



## Facilities Study

November 18, 2009



SOUTHERN CALIFORNIA

**EDISON**

An *EDISON INTERNATIONAL*<sup>SM</sup> Company

**Prepared by**

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Confidential: Contains Critical Energy Infrastructure Information (CEII)



**Southern California Edison**

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## I. Executive Summary

[REDACTED] applied to the California Independent System Operator (CAISO) for the interconnection of 20MW of generation from their Sunshine Canyon Landfill Project generating facility to the proposed SCE Natural – Newhall – San Fernando 66kV circuit within the Saugus 66kV Subtransmission System under the terms of Southern California Edison Company's (SCE's) Wholesale Distribution Access Tariff (WDAT).

The Project consists of [REDACTED] 50 4.7 MW combustion turbine generators with a net generation export of 20 MW. The generation facility would utilize [REDACTED] 12 MVA, 66/4.16 kV step-up transformer to interconnect the generation to SCE's system. The Project will be interconnected to SCE's electric system to the Natural – Newhall – San Fernando 66kV via an SCE owned looped substation. The Point of Interconnection to the CAISO grid would be the Pardee Substation 220kV Bus.

[REDACTED] requested an interconnection date of July 1, 2010.

The SCE Transmission Planning group determined that this project will not impact the transmission system.

A System Impact Study (SIS) dated November 14, 2008, was prepared to address the impact of the new generation to the SCE Subtransmission System.

### FOR ADDITIONAL DETAIL REFER TO THE FOLLOWING EXHIBIT:

- EXHIBIT A: DISTRIBUTION SIS – EXECUTIVE SUMMARY

## II. System Impact Study Results

### SYSTEM IMPACT STUDY RESULTS:

The SIS concluded that the existing SCE Subtransmission System is adequate to support the additional generation.

#### The Study conclusions are:

1. Thermal loadings on the SCE subtransmission facilities used to provide the requested WDAT service would all be within criteria limits.
2. There are no new overloads created by the Project
3. There are no pre-project overloads aggravated by the Project
4. [REDACTED] 66kV buses were identified with an increase of 0.1kA or more as a result of the new generation

#### Short Circuit Study:

A short circuit duty (SCD) study was performed during the SIS phase. The transmission and sub-transmission SCD study concluded that the Project increases the three – phase and the single phase to ground SCD by 0.1kA or more at the following [REDACTED] and [REDACTED] locations:

500kV:  
Vincent

220kV:  
Pardee Sylmar Moorpark

66kV:  
Lockheed Newhall Santa Susana Saugus

The SIS concluded that a Facilities Study would be required to determine the scope of work and cost estimates for all elements required for Project Interconnection and System Upgrades.

### III. Facilities Study Assumptions

- A. All required ISO metering equipment at the Generating Facility will be provided by [REDACTED] and is not included in the Facilities Study. The CAISO revenue meter requirements can be found in the California ISO Generator Interconnection Manual.
- B. Any required upgrades at facilities not owned by SCE are not included in the Facilities Study.
- C. If the generation data cannot be obtained at the SCE Sunshine Substation RTU, a second RTU at the generating facilities would also be needed to monitor generation data. The additional RTU to be installed at the Generating Facility will be installed by SCE and it is not included in the Facilities Study. An RTU will be installed at the SCE [REDACTED] by SCE and it is included in the Facilities Study.
- D. The cost and schedule for the Environmental Impact Statement and/or Environmental Impact Report and all other regulatory filings required for the Project are not included in the Facilities Study.
- E. Customer shall install disconnect facilities in accordance with Section 5.11 of SCE's Interconnection Handbook in order to comply with SCE's switching and tagging procedures.

### IV. Facilities Study Scope and Cost Estimate

#### IV – A Facilities Study Scope

Pursuant to FERC's orders 2006-A (Small Generators) and 2003-A (Large Generators) all Facilities Studies are required to provide the customer with its "maximum possible funding exposure", which shall include the costs of upgrades that are reasonably allocable to the Interconnection Customer at the time the estimate is made, and the costs of any upgrades not yet constructed that were assumed in the interconnection studies for the Interconnection Customer but are, at the time of the estimate, an obligation of an entity other than the Interconnection Customer."

To comply with the FERC orders, the Scope of Work and Cost Estimate for all elements required for the interconnection are presented for the following two cases:

**CASE A: All facilities required exclusively by the Project**

And

**CASE B: All additional facilities that may be required by the Project**

The facilities included on Case B are those additional facilities required to remedy situations caused by earlier Projects, placed ahead [REDACTED] in the Application Queue, and are expected to be implemented by them.

However, in the event that any of these earlier Projects withdraws or modifies their application in accordance with applicable tariff allowances, [REDACTED] may become responsible for any or all of these additional facilities.

SCE will install a 66kV Interconnection Facility to loop the Natural – Newhall – San Fernando 66kV sub-transmission line to form the Natural – Sunshine and Newhall – San Fernando - Sunshine 66kV subtransmission lines and provide two points of service to the Project. For the purpose of this study, the new 66kV Interconnection Facility will be referred to as [REDACTED]

SCE will design, install, own, operate and maintain the new SCE 66kV looped substation and the 66kV subtransmission looped interconnection lines.

[REDACTED] will design, install, own, operate and maintain any section of new 66kV line between SCE's [REDACTED] and the customer owned [REDACTED] facility.

**CASE A:**

**Sunshine Substation:**

Install [REDACTED] new 66kV interconnection facility configured as a three-element ring bus with three 66kV circuit breakers and one 66kV overhead feed to the customer's generator. For the purpose of this facility study, the new substation will be named [REDACTED] Station One Line and Plot Plan Diagram are attached for reference as Exhibit B.

Protection Relays as follows:

Natural 66kV line

- Provide [REDACTED] to be used as System A pilot protection, and [REDACTED], to be used as System B backup protection.

Newhall-San Fernando 66kV line (New)

- Provide [REDACTED] to be used as System A pilot protection, and [REDACTED] to be used as System B backup protection.

Gen-Tie 66kV (to customer)

- Provide [REDACTED], to be used as gen-tie protection as well as high-side overcurrent protection.

Ground Detector 66kV

- Provide [REDACTED], to be used as ground detector neutral overcurrent protection.

**Sub-Transmission:**

Two alternatives were studied for the sub-transmission scope. Alternative one assumed that the planned landfill re-route has been built. Alternative two assumed that the planned landfill re-route has not been built.

Alternative 1 (planned landfill re-route built):

Replace [REDACTED] existing wood pole with one tubular steel pole (TSP). Install an additional TSP to loop into the new Sunshine Substation. Install approximately 100 feet of 336 ACSR conductor for each new circuit.

[REDACTED]

FACILITIES STUDY

Alternative 2 (planned landfill re-route not built):

Replace [REDACTED] 3-pole wood structure with a TSP and install approximately [REDACTED] poles and TSPs to the proposed [REDACTED] line. Install approximately 2100 linear feet of double circuit 336.4 conductor from the existing line to [REDACTED]

**Corporate Real Estate:**

Corporate real estate will provide mapping, survey, title work and land acquisition labor for the new looped portion of the lines and telecommunications.

**Telecommunication:**

Install lightwave transmission and channel equipment at [REDACTED] and [REDACTED] substations. Construct fiber cable ADSS from [REDACTED] to [REDACTED] and Sylmar to [REDACTED]. Install 55,000 feet of 48 strand ADSS.

**Power Systems Control:**

In order to maintain the integrity and the reliability of our system, a full size real-time Remote Terminal Unit (RTU) is required at [REDACTED] to monitor the 66kV lines MW, MVAR, phase amps, 66kV CB status/control and generation data such as 66kV gen-tie line net MW, net MVAR, kV, CB status, units MW, MVAR, terminal voltage, auxiliary load MW, MVAR and relay protection status alarm. If the generation data cannot be obtained at the [REDACTED] RTU, a second RTU will need to be installed at the [REDACTED] generating facility to monitor the generation data.

**CASE B:**

**Substation:**

**Chatsworth Substation:**

Replace existing primary protection with [REDACTED] line current differential relaying system and [REDACTED] line current differential relaying system. Install [REDACTED] relay on the 66kV bus tie.

**Newhall Substation:**

Replace existing primary protection with [REDACTED] current differential relaying system and [REDACTED] line current differential relaying system. Install [REDACTED] relay on the 66kV bus tie.

**Pardee Substation:**

Replace [REDACTED] circuit breakers and install [REDACTED] of TRV's to upgrade [REDACTED] 220kV circuit breakers from 44.3kA to 63kA.

**San Fernando Substation:**

Equip [REDACTED] at San Fernando Substation to loop the Chatsworth – MacNeil – Newhall – San Fernando 66kV to remove the existing criteria overload.

Replace existing primary protection with [REDACTED] line current differential relaying system and [REDACTED] current differential relaying system. Install [REDACTED] relay on the 66kV bus tie.



FACILITIES STUDY

**Vincent Substation:**

Upgrade [redacted] 500kV circuit breakers from 40kA to 50kA.

**Sub – Transmission:**

**Chatsworth – MacNeil – Newhall – San Fernando 66kV Line:**

Reconfigure the Chatsworth – MacNeil – Newhall – San Fernando 66kV line to remove existing criteria violation.

**Telecommunication:**

Install lightwave transmission and channel equipment at [redacted] Newhall, San Fernando, and Pardee Substations. Construct fiber cable ADSS from Sylmar to San Fernando [redacted], Newhall to [redacted] and Sylmar to [redacted]. Install 18,000 feet of 48 strand ADSS.

**Circuit Breakers Evaluation:**

The engineering study evaluated the circuit breakers short circuit capability at all locations where the Three-Phase and/or Single Phase to Ground SCD's were increased by 0.1kA or more as a result of the Project.

The study concluded that a total of [redacted] 500kV CBs at one location, [redacted] 220kV CBs and [redacted] 66kV CBs at three locations were impacted by the project.

**FOR ADDITIONAL DETAIL REFER TO THE FOLLOWING EXHIBIT:**

- **EXHIBIT B: SUNSHINE SUBSTATION ONE LINE AND PLOT PLAN**

**IV – B Facilities Study Cost Estimate**

**CASE A** Identifies the cost of all facilities that are required exclusively by the Project.

**CASE B** Identifies the cost of all upgrades required that were triggered by earlier Applicants placed ahead of the Project in the Application Queue.

In the event that any Applicant, presently placed ahead of the Project in the Application Queue, withdraws its Application, the system would need to be re-evaluated. The new evaluation may conclude that the Project would now trigger any of these upgrades and would then become responsible for some or all of the upgrades identified on Case B.

The total estimated cost of all elements of the interconnection as identified above in the Facilities Study Scope is as follows:

CASE A alternative 1:	\$	5,905,000
CASE A alternative 2:	\$	7,023,000
CASE B ( <u>May</u> be added to Case A):	\$	<u>9,856,000</u>
POSSIBLE MAXIMUM COST EXPOSURE alternative 1:	\$	15,761,000
POSSIBLE MAXIMUM COST EXPOSURE alternative 2:	\$	16,879,000

**SEE EXHIBIT C: COST SUMMARY**

**V. Conclusions**

- A. The estimated cost for the Interconnection is approximately \$5,905,000 for Case A alternative 1 with the potential additional cost of \$9,856,000 for Case B for a total Maximum Cost Exposure alternative 1 of \$15,761,000. The estimated cost for the Interconnection is approximately \$7,023,000 for Case A alternative 2 with the potential additional cost of \$9,856,000 for Case B for a total Maximum Cost Exposure alternative 2 of \$16,879,000.
- B. The time required to complete the proposed project will be 18 to 24 months after receiving project authorization and funding. This time includes engineering, material procurement and construction. This timeframe is subject to final verification by SCE of available resources at the time of the Project. The 18 to 24 month period does not include the time required for the preparation of the Environmental Impact Statement and/or Environmental Impact Report as required per CEQA and NEPA, if required, as well as any other approvals and permits to be provided by the CPUC or other regulatory agencies.
- A detailed Project Schedule will be provided during the Engineering and Design Phase of the Project.**
- C. The costs indicated in the attached tables are shown 2010 Dollars and are not firm. These are only preliminary estimates based on conceptual engineering and system unit costs, and are subject to change based on the final design and actual material costs. This Facilities Study and cost estimates as presented are valid for a period of 90 days.
- D. The estimated Project Cost will be reconciled to actual costs upon closure of the subject work orders. The necessary billing adjustments will be made at that time.
- E. Study results may be affected by changes in other projects ahead of the queue in the area. A re-study may be required if there are changes in the project queue or the scope of projects ahead in the queue.
- F. Although study results reflect no adverse impact on the high-voltage CAISO controlled transmission system with the addition of the [REDACTED], the Interconnecting Customer will still be required to adhere to all applicable WECC policies including, but not limited to, the WECC Generating Unit Model Validation Policy. For example, the Interconnecting Customer will be required to provide validated dynamic models for the proposed project within the timelines identified in the WECC policy. The latest policy is available on the WECC website at [www.wecc.biz](http://www.wecc.biz).



Assumptions Used in Conducting the System Impact Study

The system impact study will be based upon the following assumptions:

Designation of Point of Interconnection and configuration to be studied.

1. Point of Interconnection: The Chatsworth-MacNeil-Newhall-San Fernando 66kV line on Distribution Provider's Sangus 66kV Distribution System.
2. Configuration: [REDACTED] 7MW Solar Turbines Inc. Mercury 50 Gas Turbines (single-shaft conventional [REDACTED] generator sets), transformation equipment, power factor correction equipment, meters and metering equipment and maintenance equipment at the Small Generating Facility site at the [REDACTED] located at 14747 San Fernando Road, Sylmar, California, as specified in Interconnection Customer's interconnection application received by Distribution Provider.

Designation of alternative Point(s) of Interconnection and configuration. (none)

1. **Other Assumptions:** The study will be based on the following other assumptions:
  - a. Interconnection Customer is or will be an Eligible Customer under the Tariff with respect to the Small Generating Facility.
  - b. The Feasibility Study referenced in Section 4 of this Interconnection System Impact Study agreement was not performed as agreed to by Distribution Provider and Interconnection Customer.
  - c. The maximum Distribution Service requested by Interconnection Customer is 20.0 MW (23.5 MW installed capacity less 3.5 MW auxiliary load).
  - d. An Interconnection Customer requested operating date of July 1, 2010; however, such assumption shall be subject to change after study results, permitting requirements, design, land issues and material lead times are known, so that a more accurate determination can be made.
  - e. Distribution Service will be provided from the Small Generating Facility's interconnection at a point on SCE's Chatsworth-MacNeil-Newhall-San Fernando 66kV line, through Distribution Provider's Distribution System for delivery of energy to the ISO Grid at Distribution Provider's Pardee Substation 220kV Bus.
  - f. It is assumed that re-routing of the Chatsworth-Mac Neil-Newhall-San Fernando 66kV line (a non-generation project proposed prior to the Interconnection Request for this Small Generating Facility) will be completed to facilitate the proposed interconnection at the [REDACTED]
  - g. The technical data supplied by Interconnection Customer for this Small Generating Facility is accurate and complete.
  - h. The Small Generating Facility will have voltage regulation equipment and generator reactive power capability to maintain a voltage schedule or reactive power schedule and will be capable of operation over a power factor range in accordance with the WDAT.
  - i. Interconnection Customer will install, own, operate and maintain necessary power factor correction equipment to meet Distribution Provider's criteria for generators at the Point of Receipt. Such criteria are 0.95 boost capability (or kVAR/kW = 0.33), with an

operating power factor which may range from 0.95 boost to 0.95 buck at the Point of Receipt.

j. No operating restrictions exist other than routine maintenance.

2. Scope: The study will include the following:

- a. A determination of whether modifications are needed to Distribution Provider's Distribution System and/or that portion of Distribution Provider's electrical system that is part of the ISO Grid, such that the Small Generating Facility can be interconnected to Distribution Provider's Chatsworth-MacNeil-Newhall-San Fernando 66kV line, and that Distribution Service for the delivery of energy through Distribution Provider's Distribution System to the ISO Grid at Distribution Provider's Pardee Substation 220kV bus can commence on July 1, 2010.
- b. A general description of direct assignment facilities, Distribution Upgrades, and any other additions, modifications or other facilities on Distribution Provider's Distribution System and that portion of Distribution Provider's electrical system which is part of the ISO Grid which are required to provide the requested service.
- c. Study conditions and assumptions.
- d. Load flow analysis.
- e. Stability analysis, if required.
- f. Short circuit analysis.
- g. Post transient voltage analysis.

3. Basis for Study: In determining the capacity available, Distribution Provider will exclude from available capacity (i) capacity needed to meet its existing contractual obligations, (ii) capacity needed to meet previous obligations under the terms of the WDAT, (iii) capacity needed to meet previously pending WDAT applications, if any, and (iv) capacity needed to meet previously pending interconnection applications, if any.

4. Estimated Study Fee: In accordance with Section 3.4 of the Small Generator Interconnection Procedures, the cost estimate for performing this system impact study is \$50,000 (\$30,000 for the distribution system study and \$20,000 for the transmission system study). Pursuant to Section 10 of this System Impact Study Agreement, the required deposit for the study is \$40,000 (equal to the distribution system study estimate plus one half of the transmission study estimate).

**RECEIVED**

JAN 17 2011

GABBY GARCIA  
GRID INTERCONNECTION

[REDACTED]  
**System Impact Study Agreement  
(WDT492)**

**THIS AGREEMENT** is made and entered into this — day of November 2010 by and between [REDACTED] a Delaware limited liability company, ("Interconnection Customer,") and Southern California Edison Company, a corporation existing under the laws of the State of California, ("Distribution Provider"). Interconnection Customer and Distribution Provider each may be referred to as a "Party," or collectively as the "Parties."

**RECITALS**

**WHEREAS**, the Interconnection Customer is proposing to develop a Small Generating Facility or generating capacity addition to an existing Small Generating Facility consistent with the Interconnection Request completed by the Interconnection Customer on [REDACTED] and

**WHEREAS**, the Interconnection Customer desires to interconnect the Small Generating Facility with the Distribution Provider's Distribution System;

**WHEREAS**, the Interconnection Customer has requested the Distribution Provider perform a system impact study(s) to assess the impact of interconnecting the Small Generating Facility with the Distribution Provider's Distribution System, and of any Affected Systems;

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein the Parties agreed as follows:

- 1.0 When used in this Agreement, with initial capitalization, the terms specified shall have the meanings indicated or the meanings specified in the standard Small Generator Interconnection Procedures.
- 2.0 The Interconnection Customer elects and the Distribution Provider shall cause to be performed a system impact study(s) consistent with the standard Small Generator Interconnection Procedures in accordance with the Tariff.
- 3.0 The scope of a system/impact study shall be subject to the assumptions set forth in Attachment A to this Agreement.
- 4.0 A system impact study will be based upon the technical information provided by Interconnection Customer in the Interconnection Request. The Distribution Provider reserves the right to request additional technical information from the Interconnection Customer as may reasonably become necessary consistent with Good Utility Practice during the course of the system impact study. If the Interconnection Customer modifies its designated Point of Interconnection, Interconnection Request, or the technical information provided therein is modified, the time to complete the system impact study may be extended.

- 5.0 A system impact study shall consist of a short circuit analysis, a stability analysis, a power flow analysis, voltage drop and flicker studies, protection and set point coordination studies, and grounding reviews, as necessary. A system impact study shall state the assumptions upon which it is based, state the results of the analyses, and provide the requirement or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to correct any problems identified in those analyses and implement the interconnection. A system impact study shall provide a list of facilities that are required as a result of the Interconnection Request and non-binding good faith estimates of cost responsibility and time to construct.
- 6.0 A distribution system impact study shall incorporate a distribution load flow study, an analysis of equipment interrupting ratings, protection coordination study, voltage drop and flicker studies, protection and set point coordination studies, grounding reviews, and the impact on electric system operation, as necessary.
- 7.0 Affected Systems may participate in the preparation of a system impact study, with a division of costs among such entities as they may agree. All Affected Systems shall be afforded an opportunity to review and comment upon a system impact study that covers potential adverse system impacts on their electric systems, and the Distribution Provider has 20 additional Business Days to complete a system impact study requiring review by Affected Systems.
- 8.0 If the Distribution Provider uses a queuing procedure for sorting or prioritizing projects and their associated cost responsibilities for any required Network Upgrades, the system impact study shall consider all generating facilities (and with respect to paragraph 8.3 below, any identified Upgrades associated with such higher queued interconnection) that, on the date the system impact study is commenced -
- 8.1 Are directly interconnected with the Distribution Provider's electric system; or
  - 8.2 Are interconnected with Affected Systems and may have an impact on the proposed interconnection; and
  - 8.3 Have a pending higher queued Interconnection Request to interconnect with the Distribution Provider's electric system.
- 9.0 A distribution system impact study, if required, shall be completed and the results transmitted to the Interconnection Customer within 30 Business Days after this Agreement is signed by the Parties. A transmission system impact study, if required, shall be completed and the results transmitted to the Interconnection Customer within 45 Business Days after this Agreement is signed by the Parties, or in accordance with the Distribution Provider's queuing procedures.

- 10.0 A deposit of the equivalent of the good faith estimated cost of a distribution system impact study and one half of the good faith estimated cost of a transmission system impact study may be required from the Interconnection Customer.
- 11.0 Any study fees shall be based on the Distribution Provider's actual costs and will be invoiced to the Interconnection Customer after the study is completed and delivered and will include a summary of professional time.
- 12.0 The Interconnection Customer must pay any study costs that exceed the deposit without interest within 30 calendar days on receipt of the invoice or resolution of any dispute. If the deposit exceeds the invoiced fees, the Distribution Provider shall refund such excess within 30 calendar days of the invoice without interest.
- 13.0 Governing Law, Regulatory Authority, and Rules  
The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the State of California without regard to its conflicts of law principles. This Agreement is subject to all Applicable Laws and Regulations. Each Party expressly reserves the right to seek changes in, appeal, or otherwise contest any laws, orders, or regulations of a Governmental Authority.
- 14.0 Amendment  
The Parties may amend this Agreement by a written instrument duly executed by both Parties.
- 15.0 No Third-Party Beneficiaries  
This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and where permitted, their assigns.
- 16.0 Waiver
- 16.1 The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party.
- 16.2 Any waiver at any time by either Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, duty of this Agreement. Termination or default of this Agreement for any reason by Interconnection Customer shall not constitute a waiver of the Interconnection Customer's legal rights to obtain an interconnection from the Distribution Provider. Any waiver of this Agreement shall, if requested, be provided in writing.

17.0 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

18.0 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

19.0 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other Governmental Authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

20.0 Subcontractors

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.

20.1 The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall the Distribution Provider be liable for the actions or inactions of the Interconnection Customer or its subcontractors with respect to obligations of the Interconnection Customer under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.

20.2 The obligations under this article will not be limited in any way by any limitation of subcontractor's insurance.

21.0 Reservation of Rights

The Distribution Provider shall have the right to make a unilateral filing with FERC to modify this Agreement with respect to any rates, terms and conditions, charges, classifications of service, rule or regulation under section 205 or any other applicable provision of the Federal Power Act and FERC's rules and regulations thereunder, and the Interconnection Customer shall have the right to make a unilateral filing with FERC to modify this Agreement under any applicable provision of the Federal Power Act and FERC's rules and regulations; provided that each Party shall have the right to protest any such filing by the other Party and to participate fully in any proceeding before FERC in which such modifications may be considered. Nothing in this Agreement shall limit the rights of the Parties or of FERC under sections 205 or 206 of the Federal Power Act and FERC's rules and regulations, except to the extent that the Parties otherwise agree as provided herein.

**IN WITNESS THEREOF**, the Parties have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

**SOUTHERN CALIFORNIA EDISON  
COMPANY**

[Redacted]

Signed *Robert Lugo*

Signed [Redacted]

Name: Robert Lugo

Name: [Redacted]

Title: Manager Grid Interconnection  
and Contract Development

Title: [Redacted]

**Assumptions Used in Conducting the System Impact Study**

The system impact study shall be based upon the following assumptions:

1. Designation of Point of Interconnection and configuration to be studied:
  - a. Point of Interconnection: [REDACTED]
  - b. Configuration to be studied:
    1. [REDACTED] the total output of which will not exceed 2,308 kW,
    2. [REDACTED] SatCon 500PVS Inverters,
    3. [REDACTED] VA 480/200V transformers,
    4. [REDACTED] switchboard,
    5. [REDACTED] 480V/12kV transformers
    6. [REDACTED] approximately 100 foot 12kV distribution tie-line,
    7. [REDACTED] power factor correction equipment,
    8. [REDACTED] meters and metering equipment, and
    9. appurtenant equipment at the Small Generating Facility site in San Bernardino, California, as specified in the Interconnection Customer's Interconnection Request.
2. Designation of alternative Points of Interconnection and configuration: None
3. Other Assumptions:
  - a. Interconnection Customer is or will be an Eligible Customer under the Tariff with respect to the Small Generating Facility.
  - b. The maximum Distribution Service requested by Interconnection Customer is 2,000 kW.
  - c. Interconnection Customer requested operating date of [REDACTED]. However such assumption shall be subject to change after study results, permitting requirements, design, land issues and material lead times are known, so that a more accurate determination can be made.
  - d. Distribution Service will be provided from the generating facility's interconnection at Distribution Provider's distribution line through Distribution Provider's Distribution System for delivery of energy to the ISO Grid.
  - e. The technical data supplied by Interconnection Customer for this Small Generating Facility are accurate and complete.
  - f. The small generating facility will have voltage regulation equipment and generator reactive power capability to maintain a voltage schedule or reactive power schedule and will be capable of operation over a power factor range in accordance with the Tariff.
  - g. Interconnection Customer will install, own, operate and maintain necessary power factor correction equipment to meet Distribution Provider's criteria for generators at the Point of Receipt, which is 0.95 boost capability (or kVAR/kW = 0.33), with an operating power factor which may range from 0.95 boost to 0.95 buck at the Point of Receipt.



- h. No operating restrictions exist other than routine maintenance.
  - i. System impact study results will reflect the ISO Tariff, rules and protocols, and the guidelines set forth in Distribution Provider's Interconnection Handbook in effect at the time the Distribution Provider provides the system impact study results to the Interconnection Customer.
4. Scope: The system impact study will include the following:
- a. A determination of whether modifications are needed to Distribution Provider's Distribution System and/or that portion of Distribution Provider's electrical system that is part of the ISO Grid, such that the small generating facility can be interconnected to Distribution Provider's distribution line, and that Distribution Service for the delivery of energy through Distribution Provider's Distribution System to the ISO Grid can commence on [REDACTED]
  - b. A general description of direct assignment facilities, Distribution Upgrades, and any other additions, modifications or other facilities on Distribution Provider's Distribution System and that portion of Distribution Provider's electrical system which is part of the ISO Grid which are required to provide the requested service.

5. Basis for Study:

In determining the capacity available, Distribution Provider will exclude from available capacity: (i) capacity needed to meet its existing contractual obligations, (ii) capacity needed to meet previous obligations under the terms of the Tariff, (iii) capacity needed to meet previously pending Tariff applications, if any, and (iv) capacity needed to meet previously pending interconnection applications, if any.

Projects with interconnection applications preceding Interconnection Customer's application are assumed in-service; however, potential system enhancements or modifications resulting from such projects, if any, are not assumed.

6. In accordance with section 3.4 of the SGIP, Distribution Provider's non-binding good faith estimate of the cost to complete this system impact study is \$10,000.00.
7. In accordance with section 4.1 of the SGIP, Distribution Provider hereby advises Interconnection Customer that two significant factors may influence the necessary time required to complete the System Impact Study:
- a. Inter-dependencies – Interconnection studies of SGIP projects are highly inter-dependent with interconnection studies under the large generator interconnection procedure (LGIP, >20 MW) projects
  - b. Queue Growth – number of SGIP requests has increased from around [REDACTED] in the twelve months ending [REDACTED]

The [REDACTED] factors above may result in the need for significantly more time to complete the System Impact Study. Distribution Provider will make every effort to expeditiously complete the System Impact Study and to consistently inform Interconnection Customer

with any updates regarding a forecast date for completion of the System Impact Study. Currently, Distribution Provider expects that such study will require a minimum of 90 business days; however, given the above two factors, Distribution Provider may encourage Interconnection Customer to mutually agree upon an extended time period. This will especially be the case should Distribution Provider determine that the Interconnection Customer will benefit from a delay in the delivery of the System Impact Study report because such delay would allow for the incorporation of key data from pertinent LGIP study results and, consequently, allow for more effective interconnection cost estimates.

**PAGES EMITTED FOR CCII REGULATIONS**



