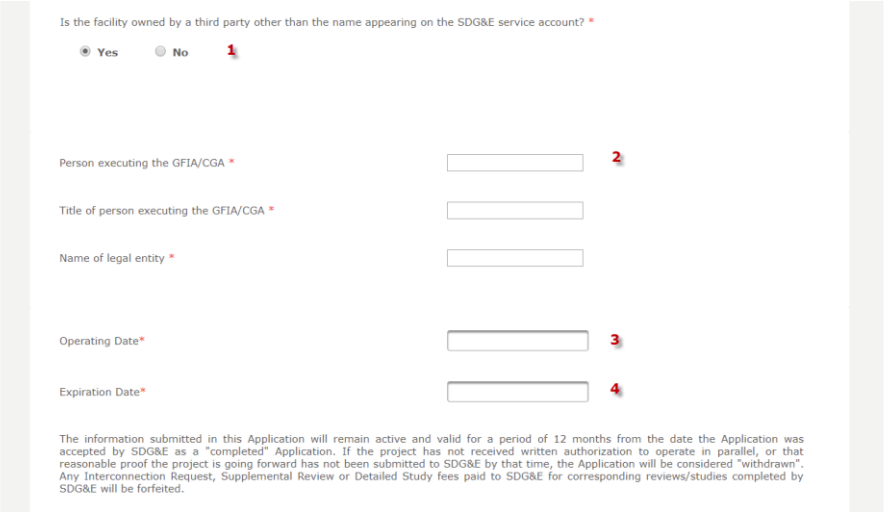
Refer to SDG&E's Rule 21, Section G.1.i for additional information as to how to answer this question. If the Generating Facility will **never** export power to SDG&E's Distribution System, a simpler, lower cost, protection scheme may be used to control the interface between the Generating Facility and SDG&E's Distribution System. Choose from the following four options: * 3

- **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 ampere 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.**

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.

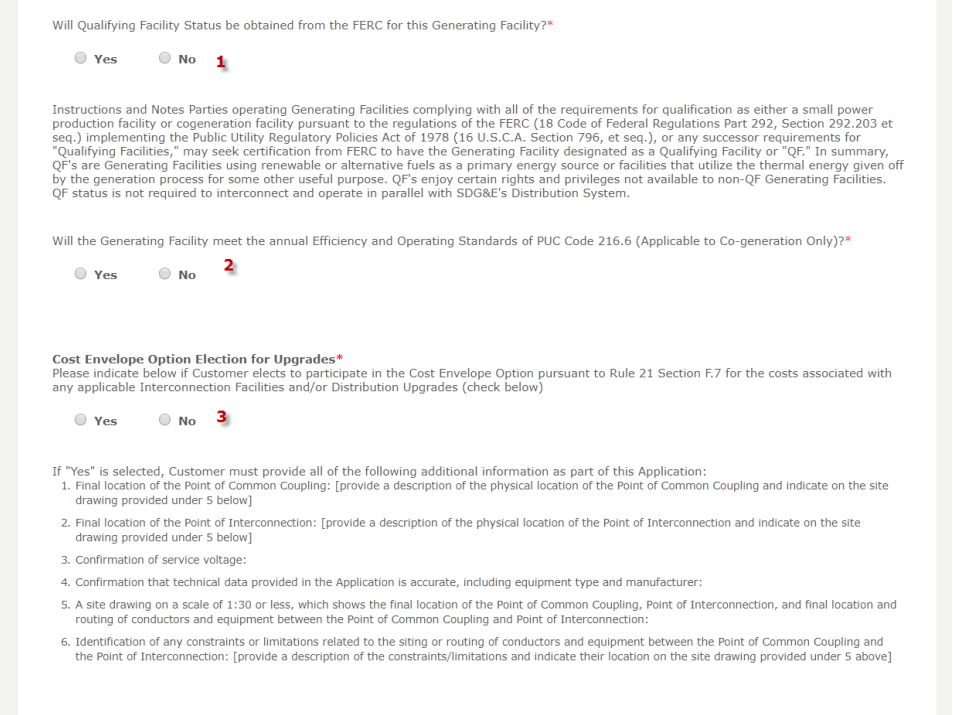
Step 1 Facility Ownership, Operating and Expiration Dates

1. Indicate if customer or third party owned
2. If third party owned, enter person, title, and legal entity executing the Generation Facility Interconnection Agreement (“GFIA”) or Customer Generation Agreement (“CGA”)
3. Enter the date the Generating Facility is expected to begin operation
4. Enter the date the status of this Application is changed to “withdrawn” by SDG&E



Step 1 PUC Code 216.6 & Cost Envelope

1. Indicate if Qualifying Facility Status will be obtained from the FERC for this generating facility (Momentary Parallel and Isolated Operation only)
2. Indicate if Generating Facility will meet the annual Efficiency and Operating Standards of PUC Code 216.6 (applicable to Cogeneration only)
3. Indicate 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



Will Qualifying Facility Status be obtained from the FERC for this Generating Facility?*

Yes No 1

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 thermal energy given off by the generation process for some other useful purpose. QF's enjoy certain rights and privileges not available to non-QF Generating Facilities. QF status is not required to interconnect and operate in parallel with SDG&E's Distribution System.

Will the Generating Facility meet the annual Efficiency and Operating Standards of PUC Code 216.6 (Applicable to Co-generation Only)?*

Yes No 2

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 3

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:
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]

Step 1 Describe Generator and Study Process

1. Select the type of Generating facility
2. Select the Study Process

B. Describe each of the Generators 1

* 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.

C. Selecting the Study Process: 2

* Required Field

- ( ) 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.

Step 1 Describe Generator and Study Process

1. Select the type of Generating facility
2. Select the Study Process
3. Select whether applying for SGIP or not

B. Describe each of the Generators 1

* 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.

C. Selecting the Study Process: 2

* Required Field

- ( ) 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.

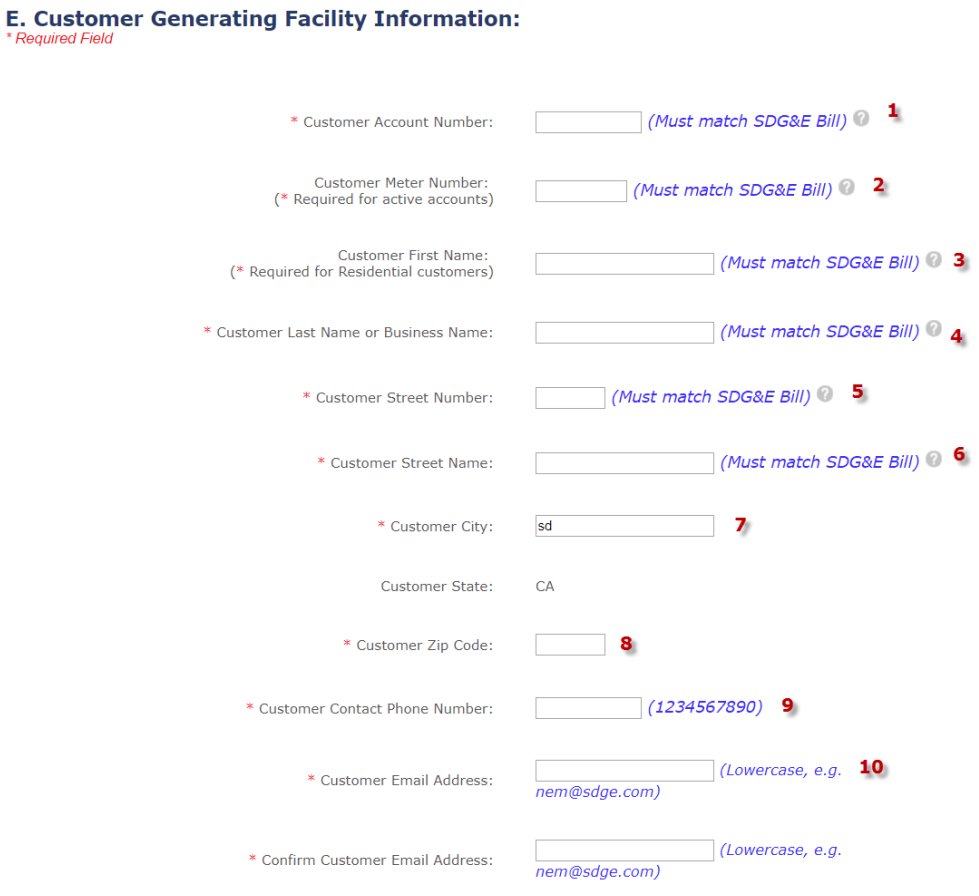
D. Self Generation Incentive Program (SGIP) Rebate: 3

* Required Field

- ( ) I am also applying for a SGIP rebate, and understand that I will have to apply for SGIP rebates separately.
- (•) Not applying for any rebates.

Step 1 Customer Information

1. Enter customer's 10 digit electric account number including leading zeroes
2. Enter customer's 8 digit electric meter number including leading zeroes
3. Enter customer of record's first name. If business account, leave blank
4. Enter customer of record's last name. If business account, enter business name
5. Enter electric service address street number
6. Enter electric service address street name
7. Enter electric service address city
8. Enter electric service address zip code
9. Enter customer of record's contact phone number
10. Enter customer of record's email address



E. Customer Generating Facility Information:

** Required Field*

* Customer Account Number: *(Must match SDG&E Bill)* 1

Customer Meter Number: (* Required for active accounts) *(Must match SDG&E Bill)* 2

Customer First Name: (* Required for Residential customers) *(Must match SDG&E Bill)* 3

* Customer Last Name or Business Name: *(Must match SDG&E Bill)* 4

* Customer Street Number: *(Must match SDG&E Bill)* 5

* Customer Street Name: *(Must match SDG&E Bill)* 6

* Customer City: sd 7

Customer State: CA

* Customer Zip Code: 8

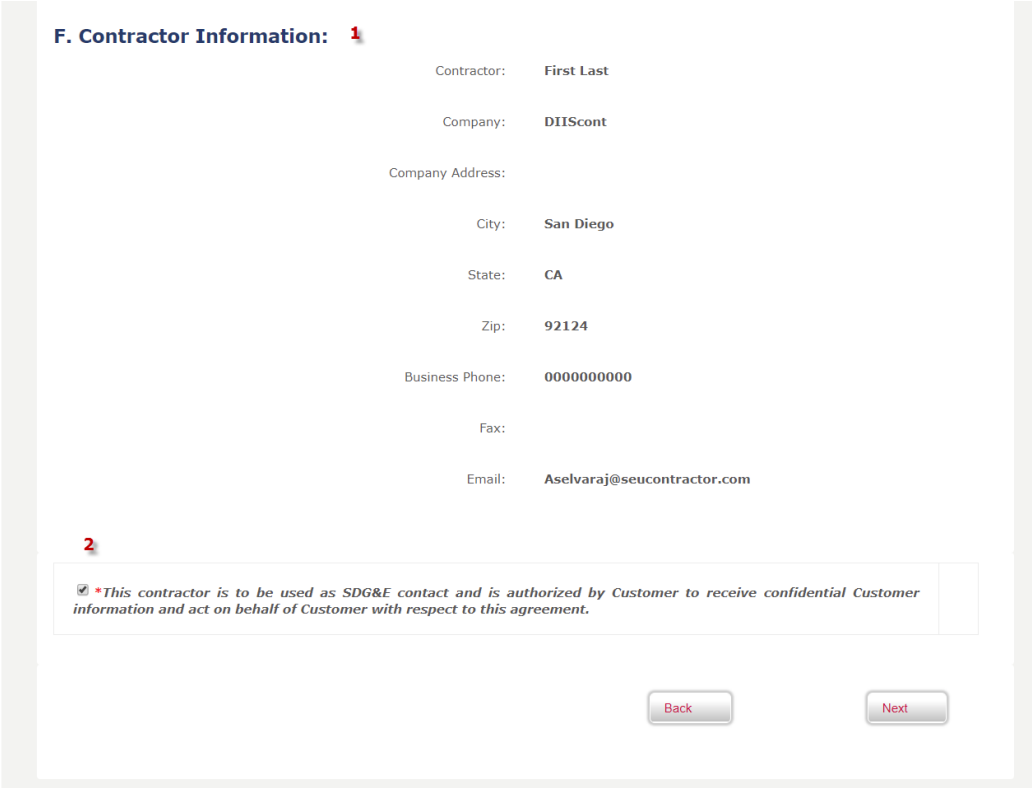
* Customer Contact Phone Number: *(1234567890)* 9

* Customer Email Address: *(Lowercase, e.g. nem@sdge.com)* 10

* Confirm Customer Email Address: *(Lowercase, e.g. nem@sdge.com)*

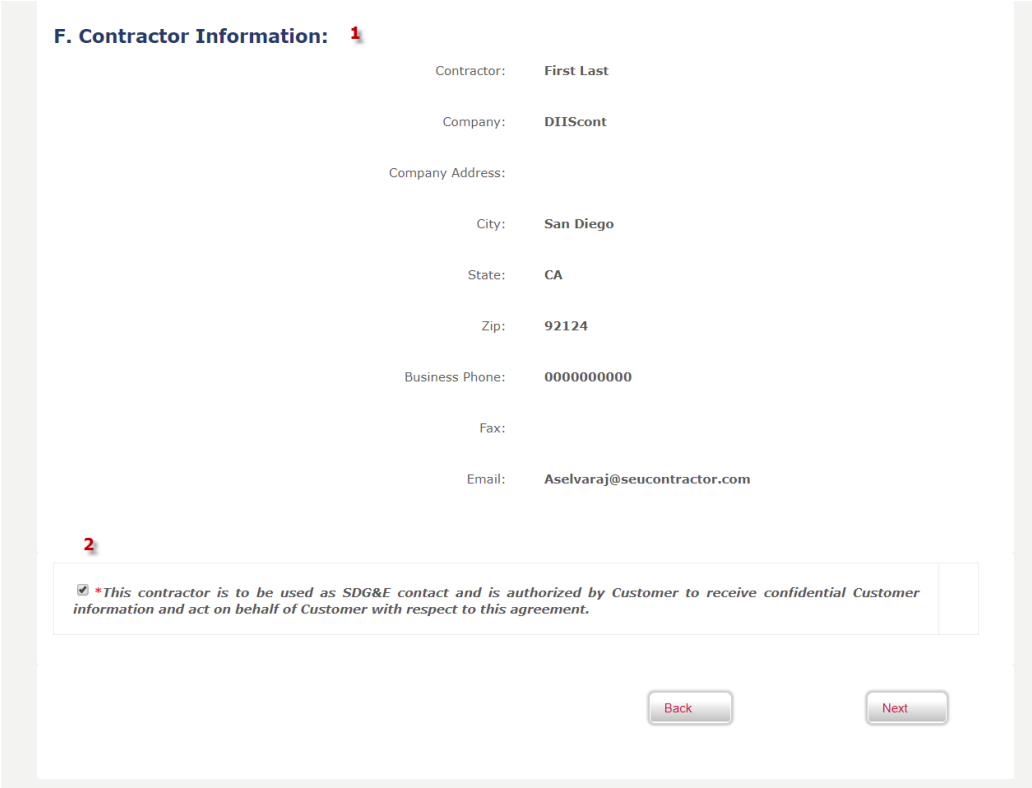
Step 1 Contractor Information

1. This information is automatically pulled from your My Partners account information
2. Please check the box to agree that you have permission to act on the customer's behalf
    1. Click next when all information is complete



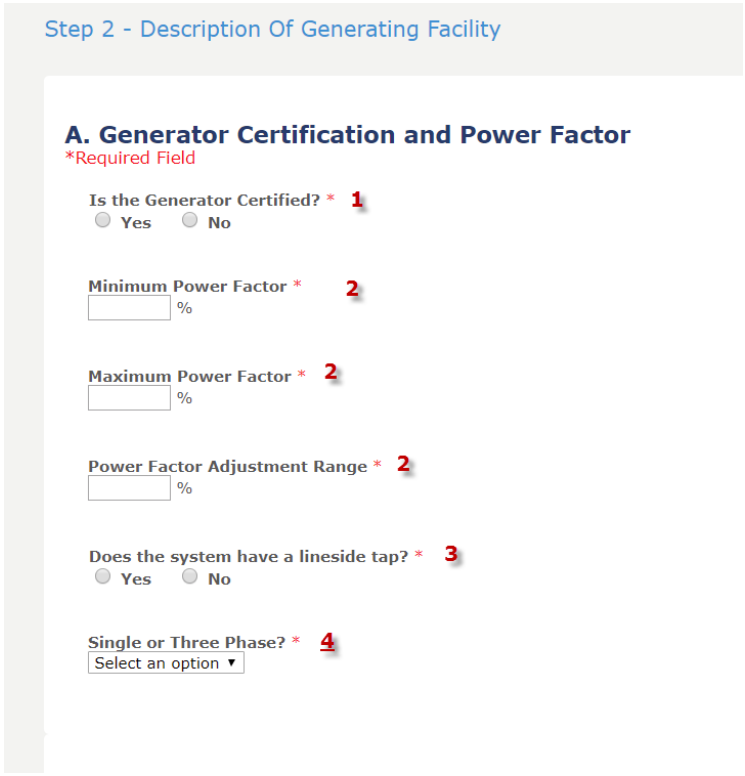
Step 1 Contractor Information

1. This information is automatically pulled from your My Partners account information
2. Please check the box to agree that you have permission to act on the customer's behalf
    1. Click next when all information is complete



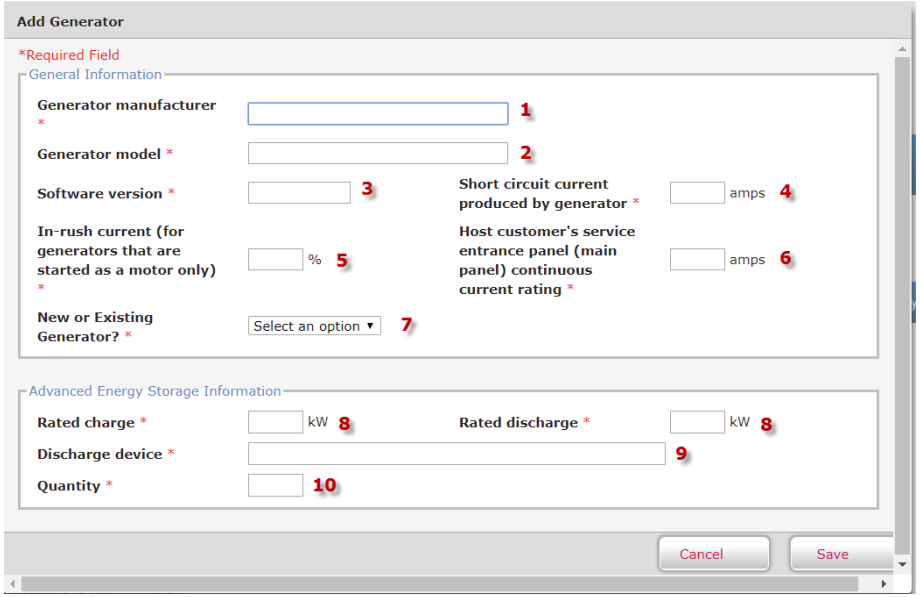
Step 2 Generator Certification and Power Factor

1. Is the Generator Certified by a Nationally Recognized Testing Laboratory (NRTL) according to Rule 21? Answer "Yes" only if the Generator manufacturer can or has provided certification data. See SDG&E's Rule 21, Section L for additional information regarding Generator certification.
2. This value should be the nominal power factor rating designated by the manufacturer for the Generator. See SDG&E's Rule 21, Section H.2.i. for additional information. Where the power factor of the Generator is adjustable, please indicate the minimum and maximum operating values. See SDG&E's Rule 21, Section H.2.i.
3. SDG&E has special requirements for a lineside tap. Contact SDG&E at: DGInquiries@semprautilities.com .
4. Please select whether the system is single or three phase.



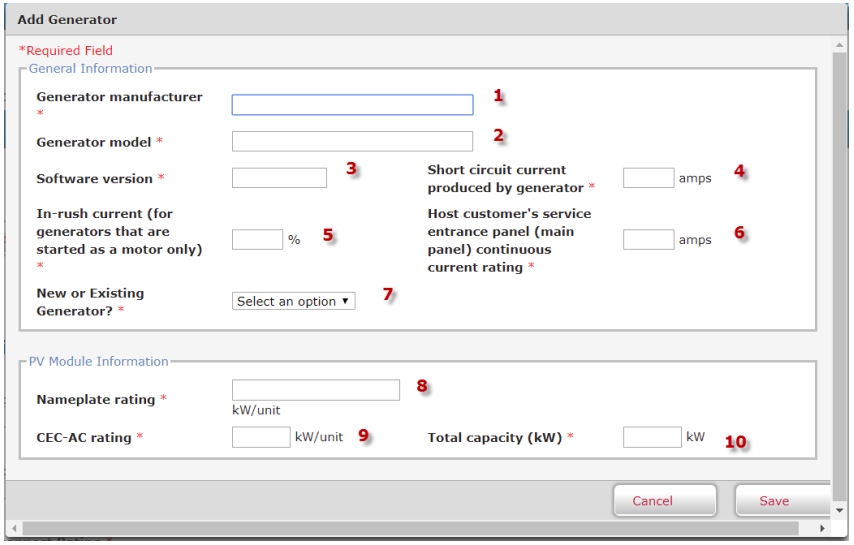
Step 2 Add Generators - Advanced Energy Storage

1. Enter the brand name of generator
2. Enter the model name or number assigned by the manufacturer of the Generator
3. If this Generator's control and or protective functions are dependent on a "software" program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.
4. Please indicate the current each Generator can supply to a three-phase fault across its output terminals. For single phase Generators, please supply the phase-to-phase fault current.
5. See SDG&E's Rule 21, Sections G.1.c and L.3.d for significance and additional information.
6. Enter the host customer's service panel continuous current rating.
7. Select whether the Generator is new or existing
8. This is the charge and discharge capacity (kW) of the energy storage device. Typically the charge and discharge capacity (kW) is equal to the kW rating of the inverter.
9. List the discharge device
10. Enter quantity of advanced energy storage Generators



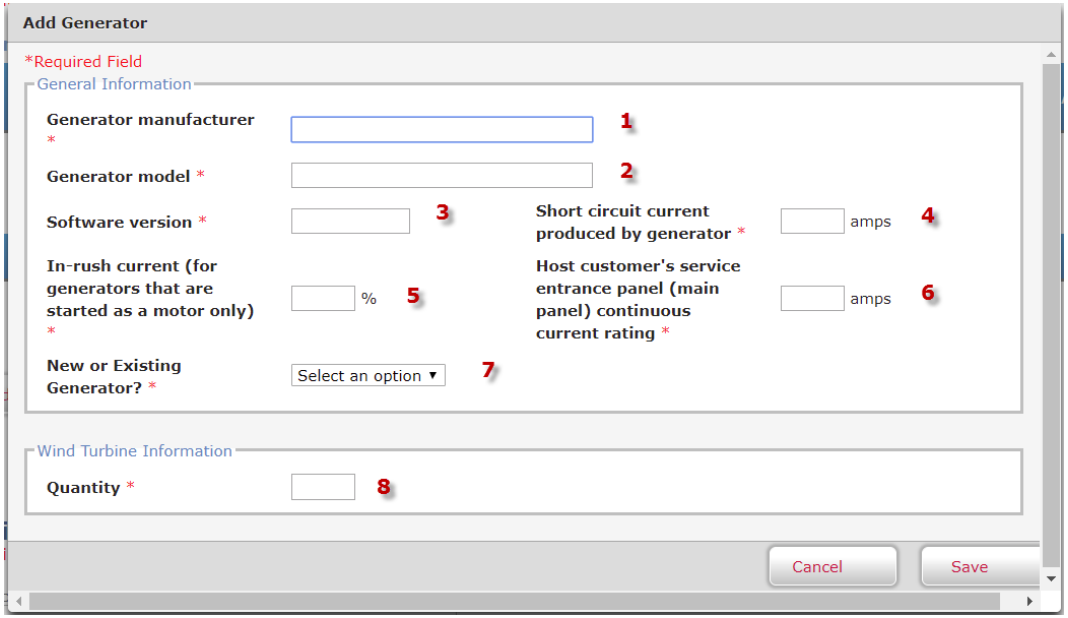
Step 2 Add Generators - Solar

1. Enter the brand name of generator
2. Enter the model name or number assigned by the manufacturer of the Generator
3. If this Generator's control and or protective functions are dependent on a "software" program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.
4. Please indicate the current each Generator can supply to a three-phase fault across its output terminals. For single phase Generators, please supply the phase-to-phase fault current.
5. See SDG&E's Rule 21, Sections G.1.c and L.3.d for significance and additional information.
6. Enter the host customer's service panel continuous current rating.
7. Select whether the Generator is new or existing
8. This is the capacity value normally supplied by the manufacturer and stamped on the Generator's nameplate. This is per unit.
9. Proceed the California Energy Commission (CEC) AC-rating per panel
10. Enter the total capacity in kW of the system.



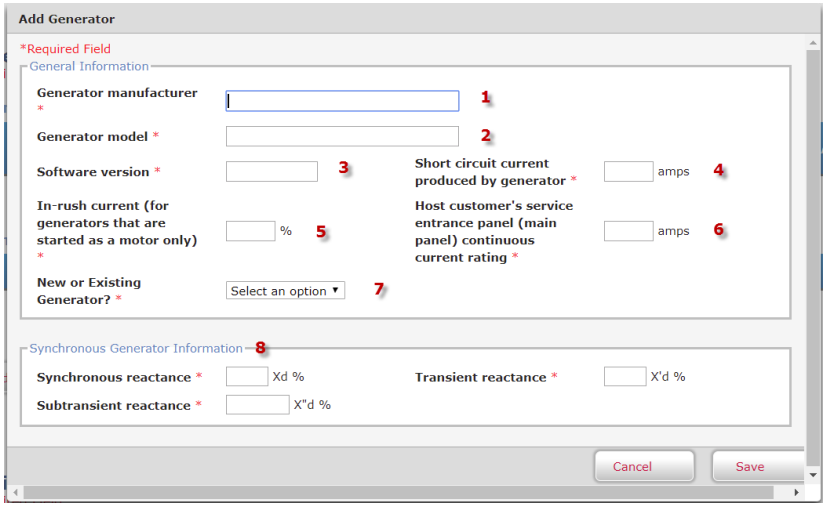
Step 2 Add Generators – Wind Turbines

1. Enter the brand name of generator
2. Enter the model name or number assigned by the manufacturer of the Generator
3. If this Generator's control and or protective functions are dependent on a "software" program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.
4. Please indicate the current each Generator can supply to a three-phase fault across its output terminals. For single phase Generators, please supply the phase-to-phase fault current.
5. See SDG&E's Rule 21, Sections G.1.c and L.3.d for significance and additional information.
6. Enter the host customer's service panel continuous current rating.
7. Select whether the Generator is new or existing
8. Enter the quantity of Wind Turbines



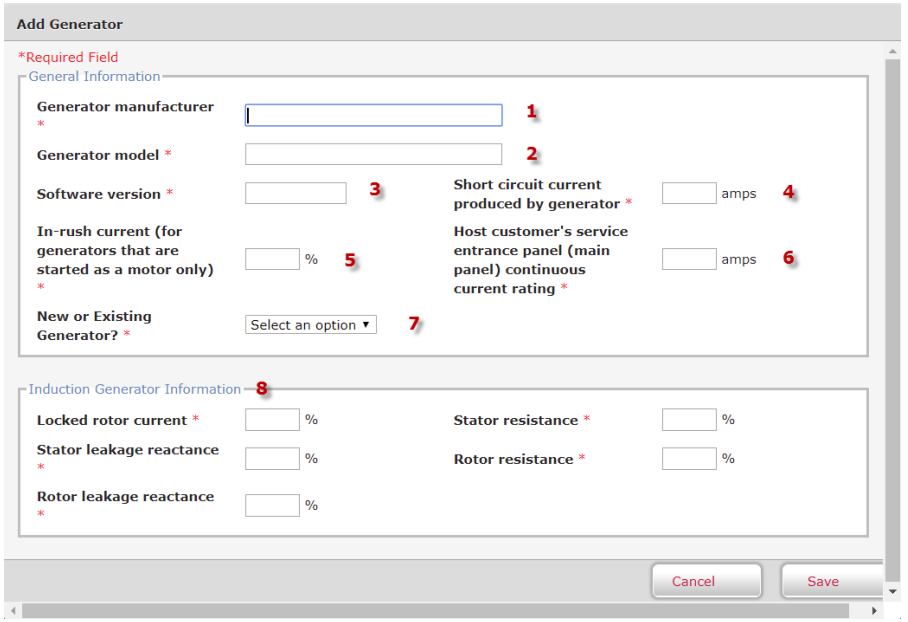
Step 2 Add Generators - Synchronous Generators

1. Enter the brand name of generator
2. Enter the model name or number assigned by the manufacturer of the Generator
3. If this Generator's control and or protective functions are dependent on a "software" program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.
4. Please indicate the current each Generator can supply to a three-phase fault across its output terminals. For single phase Generators, please supply the phase-to-phase fault current.
5. See SDG&E's Rule 21, Sections G.1.c and L.3.d for significance and additional information.
6. Enter the host customer's service panel continuous current rating.
7. Select whether the Generator is new or existing
8. Please provide the synchronous reactance, transient reactance, and subtransient reactance values supplied by the manufacturer. This information is necessary to determine the short circuit contribution of the Generator and as data in load flow and short circuit computer models of SDG&E's Distribution System. If the Generator's Gross Nameplate Capacity is 10 MW or greater, SDG&E may request additional data to better model the nature and behavior of the Generator with relation to its Distribution System.



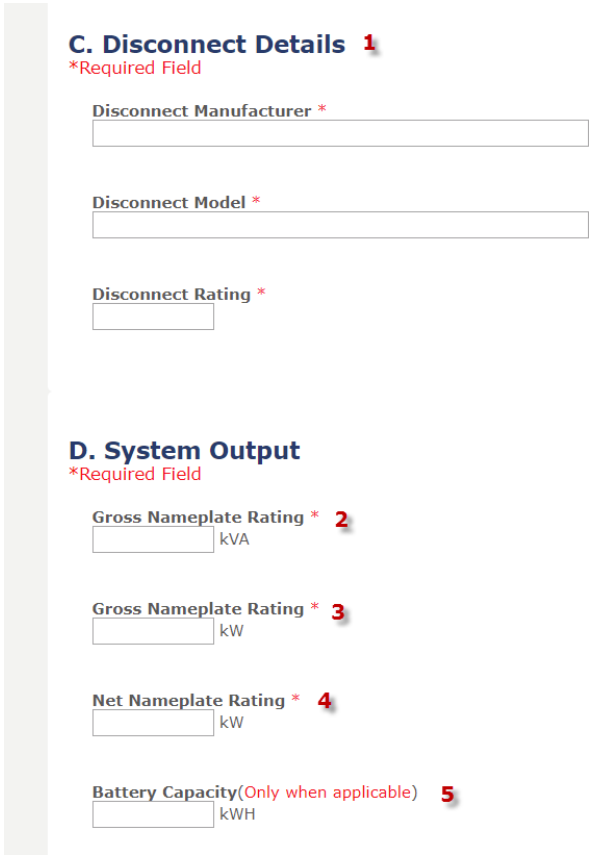
Step 2 Add Generators - Induction Generators

1. Enter the brand name of generator
2. Enter the model name or number assigned by the manufacturer of the Generator
3. If this Generator's control and or protective functions are dependent on a "software" program supplied by the manufacturer of the equipment, please provide the version or release number for the software that will be used.
4. Please indicate the current each Generator can supply to a three-phase fault across its output terminals. For single phase Generators, please supply the phase-to-phase fault current.
5. See SDG&E's Rule 21, Sections G.1.c and L.3.d for significance and additional information.
6. Enter the host customer's service panel continuous current rating.
7. Select whether the Generator is new or existing
8. Please provide the "locked rotor current" value supplied by the manufacturer. If this value is not available, the stator resistance, stator leakage reactance, rotor resistance, rotor leakage reactance values supplied by the manufacturer may be used to determine the locked rotor current. If the Generator's Gross Nameplate Capacity is 10 MW or greater, SDG&E may request additional data to better model the nature and behavior of the Generator with relation to its Distribution System.



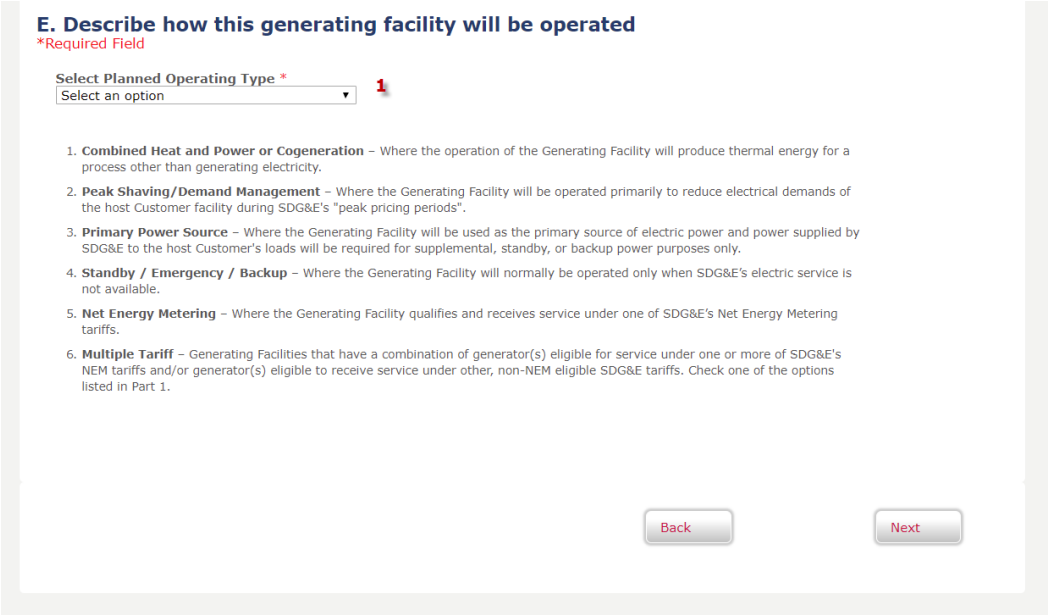
Step 2 Disconnect and System Output

1. For systems requiring an AC Disconnect only, please include the requested information about the AC Disconnect. If not applicable mark as NA.
2. This is the capacity value normally supplied by the manufacturer and stamped on the Generator's "nameplate". This value is not required where the manufacturer provides only a "kW" rating. However, where both kVA and kW values are available, please indicate them. If not available, use kW rating.
3. This is the capacity value normally supplied by the manufacturer and stamped on the Generator's "nameplate". This value is not required where the manufacturer provides only a "kVA" rating. However, where both kVA and kW values are available, please indicate them. If not available, use kVA rating.
4. This capacity value is determined by subtracting the "auxiliary" or "station service" loads used to operate the Generator or Generating Facility. Applicants are not required to supply this value but, if it is not supplied, applicable standby charges may be based on the higher "gross" values.
5. This is the storage capacity (kWH) and charge and discharge capacity (kW) of the energy storage device. Typically the charge and discharge capacity (kW) is equal to the kW rating of the inverter.



Step 2 Describe Operation

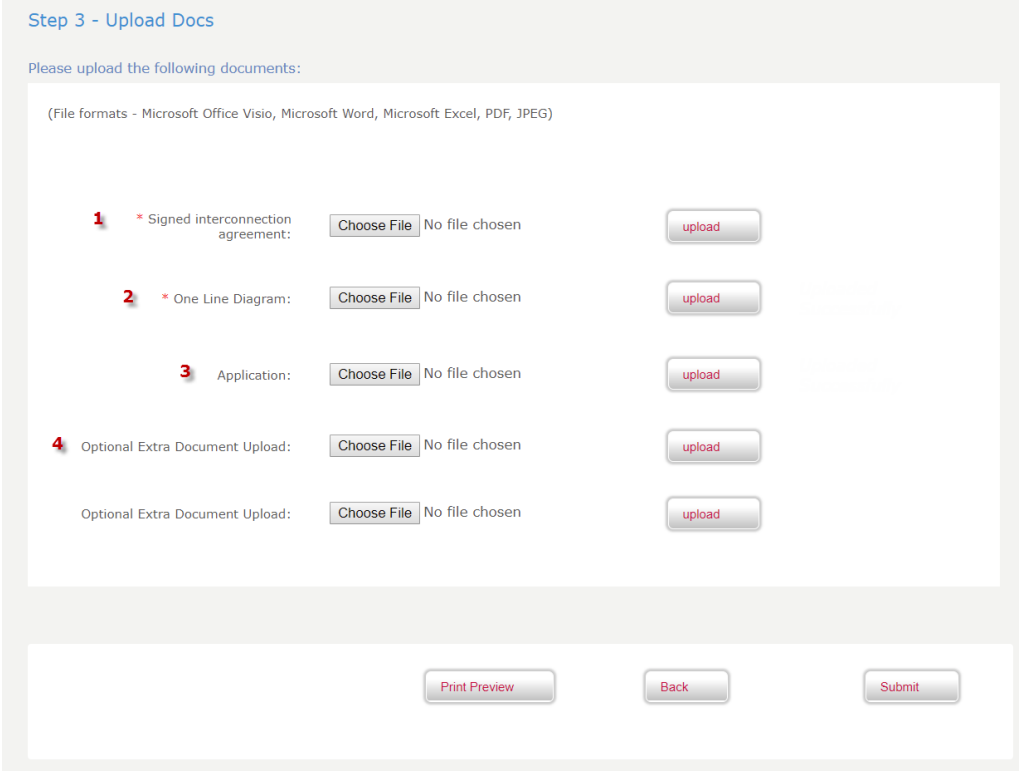
1. Chose an operating type from the following options:
    1. Combined Heat and Power or Cogeneration
    2. Peak Shaving/Demand Management
    3. Primary Power Source
    4. Standby / Emergency / Backup
    5. Net Energy Metering
    6. Multiple Tariff



- For questions on the selections please contact DGInquiries@semprautilities.com
- When all information from Step 2 is entered accurately, press next

Step 3 Uploads Docs

- To upload documents, click “Choose File” then select a file to upload.
- Click on upload once you have selected a file
- Please upload files one by one by following the instructions below
- The following documents are required
  1. Upload signed interconnection agreement
  2. Upload One-Line Diagram
- The following documents are optional
  1. Upload a scanned paper version of the Rule 21 application
  2. Upload additional documents
- Click Print Preview to get a PDF of entire application with all fields entered
- Once all uploads have been completed, click on Submit



Questions

- For questions, please contact:
  - DGInquiries@semprautilities.com