

Request for Payment Instructions Rule 21 – Non-Exporting Generators

Submittal Instructions

Prior to submitting your application and fee or deposit, please complete and submit this cover sheet to:
Rule21@sce.com

In response, you will receive detailed payment instructions within a Request for Advance Payment form that will greatly facilitate the tracking and processing of your request. The Request for Advance Payment form will contain mailing and wiring instructions along with a document number for SCE to track your payment. Please do not mail any checks along with your interconnection application, instead, please use the instructions provided.

Absent extraordinary circumstances, instructions should be sent to you within 3 business days of receipt of this completed Request for Payment Instructions form.

Once the payment confirmation and complete application package are received, your request will be forwarded for processing and Review.

INTERCONNECTION CUSTOMER INFORMATION

Customer Name: _____

Complete Customer Address: _____

Project Contact Name: _____

Project Contact Phone Number: _____

Project Contact E-mail: _____

Project Name: _____

New Project Generating Facility Gross Nameplate Rating (In MW): _____

STUDY PROCESS

Unless waived per table E.1 of the Rule 21, select the *one* of the operating modes listed below:

- Parallel Operation** - Application fee is **\$800.00**
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** - Application fee is **\$800.00**
Momentary Parallel: 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** - Note: There is **no application fee** for Isolated Operation mode, however, an application is needed to satisfy SCE's notice requirements for operating an isolated Generating Facility as per California Health and Safety Code Section 119085 (b)
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

SCE GRID INTERCONNECTION CONTACT INFORMATION

If you have any questions, please contact us:

Via E-mail: InterconnectionQA@sce.com

The Grid Interconnection phone number is: 909-274-1106



Southern California Edison
Rosemead, California (U 338-E)

Revised Cal. PUC Sheet No. 64041-E
Cancelling Revised Cal. PUC Sheet No. 61961-E

Sheet 1

GENERATING FACILITY INTERCONNECTION APPLICATION

Form 14-732

Please note: You can submit your Rule 21 Non-Export Interconnection Request form 14-732 online at <https://sccerule21nonexport.powerclerk.com/Account/Login>

(To be inserted by utility)

Advice 3705-E-A
Decision 16-06-052

Issued by
Caroline Choi
Senior Vice President

(To be inserted by Cal. PUC)

Date Submitted Jun 15, 2018
Effective Jul 15, 2018
Resolution _____

Part 1 – Introduction and Overview

- A. Applicability:** This Generating Facility Interconnection Application (Application) is used to request the interconnection of a Generating Facility to Southern California Edison's (SCE) Distribution System (over which the California Public Utilities Commission (CPUC) has jurisdiction). Refer to SCE's Rule 21 to determine the specific requirements for interconnecting a Generating Facility. Capitalized terms used in this Application, and not otherwise defined herein, shall have the same meanings as defined in SCE's Rule 21 and Rule 1.

Except as noted in the next paragraph, this Application may be used for any Generating Facility to be operated by, or for, a Customer and/or Producer to serve part or all of its electric energy requirements that would otherwise be provided by SCE, including "distributed generation", "cogeneration," emergency, backup, and standby generation. While Customers operating Generating Facilities isolated from SCE's Distribution System are not obligated to enter into an Interconnection Agreement with SCE, parts of this Application will still need to be completed to satisfy SCE's notice requirements for operating an isolated Generating Facility as per California Health and Safety Code Section 119085 (b).

This Application may not be used to apply for interconnecting Generating Facilities used to participate in transactions where all, or a portion of, the electrical output of the Generating Facility is scheduled with the California Independent System Operator. Such transactions are subject to the jurisdiction of the Federal Energy Regulatory Commission (FERC) and require a different application available from SCE. This Application also cannot be used for interconnecting Net Energy Metering (NEM) Generating Facilities. Application Form 14-957 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.

This Application is not applicable for incentives and/or rebates offered by the Energy Resources Conservation and Development Commission ("CEC") or the CPUC. Please contact those agencies directly or on their respective websites (www.energy.ca.gov and www.cpuc.ca.gov).

- B. Guidelines and Steps for Interconnection:** This Application must be completed and sent to SCE along with the additional information indicated in Part 1 Section C below to initiate SCE's interconnection review of the proposed Generating Facility. An Initial Review fee of \$800 (payable by check or money order to SCE, unless otherwise specified by SCE) must accompany the Applications except those Applications for isolated Generating Facilities. Supplemental Review and Interconnection Study fees may be required for large capacity and/or more complex Generating Facility Interconnections; see SCE's Rule 21 Section E. & F. You may also refer to SCE's Electric Service Requirements (ESR's) located on SCE's website: <http://www.sce.com/nrc/aboutsce/regulatory/distributionmanuals/esr.pdf> for more information regarding interconnection of a Rule 21 generator to SCE's Distribution System.

This document is only an Application. Upon acceptance, SCE will prepare an Interconnection Agreement for execution by the "Producer," the party that will be responsible for the Generating Facility. SCE may also require an inspection and testing of the Generating Facility and installation of any related Interconnection Facilities prior to giving the Producer written authorization to operate in parallel. **Unauthorized Parallel Operation may be dangerous and may result in injury to persons and/or may cause damage to equipment and/or property for which a Producer/Customer may be liable!**

Please note, other approvals may need to be acquired, and/or other agreements may need to be formed with SCE or regulatory agencies, such as the Air Quality Management Districts and local governmental building and planning commissions prior to operating a Generating Facility. SCE's authorization to operate in parallel does not satisfy the need for an Applicant to acquire such other approvals.

- C. Required Documents:** A copy of this Application and each of the following documents **must be submitted** before this application will be processed. Drawings must conform to accepted engineering standards and must be legible. 11"x17" drawings are preferred.
1. A **Single-line drawing** showing the electrical relationship and descriptions of the significant electrical components such as the primary switchgear, secondary switchboard, protective relays, transformers, generators, circuit breakers, with operating voltages, capacities, and protective functions of the Generating Facility, the Customer's loads, and the interconnection with SCE's Distribution System. Please show the location of all required net generation electric output meters and the A.C. manually operated disconnect devices on the single line drawing.
 2. **Site plans and diagrams** showing the physical relationship of the significant electrical components of the Generating Facility such as generators, transformers, primary switchgear/secondary switchboard, and control panels, the Customer's loads and the interconnection with SCE's Distribution System. Please show the location of all required net generation electric output meters and the A.C. manually operated disconnect devices on the site plans.
 3. When required, please provide photos of the Rule 21 **AC Disconnect**, showing visible contact separation in the open position.

4. If the **point of interconnection is on the utility side of the main circuit breaker**, please provide switchgear, switchboard, or main panel cut-sheets/shop drawings detailing the bussing and proposed point of interconnection including any proposed modifications showing resultant clearances. The proposal must include a signed PE stamp and modifications must be re-certified by the manufacturer or a qualified third party. In addition, please provide pictures of the point of interconnection prior to modification. Pictures of the point of interconnection post-modification must be provided prior to scheduling of SCE commissioning test.
5. If the project requires a **net generation output meter (NGOM)**, please provide meter socket cut-sheets of the net generation output meter socket.
6. If **transformers** are used to interconnect the Generating Facility with SCE's Distribution System, please provide transformer nameplate information (voltages, capacity, winding arrangements, connections, impedance, et cetera).
7. If a **transfer switch** or scheme is used to interconnect the Generating Facility with SCE Distribution System, please provide component descriptions, capacity ratings, and a technical description of how the transfer scheme is intended to operate.
8. If **protective relays** are used to control the interconnection, provide protection diagrams or elementary drawings showing relay wiring and connections, proposed relay settings, and a description of how the protection scheme is intended to function.
9. An Initial Review fee check or money order in the amount of \$ 800, if applicable, made out to SCE referencing the electric account number (Part 2. A.) and "Initial Interconnection Review Fee"

D. Mailing Instructions, Assistance:

Southern California Edison Company
Attention: Manager of Grid Interconnection
2244 Walnut Grove Ave, GO 1, Quad 4 C
Rosemead, CA 91770

When this application has been completed, it may be emailed with copies of the required information to Rule21@sce.com with payment of the required fees to follow. Alternatively, you may mail the completed application to the above referenced address. If you have questions or need assistance in completing this application, please contact SCE for Distributed Generation at (626) 302-3688 or email InterconnectionQA@sce.com.

GENERATING FACILITY INTERCONNECTION APPLICATION

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

<i>Project Name:</i>	<i>Date Received:</i>	<i>Generating Facility ID:</i>	<i>Application Expiration Date (Refer to Part 2, Section E)</i>

(For SCE 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 SCE?)

	3-	
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Name shown on SCE Service Account Service Account Number Meter Number

NOTE: Customer Service Account number must match the customer's utility bill account information.

		CA	
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Service Account Street Address City State Zip

Customer Account Contact Information

(Who is the customer contact for progress updates and /or additional information?)

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Contact Person Company Name

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Phone Fax E-mail

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Mailing Address City State Zip

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

--	--

Project Contact Person Company Name

--	--	--

Phone Fax E-mail

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Mailing Address City State Zip

- B.1. Will the Generating Facility be owned by a (third) party other than the name appearing on the SCE service account in A. above (please check)? Yes No
- 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) Information (applicable where the 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.

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Person Executing the GFIA/CGA

Title of Person Executing GFIA/CGA

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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.

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Person Executing the GFIA

Title of Person Executing GFIA

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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

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Contact Person

Company Name (if applicable)

--	--	--

Phone

Fax (if applicable)

Email (required)

--	--	--	--

Mailing Address

City

State

Zip Code

3rd Party Owner/Producer (if applicable)

--	--

Contact Person

Company Name (if applicable)

--	--	--

Phone

Fax (if applicable)

Email (required)

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Mailing Address

City

State

Zip Code

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

E. Expiration Date* (The date the status of this Application is changed to “withdrawn” by SCE?)

*** The information submitted in this Application will remain active and valid consistent with the timelines specified in Rule 21.F.**

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 SCE 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 in the manner specified by SCE:

1. Final location of the Point of Common Coupling (Point of Change of Ownership). *[provide a description of the physical location of the Point of Common Coupling and indicate on the site drawing provided under Section 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 Section 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 Section 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

(N)

(N)

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)
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Instructions and Notes

Choose from the following operating mode options:

- 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.

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 SCE's Distribution System.

If the answer is operating mode option 2, "momentary parallel operation," only questions A, E, F and G 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, F and G 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 SCE's Distribution System.

B. <i>Parallel Operation Applications Only</i>	<p>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, F and G.</p> <p>If agreement options 2, 3, 4, 6, or 8 to this Section B are chosen, please provide an estimate of the maximum kW the Generating Facility is expected to export to SCE's Distribution System. If SCE 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.</p>	<p>agreement options:</p> <p>__1 __2 __3 __4 __5</p> <p>__6 __7 __8</p> <p>(Choose all that apply)</p> <p>_____</p> <p>Maximum kW</p>
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Instructions and Notes

Sample agreements are available from SCE for review. Choose from the following eight (8) agreement options:

Customer Owned Generating Facility

- A Generating Facility Interconnection Agreement (Non-Export) (Form 14-731)** that provides for parallel operation of the Generating Facility, but does not provide for exporting power to SCE's Distribution System.
- Export Addendum to Generating Facility Interconnection Agreement for Non-Export Generating Facilities Exporting One Megawatt or Less (Form 14-931)** This addendum must be executed in concert with Agreement 1 (Form 14-731) or Agreement (Form 14-742).
- A Generating Facility Interconnection Agreement (Inadvertent Export) (Form 14-745)** that provides for parallel operation of the Generating Facility, and the occasional, inadvertent, non-compensated, export of power to SCE's Distribution System.
- A Generating Facility Interconnection Agreement (Multiple Tariff) (Form 14-773)** that provides for parallel operation of a Generating Facility that utilizes generators eligible for service under NEM or other applicable NEM tariffs (e.g., NEM, NEM-ST, BG-NEM, FC-NEM) that are electrically connected behind the same Point of Common Coupling (PCC) with generators that are not eligible to receive service under a NEM tariff.

Third Party Owned Generating Facility

- A Generating Facility Interconnection Agreement (Non-Export) (Form 14-742)** that provides for parallel operation of the

GENERATING FACILITY INTERCONNECTION APPLICATION

Generating Facility, but does not provide for exporting power to SCE's Distribution System.

6. **A Generating Facility Interconnection Agreement (Inadvertent Export) (form 14-743)** that provides for parallel operation of the Generating Facility, and the occasional, inadvertent, non-compensated, export of power to SCE's Distribution System.
7. **A Customer Generation Agreement** (Form 14-744) that defines the relationship between SCE and the Customer whose name appears on SCE's Customer Account. This agreement must be executed in addition to agreements 5 and 6.
8. **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 SCE's Distribution System.

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 ___7
 (Choose one)

Yes No N/A

_____ Amps

_____ kW

(T)

Instructions and Notes

Refer to SCE'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 SCE's Distribution System, a simpler, lower cost, protection scheme may be used to control the interface between the Generating Facility and SCE's Distribution System. Choose from the following seven options:

1. A reverse-power protection device will be installed to measure any export of power and trip the Generating Facility or open an inter-tie breaker to isolate the Generating Facility if limits are exceeded. Note: Please check with SCE before you elect this option. The required relay sensitivity levels are often difficult to achieve.
2. 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.
3. 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.
4. 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.
5. The Generating Facility completely offset their facility load by being (a) optimally sized to meet their peak demand with load following functionality on the Generator controls and (b) ensuring conditional (inadvertent) export of electric power from the Generation Facility to Distribution Provider's Distribution or Transmission System occurs no more frequently than twice in any 24 hour period and the exports are greater than 2 seconds but no more than more than 60 seconds.
6. 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 Mm 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.
7. 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).

(N)
(N)

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

conditions.

D.
*Parallel
Operation
Applications
Only*

<p>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.)</p> <p>Please indicate the short circuit interrupting rating of the host Customer facility's service panel:</p>
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Amps

Amps

Instructions and Notes

Refer to SCE'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 SCE's Distribution System, please describe the assumptions used in calculating the maximum fault current contribution value.

E.
(MP&I)

Please indicate how this Generating Facility will be operated.

__1__ __2__ __3__ __4__ __5__
(Please choose all options that may apply.)

Instructions and Notes

Choose from the following five operation options:

- Combined Heat and Power or Cogeneration** – Where the operation of the Generating Facility will produce thermal energy for a process other than generating electricity.
- Peak Shaving/Demand Management** – Where 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** – Where 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** – Where the Generating Facility will normally be operated only when SCE's electric service is not available.
- Multiple Tariff** – Where the Generating Facility has a combination of non-NEM generator(s) and NEM Generator(s) (i.e., an existing facility with NEM generator(s) and planning to add non-NEM generator(s)).

F. (MP&I)	<p>Generator Interconnection – Point of Interconnection/Tie-in Point</p> <p>1. Does your interconnection satisfy SCE’s ESR?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No. Reason _____</p> <p>2. Is the currently proposed tie-in point a result of restrictions placed on altering the existing panel or equipment within, as imposed by the local authority having jurisdiction?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No. Reason _____</p> <p>3. Are there existing utility facilities in the vicinity of the proposed point of interconnection?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>(Note: Minimum clearances must be maintained from SCE facilities, as specified in SCE's ESR and or UGS)</p>
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G. (MP&I)	<p>Please indicate if Qualifying Facility Status will be obtained from the FERC for this Generating Facility.</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
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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, QFs 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. QFs enjoy certain rights and privileges not available to non-QF Generating Facilities.

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

H.	<p>Please indicate if Generating Facility will meet the annual Efficiency and Operating Standards of PUC Code 218.5. (Applicable to Co-Generation only.)</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A</p>
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Part 4 – Describe each of the Generators (See Instructions.) Use additional sheets, if necessary.

If there are more than one generators listed in this section, “Totals For all Generators” must be completed.

Instructions (see Part 4)	Generator Information	New Generator Type	New Generator Type	Existing Generator Type	Totals For All Generators
#	Please indicate the number of each “type” of Generator being installed: (See instructions)				
A (MP&I)	Generator/Inverter/Converter Manufacturer (Name)				(T)
B (MP&I)	Generator/Inverter/Converter Model (Name/Number)				(T)
C	Generator/Inverter/Converter Software Version (Number)				(T)
D	Is the Generator Certified by a Nationally Recognized Testing Laboratory (NRTL) according to Rule 21?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
E (MP)	Generator Type (Choose One)	<input type="checkbox"/> Synchronous <input type="checkbox"/> Induction <input type="checkbox"/> Inverter	<input type="checkbox"/> Synchronous <input type="checkbox"/> Induction <input type="checkbox"/> Inverter	<input type="checkbox"/> Synchronous <input type="checkbox"/> Induction <input type="checkbox"/> Inverter	
E.1	If the Generator Type is an Inverter, is the Inverter Certified as a Smart Inverter in accordance with Rule 21 Section Hh by a Nationally Recognized Testing Laboratory (NRTL)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
E.2	If the Generator Type is a Converter, does the Converter meet the Non-Export AC/DC Converter requirements of Rule 21 Section H.3.e?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	(N) --- (N)
F (MP&I)	Gross Nameplate Rating (kVA)				
G	Gross Nameplate Rating (kW)				
H	Net Nameplate Rating (kW)				



Instructions
(see Part 4)

	Generator Information	New Generator Type	New Generator Type	Existing Generator Type	Totals For All Generators
I	Energy Storage Electrical Source Function (in addition, please complete section F for further description regarding operations)*	Max kWh Capacity: Rated kW Discharge: 	Max kWh Capacity: Rated kW Discharge: 	Max kWh Capacity: Rated kW Discharge: 	Max kWh Capacity: Rated kW Discharge:
J (MP)	Operating Voltage (Volts or kV)				
K	Power Factor Rating (%)				
L	PF Adjustment Range (%)	Min. _____ Max. _____	Min. _____ Max. _____	Min. _____ Max. _____	
M (MP)	Wiring Configuration (Choose One)	<input type="checkbox"/> Single-Phase <input type="checkbox"/> Three-Phase	<input type="checkbox"/> Single-Phase <input type="checkbox"/> Three-Phase	<input type="checkbox"/> Single-Phase <input type="checkbox"/> Three-Phase	
N (MP)	3-Phase Winding Configuration (Choose One)	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	<input type="checkbox"/> 3 Wire Delta <input type="checkbox"/> 3 Wire Wye <input type="checkbox"/> 4 Wire Wye	
O	Neutral Grounding System Used (Choose One)	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor _____ Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor _____ Ohms	<input type="checkbox"/> Ungrounded <input type="checkbox"/> Solidly Grounded <input type="checkbox"/> Ground Resistor _____ Ohms	



Instructions
(see Part 4)

	Generator Information	New Generator Type	New Generator Type	Existing Generator Type	Totals For All Generators
P	<p><i>For Synchronous Generators Only:</i></p> <p>Synchronous Reactance: _____ (Xd %)</p> <p>Transient Reactance: _____ (X'd %)</p> <p>Subtransient Reactance: _____ (X''d %)</p>	<p>_____ (Xd %)</p> <p>_____ (X'd %)</p> <p>_____ (X''d %)</p>	<p>_____ (Xd %)</p> <p>_____ (X'd %)</p> <p>_____ (X''d %)</p>	<p>_____ (Xd %)</p> <p>_____ (X'd %)</p> <p>_____ (X''d %)</p>	
Q	<p><i>For Induction Generators Only:</i></p> <p>Locked Rotor Current: _____</p> <p>(Amps)</p> <p>OR</p> <p>Stator Resistance: _____ (%)</p> <p>Stator Leakage Reactance: _____ (%)</p> <p>Rotor Resistance: _____ (%)</p> <p>Rotor Leakage Reactance: _____ (%)</p>	<p>_____</p> <p>(Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	<p>_____</p> <p>(Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	<p>_____</p> <p>(Amps)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p> <p>_____ (%)</p>	
R	<p>Short Circuit Current Produced by Generator:</p> <p>_____</p> <p>(Amps)</p>	<p>_____</p> <p>(Amps)</p>	<p>_____</p> <p>(Amps)</p>	<p>_____</p> <p>(Amps)</p>	
S	<p>For Generators that are Started as a "Motor" Only:</p> <p>1. In-Rush Current _____</p> <p>Host Customer's Service Entrance Panel (Main Panel) Continuous Current Rating _____</p>	<p>_____</p> <p>(Amps)</p> <p>_____</p> <p>(Amps)</p>	<p>_____</p> <p>(Amps)</p> <p>_____</p> <p>(Amps)</p>	<p>_____</p> <p>(Amps)</p> <p>_____</p> <p>(Amps)</p>	
T (MP&I)	<p>Prime Mover Type: (Circle One)</p>	<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16</p>	<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16</p>	<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16</p>	
U	<p>Energy Storage (ES) System</p>	<p>_____ Manufacturer</p> <p>_____ Model #</p> <p>_____ Quantity of Units</p>	<p>_____ Manufacturer</p> <p>_____ Model #</p> <p>_____ Quantity of Units</p>	<p>_____ Manufacturer</p> <p>_____ Model #</p> <p>_____ Quantity of Units</p>	

Energy Storage System Operations (if applicable):

Describe the intended use of the storage device (note 1):

Note 1: Example of this can be peaking 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): _____ kW

Estimated annual Net Energy Usage* of the energy storage device(s): _____ kWh

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

Will the Distribution System be used to charge the storage device(s): Yes No

If no: Provide technical description of control systems including:

Source of energy for charging: _____

Mechanism to prevent charging from the Distribution System: _____

If yes: Will charging the storage device(s) increase the host facility's existing peak load demand:

Yes No

If yes: Provide the following loading information:

Amount of added peak demand: _____ kW

If no: Provide technical description of control systems including:

Charging periods: _____

Mechanism to prevent charging from the Distribution System during host facility peak: _____

Instructions for Part 4 – Describing the Generators

#	Generator Information	Instructions and Comments	
#	Please indicate the number of each “type” of Generator being installed:	Please provide the following information for each Generator “type”. Be sure all Generators classified as one “type” are identical in all respects. If only one type of Generator is to be used, only one column needs to be completed. Please be sure the information in the “Totals” column is correct and reflects the total number of Generator units to be installed.	
A	Generator/Inverter/Converter Manufacturer	Enter the brand name of the Generator.	(T)
B	Generator/Inverter/Converter Model	Enter the model name or number assigned by the manufacturer of the Generator.	(T)
C	Generator/Inverter/Converter Software Version	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.	(T)
D	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 SCE’s Rule 21, Section L for additional information regarding Generator certification.	
E	Generator Design	Please indicate the designated type of each Generator. Designate “Inverter” or “Converter” anytime an inverter or converter is used, respectively, as the interface between the Generator and the electric system regardless of the primary power production/storage device used.	(T) (T)
E.1	If the Generator Type is an Inverter, is the Inverter Certified as a Smart Inverter in accordance with Rule 21 Section Hh by a Nationally Recognized Testing Laboratory (NRTL)?	Answer “Yes” only if the inverter manufacturer can or has provided certification data. See SCE’s Rule 21, Section Hh for Smart Inverter requirements, and Section L for additional information regarding Generator certification.	
E.2	If the Generator Type is a Converter, does the Converter meet the Non-Export AC/DC Converter requirements of Rule 21 Section H.3.e?	Answer “Yes” only if the Converter meets the Non-Export AC/DC Converter requirements of Rule 21, Section H.3.e.	(N) (N)
F	Gross Nameplate Rating (kVA)	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 both.	
G	Gross Nameplate Rating (kW)	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 both.	
H	Net Nameplate Rating (kW)	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.	

GENERATING FACILITY INTERCONNECTION APPLICATION

	Generator Information	Instructions and Comments
I	Energy Storage Electrical Source Function	Please indicate the discharge characteristics of your Energy Storage device in addition to any devices that limit or control the discharge capability.
J	Operating Voltage	This value should be the voltage rating designated by the manufacturer and used in this Generating Facility. Please indicate phase-to-phase voltages for 3-phase installations. See SCE's Rule 21, Section H.2.b. for additional information.
K	Power Factor Rating	This value should be the nominal power factor rating designated by the manufacturer for the Generator. See SCE's Rule 21, Section H.2.i. for additional information.
L	PF Adjustment Range	Where the power factor of the Generator is adjustable, please indicate the maximum and minimum operating values. See SCE's Rule 21, Section H.2.i.
M	Wiring Configuration	Please indicate whether the Generator is a single-phase or three-phase device. See SCE's Rule 21, Section H.3.
N	3-Phase Winding Configuration	For three-phase generating units, please indicate the configuration of the Generator's windings or inverter systems.
O	Neutral Grounding	Wye connected generating units are often grounded – either through a resistor or directly, depending upon the nature of the electrical system to which the Generator is connected. If the grounding method used at this facility is not listed, please attach additional descriptive information.
P	<i>For Synchronous Generators Only:</i>	If the Generator is of a "synchronous" design, 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 SCE's Distribution System. If the Generator's Gross Nameplate Capacity is 10 MW or greater, SCE may request additional data to better model the nature and behavior of the Generator with relation to its Distribution System.
Q	<i>For Induction Generators Only:</i>	If the Generator is of an "induction" design, 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, SCE may request additional data to better model the nature and behavior of the Generator with relation to its Distribution System.
R	Short Circuit Current Produced by Generator	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.

	Generator Information	Instructions and Comments
S	<p><i>For Generators that are Started as a "Motor" Only:</i></p> <ol style="list-style-type: none"> 1. In-Rush Current 2. Host Customer's Service Entrance Panel (Main Panel) Continuous Current Rating 	<p>This information is needed only for Generators that are started by "motoring" the generator.</p> <p>See SCE's Rule 21, Section G.1.c. and Section L.3.d for significance and additional information.</p> <p>If this question was answered in Part 3, question C of this Application, it need not be answered here.</p>
T	<p>Prime Mover Type</p>	<p>Please indicate the type and fuel used as the "prime mover" or source of energy for the Generator.</p> <ol style="list-style-type: none"> 1 = Internal Combustion Engine – Natural Gas Fueled 2 = Internal Combustion Engine – Diesel Fueled 3 = Internal Combustion Engine - Other Fuel 4 = Microturbine– Natural Gas Fueled 5 = Microturbine – Other Fuel 6 = Combustion Turbine Natural Gas Fueled 7 = Combustion Turbine - Other Fuel 8 = Steam Turbine 9 = Photovoltaic Panels 10 = Solar-thermal engine 11 = Fuel Cell– Natural Gas Fueled 12 = Fuel Cell– Other Fuel 13 = Hydroelectric Turbine 14 = Wind Turbine 15 = Energy Storage 16 = Other (please describe)
U	<p>Energy Storage System</p>	<p>For Energy Storage systems only, please include the requested information about the Energy Storage device.</p>