HANDBOOK

Self-Generation Incentive Program

April 23, 2005 - Rev. 1

Provides financial incentives for installing clean, efficient, on-site distributed generation

Southern California Gas Company
A Sempra Energy utility℠

SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

San Diego REGIONAL ENERGY OFFICE

SDGE
A Sempra Energy utility℠

PG&E Pacific Gas and Electric Company

What's New in the
2005 Self-Generation Incentive Program

On Thursday, December 16, 2004, the CPUC approved a decision, which adopts a number of important modifications to the Self-Generation Incentive Program (SGIP). This page summarizes the major changes from previous SGIP program years. Details of the SGIP requirements and application process are contained in the body of the 2005 SGIP Handbook.

- New Incentive Rates and Structure (See Section 3.1)
  - New incentive structure and amounts by technology that eliminates the percentage of project cost cap (effective for all projects not already holding an approved Conditional Reservation on the date of the decision). The new incentive rates are –

Incentive Levels	Eligible Technologies	Incentive Offered ($/Watt)	Minimum System Size	Maximum System Size	Maximum Incentive Size
Level 1	Renewable fuel cells	$4.50/W	30 kW	5 MW	1 MW
	Photovoltaics	$3.50/W decreasing to $3.00/W on 1/1/2006			
	Wind turbines	$1.50/W			
Level 2	Non-renewable fuel cells	$2.50/W	None	5 MW	1 MW
Level 3-R	Renewable fuel micro-turbines	$1.30/W	None	5 MW	1 MW
	Renewable fuel internal combustion engines and large gas turbines[1]	$1.00/W			
Level 3-N	Non-renewable & Waste Gas fuel micro-turbines	$0.80/W	None	5 MW	1 MW
	Non-renewable & Waste Gas fuel internal combustion engines and large gas turbines	$0.60/W			

- Treatment of "Other Incentives" (See Section 3.2.2)
  - The SGIP rebate will be considered the "last rebate" applied in cases where other incentives are being obtained. Projects receiving incentives based on future performance of the system are not eligible to receive a SGIP rebate. In addition, a portion of "other incentives" will be used to discount the SGIP incentive depending on the source of the "other incentives".
- Maximum Project Size and Incented Capacity (See Section 3.2.3)
  - Maximum generation system size increased to 5 MW, except that the incentive payment remains capped at 1 MW.
  - Maximum incentive of 1 MW per Site for the duration of the program.

[1] Large gas turbines are ≥ 1 MW in capacity. Microturbines are <1 MW in capacity.

- Annual Corporate/Government Limits (See Section 3.2.3)
  - Starting in 2005, there is no annual maximum Corporate/Government Parent limit.
- Proof of Project Advancement Milestone Date (See Section 4.3.5)
  - The Proof of Project Advancement (PPA) requirement has changed. The new PPA *requirement shortens the advancement period to a maximum of 60 calendar days from the date on the Conditional Reservation Letter with no extensions allowed.* At the discretion of the Program Administrator, **Public Entity** Host Customers may request a 60-day extension provided that an extenuating circumstance exists and supporting documentation is provided (e.g., board agenda describing approval of project and award of bid at next meeting). The Reservation Expiration date and extension rules remain unchanged.
- Program Incentive Budgets Increased (See Section 3)
  - The new 2005 incentive budget amounts (excluding any unused carry-over incentive dollars, if there are any) by Program Administrator is:

Program Administrator	**2005 Incentive Budget**
Pacific Gas and Electric Company	$54,000,000
Southern California Edison Company	$29,250,000
Southern California Gas Company	$15,300,000
San Diego Regional Energy Office	$13,950,000
Total:	$112,500,000

- First Day of Application Acceptance in 2005
  - February 1, 2005 is the earliest date new 2005 Conditional Reservation Requests will be accepted by Program Administrators. Applications received before this date will not receive further consideration and be returned to sender.
- No Faxes or Hand Deliveries allowed.
  - To ensure confirmation of receipt, documentation is recommended to be returned and delivered to the appropriate Program Administrator by certified or overnight mail. Faxes and hand deliveries will not be accepted.
- Level 3-N Emissions Requirements (See Section 2.4.9)
  - Level 3-N fossil fuel combustion-operated projects that submit Reservation Request Forms during Program Years 2005 and 2006 must not exceed a NOx emissions standard of 0.14 lbs/MW-hr and, in Program Year 2007, 0.07 lbs/MW-hr.
- Level 3-N Emissions Credit for Waste Heat Utilization (See Section 2.4.9)
  - If any Level 3-N project fails to meet the NOx emission standard, but meets a 60% minimum system efficiency standard, then an emission credit based on the useful thermal output may be applied to adjust the final emissions determination of eligibility.
- 60% Minimum System Efficiency Standard (See Section 2.4.9)
  - In Program Year 2007, all Level 3-N fossil fuel combustion-operated projects must meet a 60% minimum system efficiency standard regardless if emission credits are utilized.
- Level 3-N Waste Gas Emissions Exemption (See Section 2.4.9.3)
  - Level 3-N systems operating solely on Waste Gas may be exempt from the SGIP emission requirements if certain eligibility requirements are met.

Table of Contents

1 INTRODUCTION

This handbook establishes the policies and procedures of the Self-Generation Incentive Program (SGIP) for potential program participants and other interested parties. It is the joint work product of Pacific Gas and Electric (PG&E), Southern California Edison (SCE), the Southern California Gas Company (SoCalGas), San Diego Regional Energy Office (SDREO), San Diego Gas & Electric (SDG&E), California Energy Commission (CEC) and the Energy Division of the California Public Utilities Commission (CPUC). This SGIP has been approved by the CPUC and is subject to change in whole or in part at any time without prior notice. Any changes made to the SGIP will be published in revisions of this Handbook and/or posted at each Program Administrator's website under "Interim Changes".

1.1 Program Summary

The SGIP provides financial incentives for the installation of new, qualifying self-generation equipment installed to meet all or a portion of the electric energy needs of a facility. The SGIP complements the existing California Energy Commission's (CEC's) Emerging Renewables Program (ERP)[2] by providing incentive funding to larger renewable and non-renewable self-generation units up to the first 1 MW in capacity[3].

PG&E, SCE, SoCalGas, and SDREO are the Program Administrators for the SGIP and will administer this SGIP throughout their respective service territories.[4]

The SGIP Working Group consists of the Program Administrators and representatives from SDG&E, the California Energy Commission staff associated with the Emerging Renewables Program, and the Energy Division of the CPUC. The Working Group is charged with the tasks of program implementation, addressing programmatic issues and maintaining statewide program uniformity.

1.2 Program Background

Assembly Bill 970 (AB 970) required the CPUC to initiate certain load control and distributed generation activities, including financial incentives. On March 27th, 2001, the CPUC issued Decision 01-03-073, which ordered the state's investor-owned utilities (PG&E, SDG&E, SCE, and SoCalGas) to work with the CPUC Energy Division, the CEC and SDREO to develop and implement a self-generation equipment incentive program.

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[2] The California Energy Commission's Emerging Renewables Program includes renewable self-generation systems less than 30 kW in size.

[3] Maximum system size is 5 MW. However, only 1.0 MW of system capacity is eligible for incentives. Reference CPUC Decision 04-12-045 December 16, 2004.

[4] SDREO is the Program Administer for SDG&E customers.

On October 12, 2003, AB 1685 extended the SGIP beyond 2004 through 2007. This bill required the CPUC, in consultation with the CEC, to administer, until January 1, 2008, a self-generation incentive program for distributed generation resources in the same form that existed on January 1, 2004, and that combustion-operated distributed generation projects using fossil fuels commencing January 1, 2005, meet a NOx emission standard, and commencing January 1, 2007, meet a more stringent NOx emission standard and a minimum system efficiency standard, to be eligible for incentive rebates under the SGIP. The bill established a NOx emission credit that can be used by combined heat and power (CHP) units that meet the minimum system efficiency standard in order to meet the emission standard.

On September 22, 2004 AB 1684 made exempt certain projects from the NOx emission standard set forth in AB 1685, starting in 2005, if the project meets certain fuel and permitting requirements.

On December 16, 2004, CPUC Decision 04-12-045 modified the SGIP by implementing the provisions of AB 1685, which eliminated the maximum percentage payment limits, and reduced the incentive payments for several technologies, including Level 1 solar projects. This decision also directed the Program Administrators to expand opportunities for public input in three Working Group activities: 1) developing a declining rebate schedule, 2) developing an exit strategy, and 3) adapting a data release format.

1.3 Program Modification

Since initiating the SGIP, the CPUC has received several petitions for modification to add new technologies to the SGIP, as well as requesting other related programmatic changes. On August 21, 2003, the CPUC issued Decision 03-08-013 that instructed the SGIP Working Group to implement a more effective process by which the CPUC could consider proposed new technologies or SGIP rule changes that does not rely on procedures related to petitions for modification.

The Working Group developed a process for interested parties to use to propose new technologies or SGIP rule modifications to the Working Group and the CPUC for careful and complete consideration in an efficient manner. This process, described in the Program Modification Guidelines (PMG), prescribes the proposal requirements, evaluation process and schedule. The PMG is available from any of the Program Administrators' websites.

2 PROGRAM ELIGIBILITY CRITERIA AND REQUIREMENTS

The eligibility criteria for the SGIP govern which utility customers and projects can participate. In order to qualify for incentives, all program eligibility criteria must be satisfied. The following sections detail these requirements.

2.1 Effective Dates

Each Program Administrator first began accepting applications to the SGIP in the summer of 2001. AB 1685 extended the SGIP through December 31, 2007 (or until funding is exhausted). Each Program Administrator offers incentive funding on a first-come, first-served basis for each calendar year of the SGIP, subject to annual budget limits set by the CPUC. Each Program Administrator carries forward uncommitted or unspent SGIP funds for a given calendar year and applies them towards SGIP funding in the following year. Program Administrators may also reallocate unspent funds from Levels 2 and 3 to Level 1 without prior CPUC approval.

In order to be eligible for an incentive, the Applicant must receive a Conditional Incentive Reservation from the Program Administrator prior to the Applicant/Host Customer receiving authorization from the serving Electric Utility to operate the project in parallel with the grid.

2.2 Applicant Eligibility

An Applicant is a person or entity who applies to the Program Administrator for incentive funding. Any retail level customer of PG&E, SCE, SoCalGas, or SDG&E is eligible to apply for and receive incentives from the SGIP. Third parties (e.g. a party other than the Program Administrator or the utility customer) such as, but not limited to, engineering firms, installing contractors, equipment distributors or Energy Service Companies (ESCO) are eligible to apply for incentives on behalf of the utility customer, provided consent is granted in writing by the customer. Equipment lessees or lessors are also eligible to participate in the SGIP.

The System Owner of the generating equipment must be either the Applicant or the Host Customer. The Program Administrator may require documentation substantiating equipment ownership.

2.3 Host Customer Eligibility

The Host Customer must be the customer of record at the Site where the generating equipment is or will be located. Any class of customer (industrial, agricultural, commercial or residential) is eligible to be a Host Customer in the SGIP. The Host Customer's Site must be located in the service territory of, and receive retail level service from SCE, PG&E, SDG&E or SoCalGas at the Site. Municipal utility customers served by SCE, PG&E, SDG&E or SoCalGas at the Site are also eligible. The Host Customer may also be the Applicant if they are representing themselves.

The System Owner of the generating equipment must be either the Applicant or the Host Customer. The Program Administrator may require documentation substantiating equipment ownership.

The following Host Customers or Host Customer Loads are **not** eligible for incentives under the SGIP:

- Customers who have entered into contracts for Distributed Generation (DG) services (e.g. DG installed as a distribution upgrade or replacement deferral) and who are receiving payment for those services. This does not include Power Purchase Agreements, which are allowed.
- Customers who have entered into agreements that entail the export and sale of electricity from the Host Customer Site. This does not include Net Energy Metering agreements, which are allowed.
- Any portion of customer load that is committed to Electric Utility interruptible, curtailable rate schedules, programs or any other state agency-sponsored interruptible, curtailable, or demand-response programs. For Electric Utility customers who are on an interruptible rate, only the portion of their electric load that is designated as firm service is eligible for the SGIP. Customers must agree to maintain the firm service level at or above capacity of the proposed generating system for the duration of the required applicable warranty period (see Section 2.6). Customers may submit a letter requesting an exemption to the firm service rule if they plan to terminate or reduce a portion of their interruptible load.
- Public or investor-owned gas or electricity distribution utilities that generate or purchase electricity or natural gas for wholesale or retail sales.

2.4 Eligible Equipment Types

Self-generation technologies eligible for the SGIP are grouped into four incentive levels (Level 1, Level 2, Level 3-R, Level 3-N)[5] as shown in Table 2-1 below:

[5] Level 3 was divided into Level 3-R and Level 3-N to distinguish between renewable and non-renewable fuel combustion generators. Reference CPUC Decision 02-09-051 dated September 19, 2002.

Table 2-1 - Technologies Eligible for SGIP Incentives

Incentive Levels	Eligible Technologies
Level 1	• Photovoltaics (PV) • Fuel cells operating on renewable fuel • Wind turbines
Level 2	• Fuel cells operating on non-renewable fuel and utilizing sufficient waste heat recovery
Level 3-R	• Micro-turbines, internal combustion engines and gas turbines operating on Renewable Fuel
Level 3-N	• Micro-turbines, internal combustion engines and gas turbines operating on Non-Renewable Fuel or Waste Gas Fuel, utilizing sufficient waste heat recovery, meeting the reliability and emissions criteria as applicable.

2.4.1 Equipment Must Serve On-Site Electrical Load

Only self-generation equipment installed on the customer side of the utility meter is eligible. Equipment must be sized to serve all or a portion of the electrical load at the Site.

2.4.2 Hybrid Systems

A system that contains more than one type of eligible technology at one Site and behind one utility service meter is considered a "Hybrid System" and is eligible for SGIP incentives. This can include two or more of the incentive levels listed above in Table 2-1. For example, a photovoltaic and a microturbine Hybrid System installed at a single Site may receive incentives, provided they meet all SGIP eligibility requirements for each technology. A system that consists of different technologies within one incentive level (for example a photovoltaic system and wind turbine) must be considered a Hybrid System if installed behind the same meter at the Site. See Section 3.4 for an explanation of how to calculate incentives for Hybrid Systems.

2.4.3 Equipment and Installation Certifications

The SGIP intends to provide incentives for reliable, permanent, safe systems that are professionally installed and comply with all applicable Federal, State and local regulations. Applicants and Host Customers are strongly encouraged to become familiar with applicable equipment certifications, design, and installation standards for the systems they are contemplating. All systems must be installed by appropriately licensed California contractors in accordance with rules and regulations adopted by the State of California Contractors' State Licensing Board. Installation contractors must have an active A, B,

or C-10 license, or a C-46 license for photovoltaic systems. The system installers name, telephone number and contractor license number must be included with the "Reservation Request Form" and the "Reservation Confirmation and Incentive Claim Form".

2.4.4 Minimum Size

For Level 1 technologies, the minimum system size per Site is 30 kW[6]. There are no minimum size criteria for Level 2, 3-R and 3-N technologies.

2.4.5 Maximum Size

The maximum eligible system size per Site is 5 MW with the maximum incentive capped at 1 MW. In addition, system rated electrical output cannot exceed the previous 12-month annual peak (maximum) demand at the customer's Site. If the Site is host to existing generation, the combined capacity of the proposed and existing generators (excluding any back-up generators) must be no more than the Host Customer's Maximum Site Electric Load. Substantiation of system sizing is required in the initial application submittal. Generating systems running on fossil fuel and have had their system output de-rated may not be eligible for the SGIP.

The Applicant/Host Customer shall substantiate that the proposed system size does not exceed 5 MW. If any of the following items submitted (preliminary and final), or actions taken, indicate a system size greater than 5 MW, the project will be deemed ineligible.

- Required SGIP applications, submittals, and supporting documentation
- Interconnection documentation
- Building Permits
- Air Permits
- Design documents including civil, structural, electrical and mechanical systems
- Expansion construction commencing prior to payment of the incentive.

Exceptions and alternative system sizing criteria to the previous 12-month annual peak demand limit exist in the following three cases: 1) photovoltaic and wind turbine systems, 2) Sites with 12-months of energy usage data, but no peak demand information, and 3) applications basing system size on future load growth due to facility expansion or other load growth circumstances. Under no case may the system size exceed a rated capacity of 5 MW.

[6] Based on output calculated per Section 2.4.6.

2.4.5.1 Alternate System Sizing for Photovoltaic and Wind Turbine Systems

Level 1 projects using photovoltaics or wind turbines may be sized using one of the following two methods.

- 200% of the previous 12-month annual peak (maximum) demand at the customer's Site
- A system capacity calculated not to exceed the actual energy consumed during the previous 12-months at the Site, as calculated per the following formula[7]:

Maximum System Capacity (kW) = 12-months previous energy usage (kWh) / (.17 x 8760 hours/year)

Substantiation of system sizing is required with the initial application submittal.

2.4.5.2 System Sizing for Sites with Energy (kWh) Data Only (No Peak Demand "kW" Metering)

Sites using Level 1 fuel cells, Level 2, 3-R and 3-N technologies with 12-months of previous energy usage data (kWh), but without peak demand (kW) information available (e.g., customers on rate schedules without a demand component) will have an equivalent peak demand calculated using the following method –

Peak Demand (kW) = Largest Monthly Bill (kWh/month) / (Load Factor x Days/Bill X 24)

Residential: Load Factor = .45[8]

Small Commercial: Load Factor = .47[9]

Agricultural: Load Factor = .35

Substantiation of system sizing is required with the initial application submittal.

2.4.5.3 System Sizing Based on Future Load Growth

Applicants must provide an engineering estimate with appropriate substantiation of the Host Customer's Site forecasted annual peak demand if the generating system size is based on future load growth, including new construction, load growth due to facility expansion or other load growth circumstances. Suggested methods of demonstrating load growth include: Application for Service with corresponding equipment schedules and single line diagram; building simulation program reports such as eQUEST, EnergyPro, DOE-2, and VisualDOE; or detailed engineering calculations. The Program Administrator will work with the Applicant to verify the load growth predicted before moving forward with the Conditional Reservation Notice. The Applicant is required to submit documentation to demonstrate that sufficient

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[7] Note that the formula assumes a capacity factor of .17, which was the average measured in PY2003 and published in the "CPUC Self-Generation Incentive Program Third-Year Impacts Assessment Report" page 9-15.

[8] Residential Load Factor estimated from California investor owned utility domestic static load profiles.

[9] Small Commercial and agricultural Load Factors From "2002-2012 Electricity Outlook Report, CALIFORNIA, ENERGY COMMISSION, February 2002 P700-01-004F" Table III-2-1.

load has materialized before the incentive can be paid. Additionally, adequate Site load may be verified during the field verification visit or subsequent site inspections.

2.4.6 Rating Criteria for System Output

The rated photovoltaic system capacity must be calculated using the PVUSA Test Conditions (PTC) rating standards[10] including inverter DC to AC losses[11.] Wind turbine capacity is the highest electrical output from the manufacturer's power output curve for wind speeds up to 30 mph including inverter losses. The generation capacity for Level 2, 3-N and 3-R technologies, as well as fuel cells utilizing renewable fuel in Level 1, is defined as the net continuous power output of the packaged prime mover/generator at ISO conditions[12] operating on the applicable fuel, whether that is Non-Renewable or a Renewable fuel.

System capacity ratings are established at the time of Conditional Reservation Notification in order to establish the SGIP reservation dollar amount. If system modifications (i.e., changes in equipment make/model) are made after the Conditional Reservation Notification, the system capacity must be re-rated using currently available published component information for the changed equipment. If the number of components has increased or decreased and there is no change in the make/model of the equipment used, system components can be rated using the same published information used at the time of the Conditional Reservation Notification. Any net increase in system capacity after Conditional Reservation Notification may or may not result in an increase in the SGIP incentive amount, depending upon funding availability at the time the change is made.

2.4.7 Not Eligible under the SGIP

The following types of generating systems / equipment are not eligible for the SGIP:

- Back-Up Generators - systems intended solely for emergency or back-up generation purposes
- Any system/equipment that is capable of operating on or switching to diesel fuel, or Diesel Cycle for start-up or continuous operation
- Generating technologies not listed in Table 2-1 (Eligible Equipment Types) in Section 2.4.

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[10] PTC watt rating is based on 1,000 Watt/m^2 solar irradiance, 20 degree Celsius ambient temperature, and 1 meter/second wind speed. The PTC watt rating is lower than the "Standard Test Conditions" (STC), a watt rating used by manufacturers.

[11] CEC Emerging Renewables Program equipment ratings and efficiency are to be used for rating of PV and Wind Turbine systems. Other sources including manufacturer specifications can be used only if the CEC has not published the model ratings for the equipment in question.

[12] Industry standard conditions to measure output – temperature at 59 degrees Fahrenheit and altitude at sea level (0 feet).

2.4.8 Waste Heat Utilization Requirement

Utilization of waste heat at the Host Customer Site is required for Level 2 and 3-N systems. Waste heat utilization must meet the requirements of Public Utilities Code 218.5, which are expressed in the following equations.[13]

P.U. Code 218.5 (a) => $T / (T + E) \geq 5\%$

And,

P.U. Code 218.5 (b) => $(E + 0.5 \times T) / F \geq 42.5\%$

Where:

T ≡ The ***annual*** useful thermal output used for industrial or commercial process (net of any heat contained in condensate return and/or makeup water), heating applications (e.g., space heating, domestic hot water heating), used in a space cooling application (i.e., thermal energy used by an absorption chiller).

E ≡ The ***annual*** electric energy made available for use, produced by the generator, exclusive of any such energy used in the power production process.

F ≡ The generating system's ***annual*** Lower Heating Value (LHV) non-renewable fuel consumption.

All applications for Level 2 and 3-N technologies must provide documentation demonstrating an ability to meet both of the minimum waste heat utilization standards stated above, including an engineering calculation of the P.U. Code 218.5 efficiencies with documented assumptions regarding the Site's thermal load. Specifically, the Applicant must provide the following documentation.

- **Generator & Thermal System Description**
  The Applicant must provide the performance and capacity specifications for the proposed CHP system and all thermal system equipment that the CHP system serves or interacts. This includes but is not limited to the generator system, heat recovery system, heat exchangers, absorption chillers, boilers, furnaces, etc. In addition, a thermal process diagram must be provided as part of the documentation package that shows the configuration of the generator(s), heat recovery system, pumps, heat exchangers, thermal load equipment, and the working fluid flow and temperatures in/out of each piece of major equipment at design conditions.

[13] PUC 218.5 - "Cogeneration" means the sequential use of energy for the production of electrical and useful thermal energy. The sequence can be thermal use followed by power production or the reverse, subject to the following standards: (a) At least 5 percent of the facility's total annual energy output shall be in the form of useful thermal energy; (b) Where useful thermal energy follows power production, the useful annual power output plus one-half the useful annual thermal energy output equals not less than 42.5 percent of any natural gas and oil energy input.

- **Forecast of Generator Electric Output**
  Applicant must provide a forecast of the monthly generator electric output (kWH/month) for a twelve-month period. The generator electric output forecast must be based on the operating schedule of the generator, historical or forecasted Site electric load and maximum/minimum load ratings of the generating system; exclusive of any electric energy used in ancillary loads necessary for the power production process (i.e., intercooler, external fuel gas booster, etc.).

- **Forecast of Generator Thermal Output**
  Applicant must provide a forecast of the monthly generator thermal output (Btu/month) for a twelve-month period. The generator thermal output forecast must be based on the forecasted electric output of the generating system and the waste heat recovery rate specifications of the system.

- **Forecast of Generator Fuel Consumption**
  Applicant must provide a forecast of the generating systems monthly fuel consumption (Btu/month) for a twelve-month period. The generator's forecasted fuel consumption must be based on the forecasted electric output of the generating system and the systems fuel consumption specifications.

- **Forecast of Thermal Load Magnitude**
  Applicant must provide a monthly thermal load forecast (Btu/month) for a twelve-month period for the thermal load served by the CHP system. The forecast must be based on engineering calculations, thermal system modeling, historical fuel billing, measured data or a combination of these methods. The forecasted thermal load must be made independently of the forecasted operation of the generator. If historical natural gas or other fossil fuel consumption records (e.g., billing records) are used, the combustion efficiency of the natural gas or fossil fuel fired equipment that is being displaced must be included. Historical fuel consumption must be discounted to account for equipment thermal load that will not be displaced by the prime mover's thermal energy.

- **Forecast of Useful Thermal Output**
  The useful thermal output of the CHP system will be the lesser of the forecasted thermal load, or the prime mover's thermal output coincident with the thermal load. The useful thermal output is the value used in calculating the P.U. Code 218.5 requirements.

All assumptions, backup documentation, hand calculations, models (with inputs and outputs) and custom spreadsheets used to develop the forecasts must be included in the documentation. Forecasts based solely on "professional experience" or subjective observation will be rejected. Applicants are encouraged to use the Waste Heat/AB1685 spreadsheet, available from the Program Administrators' websites, to calculate the waste heat utilization efficiency.

2.4.9 Level 3-N Emission Standards and Minimum System Efficiency Standard

In addition to the waste heat utilization requirement, Level 3-N fossil fuel combustion-operated projects that submit Reservation Request Forms during Program Years 2005 and 2006 must not exceed a NOx emissions standard of 0.14 lbs/MW-hr. Level 3-N fossil fuel combustion-operated projects that submit Reservation Request Forms during Program Year 2007 must not exceed a NOx emissions standard of 0.07 lbs/MW-hr. If these projects fail to meet the emission standard, but meet the 60% minimum system efficiency standard, then an emission credit may be determined to adjust the final emissions determination of eligibility. Note that all Level 3-N fossil fuel combustion-operated projects that submit Reservation Request Forms during Program Year 2007 must also meet the 60% minimum system efficiency requirement. The following chart shows schematically the eligibility requirements, which are further detailed below.

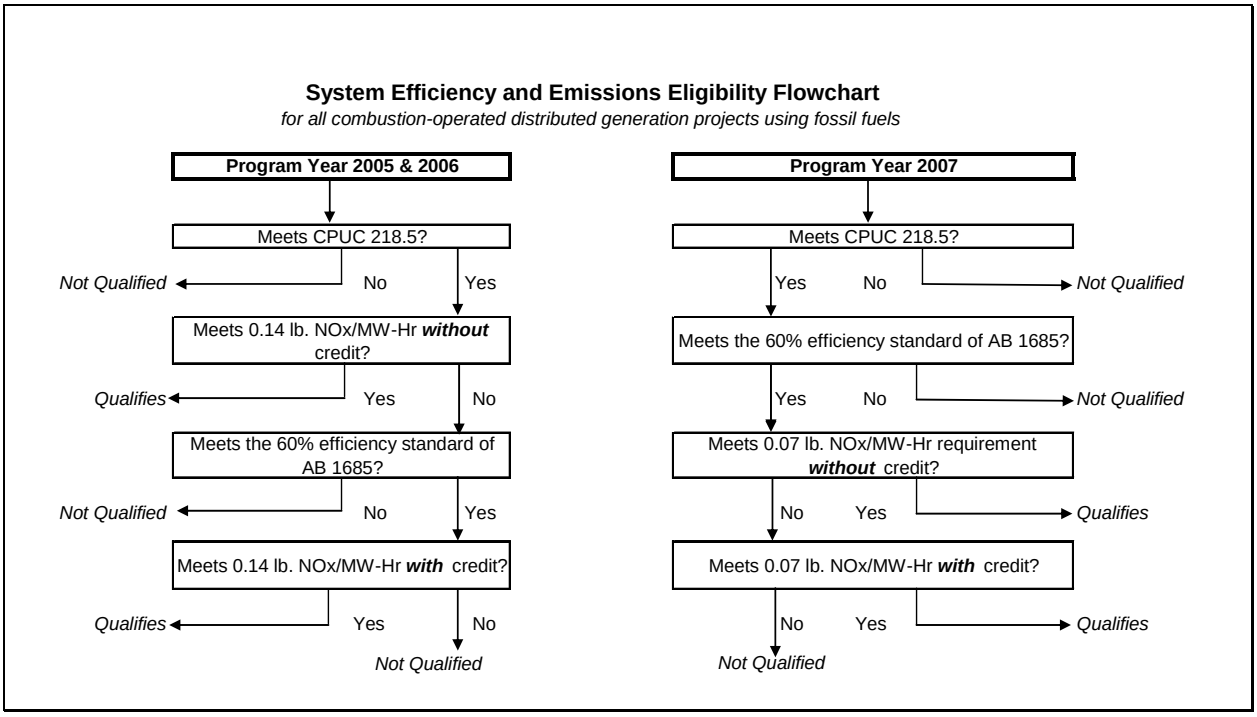

Figure 2-1 AB 1685 Eligibility Requirement Flowchart

2.4.9.1 Level 3-N Emission Eligibility Requirements

The Applicant must provide documentation demonstrating that the proposed generator will not exceed the applicable NOx emission standard (2005 & 2006 = .14 lb/MWh: 2007 = .07 lb/MWh). At the Reservation Request stage the Applicant must submit one of the following documents to determine the NOx emissions (lb/MWh) of the proposed system.

- Manufacturer emission specifications based on factory testing using California Air Resources Board (CARB), EPA or local air district test methods[14], for the proposed generating system as configured for the Site.
- CARB distributed generation certification

Or,

- Emission engineering calculations for the proposed generating system as configured for the Site.

Conversion of emissions concentration (ppm) to production based emissions rates (lb/MWh) shall use the method found in Appendix D of this handbook.[15]

In addition, the Applicant must submit a Permit to Operate issued for the project from the local air district or air quality authority as part of the Incentive Claim documentation.

2.4.9.2 Emission Credits

Level 3-N fossil fuel combustion-operated projects that do not meet the applicable NOx emission standard (2005 & 2006 = .14 lb/MWh: 2007 = .07 lb/MWh) may receive emission credits for waste heat utilization if the system meets or exceeds the 60% minimum system efficiency standard. The minimum system efficiency shall be measured as useful energy output divided by fuel input in higher heating value. The calculated minimum system efficiency shall be based on 100 percent load. The following formula is to be used to determine the system efficiency.

System Efficiency = $(E + T) / F \geq 60\%$

Where:

E ≡ The generating system's rated electric capacity as defined in Section 2.4.6, converted into equivalent Btu/hr using the factor 3,414 Btu/kWh

T ≡ The generating system's waste heat recovery rate (Btu/hr) at rated capacity.

F ≡ The generating system's Higher Heating Value (HHV) fuel consumption rate (Btu/hr) at rated capacity.

Credit shall be at the rate of one MWh for each 3.4 million British thermal units (Btu) of heat recovered. The following formula is used to modify the emissions rating for a generating system by giving credit for waste heat utilization. [16]

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[14] Acceptable test methods include CARB Test Method 100 and USEPA Test Method 7.

[15] California Air Resources Board, Guidance for the Permitting of Electric Generation Technologies, Appendix C: Procedure for Converting Emission Data to lb/MW-hr, July 2002.

[16] Emissions credit calculation is based on the California Air Resources Board, Guidance for the Permitting of Electric Generation Technologies, Appendix D: Quantifying CHP Benefits, July 2002.

$Lb/MWh_{w/credit} = Lb/hr_{EmissionRate} / (MW_{Rated} + MW_{ProcessHeat})$ ≡ System emissions with thermal credit

Where:

$Lb/hr_{EmissionRate} = Lb/MWh_{w/o\_credit}$ X MW_{Rated} ≡ NOx emission rate at the system's rated capacity

$Lb/MWh_{w/o\_credit}$ ≡ System's verified emissions without thermal credits

MW_{Rated} ≡ System's Rated Capacity as defined in Section 2.4.6.

$MW_{ProcessHeat}$ = ($MMBtu/yr_{UtilizedWasteHeat}$ / 3.4 MMBtu/MWh) / EFLH/yr ≡ Capacity credit for useful thermal energy

$MMBtu/yr_{UtilizedWasteHeat}$ ≡ Annual utilized waste heat

3.4 MMBtu/MWh ≡ Heat recovered conversion factor

EFLH/yr ≡ System's annual equivalent full load hours of operation

All assumptions, backup documentation, hand calculations, models (with inputs and outputs) and custom spreadsheets used to develop the forecasts must be included in the documentation. Forecasts based solely on "professional experience" or subjective observation will be rejected. Applicants are encouraged to use the Waste Heat/AB1685 spreadsheet, available from the Program Administrators' websites, to calculate the waste heat utilization, minimum system efficiency and emissions requirements.

Example #1: Emissions Credit for 360 kW IC Engine Generator

A 360 kW IC engine generator set is proposed to supply electric power and heat to a furniture manufacturing facility. The system utilizes an intercooler chiller that is rated at 10 kW. Its full load fuel consumption is 4.4 MMBtu/hr LHV (4.8 MMBtu/hr HHV[17]) and its full load waste heat recovery rate is 2.6 MMBtu/hr. Source testing documentation for the same generating system make/model and configuration, but from another site, indicate that the NOx emissions from this unit are 0.30 lb/MWh. The generator electric output follows the load of the Host Customers facility, but shuts down when the load falls below 40 kW, the minimum load of the generator. The Host Customer annual peak demand is approximately 400 kW. Waste heat from the generating system is used to deliver hot water for manufacturing process, equipment cleanup and space heating. Detailed analysis of the system and Host Customer load reveals that the system will be generating 1,715,000 kWh/yr at a capacity factor of 56%. The system will produce 12,730 MMBtu/yr of recovered waste heat to serve 12,400 MMBtu/yr of thermal load, however only 8,256 MMBtu/yr of waste heat is actual useful thermal output because of non-coincident load. The system consumes 21,521 MMBtu/yr LHV and 23,673 MMBtu/yr HHV of fuel. Thus -

P.U. Code 218.5 (a)

8,255,800,000 [Btu/yr] / {(1,715,000 [kWh/yr] x 3,414 [Btu/kWh]) + 8,255,800,000 [Btu/yr]} = 58.5% ≥ 5% ***Passes***

[17] For natural gas, LHV ≈ HHV x 0.9

P.U. Code 218.5 (b)

{(1,715,000 [kWh/yr] x 3,414 [Btu/kWh]) + 0.5 x 8,255,800,000 Btu/yr} / 21,520,800,000[Btu/yr] = 46.4% ≥ 42.5% ***Passes***

AB 1685 Minimum System Efficiency

{(360 [kW] x 3,414 [Btu/kWh]) + 2,598,000 [Btu/hr]} / 4,831,200 Btu/hr = 79.2 ≥ 60% ***Passes***

Therefore, the system can take an emissions credit for the useful waste heat.

AB 1685 NOx Emissions Credit

{0.30 [lb/MWh] x .360 [MW]} ***/*** {.360 [MW] + (8.256 [MMBtu/yr] / 3.4 [MMBtu/MWh]) / 4,900 EFLH/yr} =

0.126 lb/MWh ≤ 0.14 lb/MWh NOx ***Passes***

The Waste Heat/AB1685 spreadsheet, illustrated below, confirms that the calculations are correct. Applicants must use the current version of the Waste Heat/AB1685 spreadsheet available from the Program Administrators' websites.

Rated Net Generating Capacity =	360	kW	Full load net continuous rated capacity of the packaged prime mover/generator at ISO conditions.
Ancillary Generating System Loads =	10	kW	Any ancillary equipment loads necessary for the operation of the generator (e.g., fuel compressors, intercooler chillers, etc.)
Fuel Consumption Rate (LHV) =	4,392,000	Btu/hr	Provided by manufacturer or calculated from rated capacity and generator efficiency or heat rate specifications. Based on **lower heating value** of fuel.
Fuel Consumption Rate (HHV) =	4,831,200	Btu/hr	Provided by manufacturer or calculated from rated capacity and generator efficiency or heat rate specifications. Based on **higher heating value** of fuel.
Waste Heat Recovery Rate =	2,598,000	Btu/hr	Recoverable heat as specified by manufacturer of generator or waste heat recovery unit at full load conditions. This is not total waste heat of the unit. The value provided should be supported by Generating System specifications (if packaged unit), Waste Heat Recovery System specifications, or engineering analysis of recoverable waste heat.
Generator Emissions =	0.300	lbs/MWh	NOx emissions specifications for the proposed generating system as configured, including emissions controls, for the Host Customer Site at rated coinditions. The value provided should be supported by factory testing, other installation source tests or engineering calculations.

Month	Std Hours Per Month (hrs)	Generator Equivalent Full Load Hours per Month (hrs)	Capacity Factor	Generator Electric Output per Month (kWh)	Recovered Waste Heat per Month (Btu)	Thermal Load per Month (Btu)	Useful thermal energy output (Btu)	Fuel Input (LHV Btu)
Jan	744	500	67%	175,000	1,299,000,000	2,000,000,000	1,299,000,000	2,196,000,000
Feb	672	500	74%	175,000	1,299,000,000	2,000,000,000	1,299,000,000	2,196,000,000
Mar	744	500	67%	175,000	1,299,000,000	2,000,000,000	1,299,000,000	2,196,000,000
Apr	720	400	56%	140,000	1,039,200,000	800,000,000	800,000,000	1,756,800,000
May	744	300	40%	105,000	779,400,000	800,000,000	779,400,000	1,317,600,000
Jun	720	500	69%	175,000	1,299,000,000	500,000,000	500,000,000	2,196,000,000
Jul	744	700	94%	245,000	1,818,600,000	500,000,000	500,000,000	3,074,400,000
Aug	744	700	94%	245,000	1,818,600,000	500,000,000	500,000,000	3,074,400,000
Sep	720	500	69%	175,000	1,299,000,000	500,000,000	500,000,000	2,196,000,000
Oct	744	300	40%	105,000	779,400,000	800,000,000	779,400,000	1,317,600,000
Nov	720	0	0%	0	0	1,000,000,000	0	0
Dec	744	0	0%	0	0	1,000,000,000	0	0
Annual Total	8,760	4,900	56%	1,715,000	12,730,200,000	12,400,000,000	8,255,800,000	21,520,800,000

		Eligibility Criteria	Passes?	Reference
AB 1685 Total Efficiency =	79.2%	≥ 60%	Yes	Public Utilities Code 353.2 and 379.6
P.U. Code 218.5 (a) =	58.5%	≥ 5%	Yes	Public Utilities Code 218.5(a) & 18CFR Part 292
P.U. Code 218.5 (b) =	46.4%	≥ 42.5%	Yes	Public Utilities Code 218.5(b) & 18CFR Part 292
NOx Emissions w/o CHP	0.300	≤ 0.14 lb/MWh	No	
NOx Emissions w/ CHP	0.126	≤ 0.14 lb/MWh	Yes	Public Utilities Code 379.6 and California Air Resources Board, Guidance for the Permitting of Electric Generation Technologies, Appendix D: Quantifying CHP Benefits, July 2002.

Note: Qualified Level 3-N Waste Gas fueled systems are exempt from the emissions standard. See the 2005 SGIP Handbook for Waste Gas emission exemption qualification requirements.

2.4.9.3 Exemptions for Waste Gas Systems

Level 3-N systems operating solely on Waste Gas are exempt from the SGIP emission requirements if the local air quality management district or air pollution control district, in issuing a Permit to Operate for the project, provides in writing a determination that the operation of the project will produce an onsite net air emissions benefit compared to permitted onsite emissions if the project does not operate. Note that

Waste Gas Systems, though exempt from SGIP emission requirements, still must meet the Waste Heat Utilization Requirement.

2.4.10 Eligibility of Replacement Generation

Installation of new generating systems intended to replace existing on-site generation is allowed only in the following situations.

A. An eligible generating system may be installed in addition to existing on-site generation if the capacity of the proposed generator(s) meets the maximum size eligibility requirement defined in Section 2.4.5. For Level 2, 3-R and 3-N the combined capacity of the proposed and existing generators (excluding any back-up generators) must be no more than the Host Customer's Maximum Site Electric Load for the previous twelve months. For Level 1 the combined capacity of the proposed and existing generators (excluding any back-up generators) must be no more than the amount calculated using the method outlined in Section 2.4.5.1 substituting the Host Customer's Maximum Site Electric Load for the previous twelve months for the peak demand.

B. An eligible Level 1 system may directly replace an existing on-site fossil-fired generating system even if the past 12-months Host Customer's Maximum Site Electric Load is less than the required level as described in Section 2.4.5 of the SGIP Handbook.

C. An eligible Level 2, 3-N or 3-R system may directly replace an existing cogenerator or non-cogeneration system of equal or larger capacity than the new system, pursuant to eligibility requirements in Section 2.4 of the SGIP Handbook, where the Host Customer can demonstrate that the existing generating system has been out of service for the past 12-months.

2.5 Reliability Criteria

In order to qualify for a Level 3-N incentive payment, effective January 1, 2002, the Applicant must meet both of the following requirements:

1. The self-generating facility must be designed to operate in power factor mode such that the generator operates between 0.95 power factor lagging and 0.90 power factor leading. This design feature will be verified by reviewing the manufacturer's specifications at the time of application and as part of the field verification visit before incentive payment approval.

2. Applicants with facilities sized greater than 200 kW must coordinate the self-generation facility planned maintenance schedule with the Electric Utility. This allows the utility to more accurately schedule load and plan distribution system maintenance. The applicant will only schedule a facility's planned maintenance between October and March and, if necessary, during off-peak hours and/or weekends during the months of April to September.

2.6 Warranty Requirements

Warranty requirements apply to all eligible technologies regardless of length of commercial availability. Applicants are required to fulfill the warranty requirements described below in the following sequence:

1. Utilize equipment warranties, which come standard with the purchase of the system.
2. If the standard equipment warranty for any major system component is of insufficient duration to meet the requirement, the customer must purchase, if one is available, an extended warranty to bridge any gap in duration, which may exist.
3. Then, and only if an applicant can show that a standard and/or extended warranty combination is unavailable to meet the warranty requirement – OR if the extended warranty requires the purchase of a maintenance contract – the applicant is to enter into a maintenance contract as a substitute measure.

The Applicant must provide warranty (and/or maintenance contract) start and end dates in the Reservation Confirmation and Incentive Claim Form.

2.6.1 Levels 1 and 2 System Warranty Requirements

Level 1 and 2 systems must be covered by a minimum five-year warranty. The warranty must cover all of the major components of the generating system that are eligible for the incentive, to protect against breakdown or degradation in electrical output of more than ten percent from their originally rated electrical output. The warranty shall cover the full cost of repair or replacement of defective components or systems, including coverage for labor costs to remove and reinstall defective components or systems. The cost of the required warranty may be included in the eligible project cost for purposes of calculating the incentive payment. Warranty coverage beyond the five-year term is not an eligible project cost. In order to qualify as an eligible project cost, the cost of the warranty must be paid before the Reservation Confirmation and Incentive Claim Form is submitted.

2.6.2 Level 3-R and Level 3-N System Warranty and/or Maintenance Requirements

Levels 3-R and 3-N systems must be covered by a warranty of not less than three years. The warranty must cover the major mechanical and electrical components of the generating system that are eligible for the incentive to protect against breakdown. The warranty shall cover the full cost of repair or replacement of defective components or systems, including coverage for labor costs to remove and reinstall defective components or systems. For those systems not already covered by an appropriate term warranty, the customer must purchase an extended warranty from the manufacturer or vendor covering the unwarranted period up to the three-year warranty requirement. The extended warranty must cover the major electrical and mechanical components of the generating system that are eligible for the incentive to protect against breakdown. The major generating system components include: the generator set, primary

heat recovery system and Level 3-R gas cleanup equipment. For those cases where an extended warranty is not available, the customer must purchase a maintenance contract, providing equivalent coverage as the required warranty.

Please refer to the figure in Appendix A, which illustrates the warranty for components for a Level 3 (-N or –R) system.

2.7 Interconnection to the Utility Distribution System

Connection to, and parallel operation with, the Electric Utility distribution system is required for all self-generation systems as a condition of receiving incentives under the SGIP. The SGIP Host Customer, or their designate, must also separately submit an application and enter into a contract with their local Electric Utility for connection to the utility system. Proof of interconnection and parallel operation is required prior to receiving an incentive payment. Refer to Section 5.1 of this handbook for information on how to apply to the utility for interconnection.

2.8 Permanent Installation

Equipment installed under the SGIP is intended to be in place for the duration of its useful life. Only permanently installed systems are eligible for incentives. This means that the generating system must demonstrate to the satisfaction of the Program Administrator adequate assurances of both physical and contractual permanence prior to receiving an incentive.

Physical permanence is to be demonstrated by electrical, thermal and fuel connections in accordance with industry practice for permanently installed equipment and be secured to a permanent surface (e.g. foundation). Any indication of portability, including but not limited to: temporary structures, quick disconnects, unsecured equipment, wheels, carrying handles, dolly, trailer or platform will deem the system ineligible.

Contractual permanence, **corresponding to a minimum of twice the applicable warranty period,** is to be demonstrated as follows:

- System Owner (either the Host Customer or Applicant) agrees to notify the Program Administrator in writing a minimum of 60 days prior to any change in either the Site location of the generation system, or change in ownership of the generation system, if the change(s) takes place within twice the applicable warranty period.
- All agreements involving the generation system receiving an incentive are to be provided to the Program Administrator for review as soon as they become available (e.g., at the Proof of Project Advancement stage, or the Incentive Claim stage at the latest). These agreements include, but not limited to: system purchase and installation agreements, warranties, leases, energy or solar services agreements, energy savings guarantees and system performance guarantees.

- An additional agreement between the System Owner and the Program Administrator may be required, at the Program Administrators' discretion, in order to safeguard against the possibility of early removal and relocation of the generation system. This additional agreement, if required, must be negotiated to the satisfaction of the Program Administrator in order to satisfy this requirement.

2.9 New Equipment, Not Pilot or Demonstration Systems

Commercially available and factory new generating equipment are eligible for incentives. Rebuilt, refurbished or relocated equipment is not eligible to receive SGIP incentives. Generating systems that utilize new technologies that are critical to its operation must have at least one year of documented commercial availability to be eligible, or meets the requirements of Section 2.9.1. "Commercially available" means that the major generating system components (e.g. the generator set, primary heat recovery system and Level 3-R gas cleanup equipment) are acquired through conventional procurement channels, installed and operational at a Site. Commercially available does not include field demonstrations for proof-of-concept operation of experimental or non-conventional systems partially or completely paid by research and development funds.

2.9.1 Alternative Criteria for Generating System Eligibility – Third Party Certification

Generating systems consisting of or utilizing new technologies may be eligible for the SGIP if certification is obtained from a nationally recognized testing laboratory indicating that the technology meets the safety and/or performance requirements of a nationally recognized standard. Equipment manufacturers seeking eligibility through these criteria shall submit a written request via the PMG to the SGIP Working Group for consideration, along with the proposed standards for certification.

2.9.2 CEC's Emerging Renewables Program – Renewable Equipment Eligibility

Levels 1 and 2 equipment eligible for use in the CEC's Emerging Renewables Program is eligible for the SGIP under Section 2.9. A list of CEC eligible equipment is available online at: http://www.consumerenergycenter.org/erprebate.

2.10 Eligible Fuels

Fuels that can be used for eligible SGIP generating technologies are classified as renewable, non-renewable and Waste Gas. Each type of eligible fuel is described below.

2.10.1 Renewable Fuels

A renewable fuel, for the purposes of determining whether a proposed project qualifies for Level 1 fuel cell or Level 3-R incentives, is a non-fossil fuel resource other than those defined as conventional in Section 2805 of the Public Utilities Code, that can be categorized as one of the following: solar, wind, gas

derived from biomass, digester gas, or landfill gas. A facility utilizing a renewable fuel may not use more than 25 percent fossil fuel annually, as determined on a total energy input basis for the calendar year. In addition, applicants for Level 1 fuel cell projects and Level 3-R projects are required to:

- Demonstrate the availability of an adequate average flow rate of renewable fuel, for the duration of the required warranty period (Level 1 fuels cells is 5 years and all Level 2 technologies are 3 years), to produce electricity at the unit's full rated capacity, or an appropriate de-rated capacity[18] if supplemented with fossil fuel. Information shall be submitted with the SGIP application and will be verified during the field verification visit prior to approval of the incentive. Units whose annual fuel consumption exceeds the available renewable fuel plus the allowable nonrenewable supplement will not qualify.
- Submit an equipment purchase order that indicates the fuel cleanup equipment as a separate invoice item.
- Provide a signed affidavit stating that the unit will comply with the SGIP renewable fuel requirements. The length of this commitment shall be the same as the equipment warranty requirement discussed above for each Incentive Category.

Level 3-R incentives shall be subject to refund to the Program Administrator by the recipient if it is determined that the project operates on more than 25% fossil fuel, on an annual basis, before the required warranty period expires.

2.10.2 Non-Renewable Fuels

Non-renewable fuels for Level 2 and 3-N technologies include fossil fuels and synthetic fuels.

For the SGIP, eligible fossil fuels include gasoline, natural gas and propane. Diesel fuel (including biodiesel and other fuels that can be interchanged with diesel fuel) is explicitly ineligible in the SGIP.

Synthetic fuels are fuels derived from materials that are not renewable fuels (see Section 2.10.1) or fossil fuels. Eligible synthetic fuels include but are not limited to the direct use or synthesis of fuels from sewage sludge, industrial waste, medical waste or hazardous waste.

2.10.3 Waste Gas Fuels

Waste Gas fuels used for Level 3-N technologies are strictly defined as natural gas that is generated as a byproduct of petroleum production operations and is not eligible for delivery to the utility pipeline system.

In order to be eligible for Waste Gas exemptions, Applicants must:

[18] "De-rated capacity" is the rated capacity on renewable fuels and is the capacity which the incentive amount is based.

- Demonstrate the availability of an adequate average flow rate of Waste Gas fuel, for the duration of the required warranty period (3 years), to produce electricity at the unit's full rated capacity, or an appropriate de-rated capacity[19]. Information shall be submitted with the SGIP application and will be verified during the field verification visit prior to approval of the incentive.
- The Applicant must provide an affidavit or other form of proof, that specifies that the project shall be operated solely (100%) on Waste Gas for the duration of the required warranty period (3 years).
- The air quality management district or air pollution control district, in issuing a Permit to Operate for the project, must provide a written determination that operation of the project will produce an on-site net air emissions benefit,

Incentives paid for Level 3-N Waste Gas fuel systems shall be subject to refund to the Program Administrator by the recipient if it is determined that the project does not operate on Waste Gas for at least the required warranty period.

2.11 Incentives from Other Sources

Projects receiving rebates or incentives based on future performance of the project are ineligible from SGIP participation. See Section 3.2.2 for treatment of incentives from other sources in calculating the SGIP incentives.

[19] "De-rated capacity" is the rated capacity on Waste Gas fuels and is the capacity which the incentive amount is based.

3 INCENTIVES

Annual incentive budgets authorized by the CPUC for each Program Administrators are as follows:

Pacific Gas and Electric Company	$54,000,000
Southern California Edison Company	$29,250,000
Southern California Gas Company	$15,300,000
San Diego Regional Energy Office	$13,950,000

One-third of the incentive budget for each Program Administrator is initially allocated to each of the self-generation categories (Levels 1, 2 and 3-R/3-N).). Although the Program Administrator may move funds from the Level 2 and 3-R/3-N incentive categories to Level 1, the Program Administrator must seek approval from the CPUC through an advice letter prior to shifting additional funds into either the Level 2 or 3-R/3-N categories.

3.1 Incentive Levels

The SGIP provides a one-time incentive payment to help reduce the cost of installing self-generation equipment. The incentive levels for the four categories of self-generation technologies are provided below in Table 3-1.

The CPUC has directed the SGIP Working Group to develop an exit strategy for the program, and future incentive levels are subject to change. Check the Program Administrators' websites for current incentive levels.

Table 3-1 Incentive Levels for Various Technologies

Incentive Levels	Eligible Technologies	Incentive Offered ($/Watt)	Minimum System Size	Maximum System Size	Maximum Incentive Size
Level 1	Renewable fuel cells	$4.50/W	30 kW	5 MW	1 MW
	Photovoltaics	$3.50/W reducing to $3.00/W on 1/1/2006			
	Wind turbines	$1.50/W			
Level 2	Non-renewable fuel cells	$2.50/W	None	5 MW	1 MW
Level 3-R	Renewable fuel micro-turbines	$1.30/W	None	5 MW	1 MW
	Renewable fuel internal combustion engines and large gas turbines[20]	$1.00/W			
Level 3-N	Non-renewable & Waste Gas fuel micro-turbines	$0.80/W	None	5 MW	1 MW
	Non-renewable & Waste Gas fuel internal combustion engines and large gas turbines	$0.60/W			

3.2 Incentive Limitations

Incentive amounts and project eligibility the SGIP are limited by a number of factors, including:

- Total eligible project costs
- Other Incentives or Rebates
- Project capacity size & Host Customer corporate/government parent limits

3.2.1 Total Eligible Project Costs

The maximum possible incentive payment for each system is the system size (up to 1,000 kW) multiplied by the applicable dollar per kW incentive rate. No project can receive total incentives (SGIP and other

[20] Large gas turbines are ≥ 1 MW in capacity. Microturbines are <1 MW in capacity.

incentives combined) that exceed total eligible project costs[21]. Submittal of project cost details is required to report total eligible project costs and to ensure that total incentives do not exceed out of pocket expenses for the system owner. See Appendix B for eligible cost items for photovoltaic systems and Appendix C for a description of cost elements to be included in the total eligible project cost. Total eligible project costs cover the generating system and its ancillary equipment. Equipment and other costs outside of the project envelope defined in Appendix A, B & C are considered ineligible project costs, but also must be reported. For large multifaceted projects where the generating system costs are embedded, Applicants must provide a prorated estimate of the total eligible costs for the generating system. Applicants must use the project cost breakdown worksheet available from the Program Administrators' websites.

3.2.2 Other Incentives or Rebates

Customers may not receive SGIP incentives for the same self-generation equipment from more than one Program Administrator (e.g., PG&E and SoCalGas, SCE and SoCalGas, etc.). Projects receiving incentives from the CEC Emerging Renewables Program or any performance based incentive (PBI) program, including those offered under the CEC pilot PBI, are ineligible for SGIP.

For projects receiving self-generating incentives under other programs, the SGIP incentive may be reduced, depending on the source of the other incentive, to effectively allow only part of the other program incentive in addition to the SGIP incentive. For projects that receive "other incentives" funded by California investor owned utility (IOU) ratepayers (e.g., Utility or CEC Public Goods Charge programs, etc.), the SGIP incentive is discounted by the amount of the other incentive. For projects that receive "other incentives" funded by non-IOU ratepayers (LADWP, SMUD, etc.) the SGIP incentive is discounted by 50% of the other incentive. For projects that receive "other incentives" funded from other sources than utility ratepayers (federal & state grants, air district grants, tax credits, etc.) no adjustment is made to the SGIP incentive.

In no event can the combined incentives received from SGIP and other funding sources exceed the System Owner's out-of-pocket expenses (e.g. total eligible project cost) for the project. Applicants are required to disclose information about all other incentives, including for equipment or systems ancillary to the generating system, they may receive including post-installation incentives or rebates. Program Administrators will enter applications into a statewide database that will permit universal tracking of applications for this and other programs, such as, but not limited to the CEC's Emerging Renewables Program and pilot Performance-Based Incentive Program.

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[21] "Total eligible project costs" include the generator equipment, ancillary equipment and installations labor/materials. "Total eligible project costs" are equivalent to "eligible project costs" which were used in previous SGIP program years to calculate incentive amounts. See Appendix C for a list of "total eligible project costs".

The SGIP incentives will be reduced by the percent of other program incentives depending on the other incentive's funding source as described in the following table.

Table 3-2 Percent of "Other Incentive" Adjustment to SGIP

Other Incentive Funding Source	Pct. Of Other Incentive Discount of SGIP Incentive
Investor Owned Utility Ratepayer	100%
Non-IOU Ratepayer	50%
Non-Ratepayer	0%

A sample calculation of a SGIP project with incentives from the SGIP and a second funding source for various types of eligible 1 MW systems is illustrated in Table 3-3.

Table 3-3 Accounting for Other Incentives

(A)	(B)	(C)	(D)	(E)	(F) = (E) + (C)
System Type	**SGIP $/Watt Rebate Amount Before Accounting for Other Rebates**	**"Other Rebate" Amount**	**Source and Percentage of "Other Rebate" Adjustment to SGIP Incentive**	**SGIP Rebate Amount After Adjusting for Other Rebates $/Watt**	**Total Customer Rebate Amount $/Watt**
PV	$3.50/W	$1.00/W	Public Interest Energy Research (PIER) 100%	$3.50/W – [$1.00*1.00] = $2.50/W	$2.50/W + $1.00/W = $3.50/W
PV	$3.50/W	$2.00/W	Municipal Utility Solar Incentive Program 50%	$3.50/W – [$2.00*0.50] = $2.50/W	$2.50/W + $2.00/W = $4.50/W
Fuel Cell (on NG)	$2.50/W	$1.00/W	Federal Government Grant 0%	$2.50/W – [$1.00*0.00] = $2.50/W	$2.50/W + $1.00W = $3.50/W

3.2.3 Site and Host Customer Corporate/Government Limitations

There are restrictions on the amount of incentive funding an Applicant can reserve and receive. Applicants can reserve up to 1 MW of maximum incentive funding for a single Host Customer Site for the SGIP's duration. There are no reservation limits for third party contractors, vendors, or ESCOs applying to the SGIP. However, a 5 MW project size limit per Host Customer Site is in force for all projects.

3.3 Calculating the Incentive

Incentives for a proposed system are calculated by multiplying the capacity of the generating system by the incentive rate for the appropriate incentive Level (1, 2, 3-R or 3-N) and technology. If the project is receiving other incentives, a portion of those incentives must be subtracted from the maximum SGIP incentive calculated based on capacity. The remaining amount is the incentive that will be provided by SGIP. An A SGIP Incentive Calculation Worksheet is available on each Program Administrator's website.

No project can receive incentive payments that exceed the total eligible cost of the generating system.

Example #2: Single System Level 3-N Microturbine Technology

An Applicant proposes to install a 75 kW natural gas fueled microturbine with waste heat recovery at a customer Site to provide a portion of the facilities' peak (maximum) electric demand. There are no other incentives included. The Level 3-N incentive for this technology is $0.80/Watt (or $800/kW) and the project cost is $225,000 ($3.00/Watt). Multiplying the Level 3-N incentive by the capacity of the generation results in an incentive of $60,000, which does not exceed the out-of-pocket expense for the system.

Example #3: Incentive Calculation for System Receiving Incentives from Other Programs

A customer is installing a 1.0 MW fuel cell, operating on renewable fuel, which is estimated to cost $10 million ($10/Watt). The project received a rebate of 20% of the project costs ($2 million) from an IOU Ratepayer funded program. The maximum Level 1 SGIP incentive for this technology is $4.50/watt. Because the other incentive is IOU ratepayer funded, the SGIP incentive is adjusted. In addition, the out-of-pocket expense of the System Owner must not be less than zero. The out-of-pocket expense of the system is the total eligible project cost less any incentives including SGIP. Under the SGIP, this project would be eligible for an incentive of $2.5 million as follows:

Maximum SGIP Incentive based on System Size = 1,000,000 W x $4.50 / W = $4,500,000

Adjusted SGIP Incentive = $4,500,000 – 1.0 x $2,000,000 = $2,500,000

Total Incentive = $2,500,000 + $2,000,000 = $4,500,000

Since the total Incentive ($4,500,000) is lower than the total eligible project cost of $10 million the SGIP incentive is $4,500,000.

3.3.1 Incentive for Systems with Output Capacity above 1 MW

For projects with capacities greater than 1 MW, but less than or equal to 5 MW the incentive is calculated by multiplying the 1,000 kW, the maximum allowed incentive capacity of the generating system, by the incentive rate for the appropriate incentive Level (1, 2, 3-R or 3-N) and technology. If these projects are also receiving self-generating incentives from other programs, the SGIP incentive may be reduced,

depending on the source of the other incentive, to effectively allow only part of the other program incentive in addition to the SGIP incentive (See Section 3.2.2). The remaining amount is the incentive that will be provided by SGIP.

Example #4: Incentive Calculation for Systems with Output Capacity above 1.0 MW and Receiving Incentives from Other Programs

A customer is installing a 1.2 MW fuel cell, operating on natural gas, which is estimated to cost $7 million. The Level 2 incentives for this technology are $2.50/watt for the first 1.0 MW. The project also received a $1 million rebate from a Federal taxpayer funded program. Under the SGIP, the incentive would be calculated as follows:

Maximum SGIP Incentive = 1,000,000 Watt x $2.50/Watt = $2,500,000

Adjusted SGIP Incentive = $2,500,000 – 0.0 x $1,000,000 = $2,500,000

Total Incentive = $2,500,000 + $1,000,000 = $3,500,000

Since total incentive is lower than the total eligible project cost of $7 million the SGIP incentive is $3,500,000.

3.4 Hybrid System Incentive Levels

Program participants can apply for incentives for multiple types of generating technologies installed at one Site. The program defines these as "Hybrid Systems". An example of this situation would be photovoltaics and natural gas fuel cells, or photovoltaics and a wind turbine, combined at one Site. As with single technology systems, hybrid systems must meet all eligibility requirements set forth by this program including, but not limited to, size constraints, waste heat utilization, emissions and reliability criteria.

The total SGIP hybrid incentive is the sum of the incentive for each type of technology less other incentives. When calculating the total eligible incentive for a hybrid system, the incentives are to be calculated sequentially until the 1 MW limit is reached, with the highest incentive technology portion calculated first, then the next highest incentive technology (based on whatever capacity remains under 1 MW after that claimed for the first technology) and so forth. For multiple technologies within a single Incentive Level, the incentives are calculated in the order in which they appear in Table 3-1, from top to bottom.

Table 3-4 provides an example of the incentive calculation for an example hybrid system that is greater than 1 MW without other incentives. The system consists of a 650 kW Level 1 photovoltaic and 600 kW Level 3-N IC engine technologies. As shown below, the Level 1 photovoltaic technology receives the full incentive of $2,275,000. The Level 3-N IC engine technology receives a reduced incentive amount of $210,000 based on remaining 350 kW of capacity.

Table 3-4 Example 5: Hybrid System Cost Calculation

	Level 1	Level 2	Level 3-R	Level 3-N	Hybrid System Total
1. Incentive Rate ($/Watt)	$3.50 PV $4.50 fuel cell $1.00 wind (A)	$2.50 (B)	$1.30 MT $1.00 IC Engine, gas turbine (C)	$0.80 MT $0.60 IC Engine, gas turbine (D)	
2. Technology Capacity (kW)	650 kW (E)	0 kW (F)	0 kW (G)	600kW (H)	1250 kW (I) E + F + G + H
3. Capacity used for Incentive Calculation (kW) if Technology Capacity (I) is greater than 1,000 kW	650 kW (J) J=E	0 kW (K) K=F ***or*** K=1,000-J *(whichever is less)*	0 kW (L) L=G ***or*** L=1,000-J-K *(whichever is less)*	350 kW (M) M=H ***or*** M=1,000-J-K-L *(whichever is less)*	1000 kW (N) J+K+L+M= 1000 kW
4. Total SGIP hybrid Incentive Calculation	$2,275,000 (O) A x J	$0 (P) B x K	$0 (Q) C x L	$210,000 (R) D x M	**$2,485,000** O + P + Q + R

4 APPLICATION PROCESS

Incomplete or incorrect applications will be returned, so it saves time to follow the instructions carefully. Applicants may contact the Program Administrator for assistance in completing their applications. See Section 7 for contact information for each of the Program Administrators.

4.1 Overview of the Application Process

To receive an incentive payment through the SGIP, Applicants must submit the appropriate application form and supplemental materials at specific milestones. While the overall application process is identical for all four incentive levels (See Table 2-1), there are a few minor differences in the required attachments for each. The overall application process is illustrated in Figure 4-1.

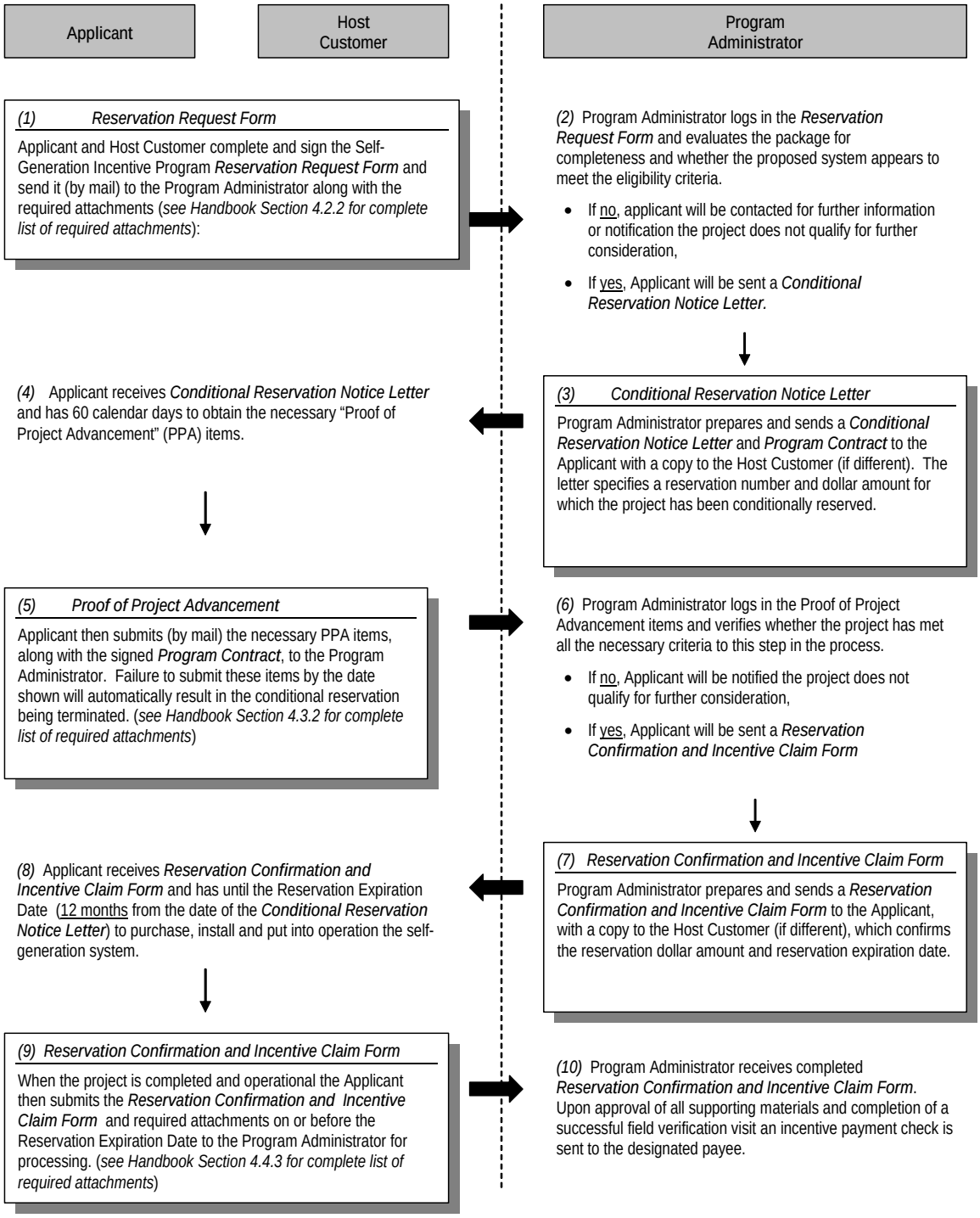

Figure 4-1 SGIP Application Process Overview

4.2 Reserving an Incentive

SGIP Applicants can reserve a specified incentive amount for up to one year, provided SGIP requirements are met during the reservation period. Applicants must complete and submit the Proof of Project Advancement package within the 60-day milestone, or their conditional incentive reservation will be cancelled.

SGIP funds are available on a first-come, first-served basis throughout the calendar year (January 1 through December 31). Reservations received after total funds have been committed for a calendar year will be placed on a waiting list in the event that more funding becomes available (either through an approved shift in funds between categories or projects already holding reservations canceling).

4.2.1 Reservation Request Form

To reserve a specified incentive amount, Applicants must submit the Reservation Request Form and all required documentation attachments.

Applicants seeking incentives for projects that include technologies from two or more different incentive levels (hybrid projects) must submit one application for each technology included in the project. For more information on Hybrid Systems, see Sections 2.4.2 and 3.4.

Reservation Request Forms and instructions on completing these forms can be obtained by calling or visiting the website of the Program Administrator in your area.

4.2.2 Required Attachments

In addition to a completed Reservation Request Form, with original signatures of Applicant and Host Customer, all Applicants (Levels 1, 2 and 3-R/3-N) applying for incentives must provide a copy of the following:

Table 4-1 Reservation Request Application Attachments

Required Materials	Level 1 Photovoltaic, Wind Turbines & Renewable Fueled Fuel Cells	Level 2 Non-Renewable Fueled Fuel Cells	Level 3-R Renewable Fueled IC Engines, Gas Turbines & Microturbines	Level 3-N Non-Renewable and Waste Gas Fueled IC Engines, Gas Turbines & Microturbines
1. Completed Reservation Request Application Checklist	✓	✓	✓	✓
2. Completed Reservation Request Application w/ Original Signatures	✓	✓	✓	✓

Required Materials	Level 1 Photovoltaic, Wind Turbines & Renewable Fueled Fuel Cells	Level 2 Non-Renewable Fueled Fuel Cells	Level 3-R Renewable Fueled IC Engines, Gas Turbines & Microturbines	Level 3-N Non-Renewable and Waste Gas Fueled IC Engines, Gas Turbines & Microturbines
3. Proof of Utility Service	✓	✓	✓	✓
4. Electrical System Sizing Documentation	✓	✓	✓	✓
5. System Description Worksheet	✓	✓	✓	✓
6. Incentive Calculation Worksheet	✓	✓	✓	✓
7. Description of other Funding Sources	✓	✓	✓	✓
8. AB1407 Public Entity Certification	✓ Public Entities Requesting Solar Incentives Only	N/A	N/A	N/A
9. Proof of Adequate Renewable Fuel Resource	✓ Fuel Cells Only	N/A	✓	N/A
10. Waste Heat Recovery PUC 218.5 Calculation	N/A	✓	N/A	✓
• Generator & Thermal System Description	N/A	✓	N/A	✓
• Forecast of Generator Electric Output	N/A	✓	N/A	✓
• Forecast of Generator Thermal Output	N/A	✓	N/A	✓
• Forecast of Generator Fuel Consumption	N/A	✓	N/A	✓
• Forecast of Thermal Load Magnitude	N/A	✓	N/A	✓
• Forecast of Useful Thermal Output	N/A	✓	N/A	✓
11. Proof of Power Factor Eligibility	N/A	N/A	N/A	✓
12. Proof of NOx Emissions Qualifications	N/A	N/A	N/A	✓
• Minimum 60% System Efficiency Calculation	N/A	N/A	N/A	✓

Required Materials	Level 1 Photovoltaic, Wind Turbines & Renewable Fueled Fuel Cells	Level 2 Non-Renewable Fueled Fuel Cells	Level 3-R Renewable Fueled IC Engines, Gas Turbines & Microturbines	Level 3-N Non-Renewable and Waste Gas Fueled IC Engines, Gas Turbines & Microturbines
• Emissions Credits Calculation (if applicable)	N/A	N/A	N/A	✓
13. Proof of Adequate Waste Gas Fuel	N/A	N/A	N/A	✓ Waste Gas Fuel Only

- **Reservation Request Application Checklist** – All Reservation Request Application submittals must be accompanied by a completed and signed checklist.
- **Reservation Request Form** – A completed Reservation Request Form must be submitted with all applications. It must be completed and signed by representatives with signature authority for both the Applicant and Host Customer. The installer's name, telephone number and contractor license number must be included on the Reservation Request Form. Only applications with the necessary original signatures on the same form will be accepted.
- **Proof of Utility Service** – Eligibility requirements restrict participation in the SGIP to customers who are located in PG&E, SCE, SoCalGas or SDG&E service territories and physically connected to the Electric Utility transmission and distribution system. All Applicants must submit a copy of a recent electric or gas utility bill. For new construction, the Applicant must receive confirmation from the serving utility that the Host Customer Site is within the Program Administrator's service territory.
- **Electrical System Sizing Documentation** – To confirm that participating distributed generation systems will not exceed the capacity of the Host Customer's previous 12-month peak (maximum) electrical demand (for photovoltaic and wind turbine systems, and new construction see Section 2.4.5.1 and 2.4.5.3 respectively), all Applicants must submit a copy of the data and calculations used to determine system size.
- **System Description Worksheet –** All Applicants are required to complete and submit the current System Description Worksheet, available from Program Administrator's website.
- **Incentive Calculation Worksheet** – All Applicants are required to complete and submit the current Incentive Calculation Worksheet, available from Program Administrator's website. The Incentive Calculation Worksheet calculates the incentive and adjusts for other incentives and project cost.
- **Other Funding or Project Assistance Sources** – When applicable, Applicants must disclose all project funding and/or project assistance sources which reduces the System Owner's otherwise out-

of-pocket expenses for the project. Submitted documentation confirming funding or assistance source and the amount or type of assistance. This funding or assistance (e.g., gifted equipment) may be from any other source, and received before, during or after equipment installation.

- **AB 1407 Public Entity Certification (Public Entities Only)** – Any Public Entity (see Section 6 for definition) applying for solar energy incentives under SGIP, must certify that they have voided any existing law, under their authority, that prohibits or restricts the installation or use of a solar energy system in accordance with the requirements set forth in AB 1407. Failure to do so prevents Public Entities from participating in SGIP.

- **Proof of Adequate Renewable Fuel (Level 1 Fuel Cells, and Level 3-R Only)** – When applicable, Applicant must submit an engineering survey or study confirming that there is adequate on-site renewable fuel (i.e., adequate flow rate) for continuous operation of the self-generation unit for the term of the project's required warranty/maintenance period.

- **Waste Heat Recovery Calculation/Justification (Level 2, and Level 3-N Only)** – When applicable, Applicant must submit a generator and thermal system description, forecasted generator output, forecasted generator fuel consumption, forecasted thermal load magnitude, and forecasted useful thermal energy, to demonstrate compliance with the Program's waste heat utilization requirements (PU Code 218.5). A copy of the engineering calculations, data used, and all assumptions used to demonstrate this system efficiency must also be submitted. See Section 2.4.8 for more information on waste heat recovery.

- **Power Factor (PF) Specification (Level 3-N Only)** – When applicable, Applicants must submit self-generating facility design specifications and/or manufacturer's specifications which show that the system will be capable of operating between 0.95 PF lagging and 0.90 PF leading.

- **Proof of NOx Emission Qualifications (Level 3-N, Except Waste Gas Fuel Applications)** – When applicable, Applicants must provide documentation (see Section 2.4.9) that substantiate that the generator's NOx emissions are at or below the applicable emission standard. Units that do not pass the emission standard may use emission credits if they meet or exceed the 60% minimum system efficiency.

  - **60% Minimum System Efficiency Specification** – If the Applicant wants to claim emission credits for their waste heat utilization; they must provide manufacturer specifications and calculations substantiating the minimum system efficiency of the generator is equal or greater than 60%. (See Section 2.4.9.2 for details).

  - **Emission Credits** – If the Applicant wants to claim NOx emission credits for their waste heat utilization and they meet or exceed the 60% minimum system efficiency requirement, they may

claim emission credits based on the amount of waste heat utilized over a twelve-month period. (See Section 2.4.9.2 for details)

- **Proof of Adequate Waste Gas Fuel (Level 3-N Waste Gas Fuel Applications Only)** – When applicable, Applicants must submit an engineering survey or study confirming that there is adequate on-site Waste Gas fuel (i.e., adequate flow rate) for continuous operation of the self-generation unit for the term of the project's required warranty/maintenance period.

4.2.3 Submitting the Reservation Request Form

Once the Reservation Request Form is complete and all the required attachments are secured, Applicants must submit their application package to the Program Administrator. To ensure confirmation of receipt, documentation is to be delivered to the appropriate Program Administrator by certified or overnight mail. No faxed or hand delivered applications will accepted.

4.2.4 Application Screening

Once received, the Program Administrator will review the application package for completeness and determine eligibility. Applications will also be screened to ensure that the project has not applied for incentives through other Program Administrators or other state- or government-sponsored incentive programs (e.g., CEC's Emerging Renewables Program).

4.2.5 Incomplete Reservation Requests

If an application is found to require clarification, the Program Administrator will request the information necessary to process that application further. Applicants have 20 calendar days to respond to the requested clarification with the necessary information. If after 20 calendar days, the Applicant has not submitted the requested information the applications will be canceled. Resubmitted application packages will be treated as a new application (i.e., all required documents must be resubmitted) and processed in sequence along with other new applications.

4.2.6 Approved Reservation Request Form

Upon approval by Program Administrator of the reservation request package (Reservation Request Form and required attachments), the Applicant will receive a Conditional Reservation Notice Letter and an SGIP Contract *if* funds are available. Incentive funds are not reserved until the Program Administrator receives all information and documentation required for the Reservation Request Form and the project is approved.

4.2.7 Waiting List Procedures

If funds are not available for a particular reservation request while a Program Administrator is still accepting new applications it will be assigned a place on a waiting list upon approval of the reservation request package (Reservation Request Form and required attachments). The Applicant will receive

notification that their request is on a waiting list until funding is made available (through budget transfers between categories, and/or other projects ahead of it dropping out), or it is withdrawn or cancelled. A place on the waiting list is not secured until the Program Administrator receives all information and documentation required with the Reservation Request Form and the project is determined to meet all eligibility requirements.

4.2.8 Applicant Assignment of Responsibilities

No assignment of the SGIP application or rights to the reserved incentive can be made before the approval of the Proof of Project Advancement. After Proof of Project Advancement approval, only Applicant assignment will be accepted for extenuating circumstances beyond the Host Customer's control. Neither the Applicant nor Host Customer shall assign its rights or delegate its duties without the prior written consent of the other party, except in connection with the sale or merger of a substantial portion of its assets. Any such assignment or delegation without the prior written consent of Program Administrator or its assignee, if any, shall be null and void. Consent to assignment shall not be unreasonably withheld or delayed. Applicant and Host Customer must provide assurance of the success of a Project, if assigned, by providing any additional information requested by Program Administrator.

4.3 Conditional Reservation Notice Letter

The Conditional Reservation Notice Letter confirms that a specific incentive amount is conditionally reserved for a self-generation project. The letter will list, at a minimum, the approved incentive amount and the Proof of Project Advancement Milestone Date. All reservations are conditional until the Applicant submits Proof of Project Advancement documentation and a signed SGIP Contract on or before the Proof of Project Advancement Milestone Date. The Conditional Reservation Notice Letter also will list the required information that Applicants must submit by the Proof of Project Advancement Milestone Date to confirm their reservation and maintain an active status.

4.3.1 Reservation Period

Applicants can reserve a specific incentive amount for up to 12-months. Once a Reservation Request Form and application package is determined to be complete and eligible, the Program Administrator will (depending upon funding availability) conditionally reserve a specific dollar amount for a specified project system size. The initial reservation is only valid for 60 calendar days. Within 60 calendar days of the date the Conditional Reservation Letter was issued, Applicants must satisfy all Proof of Project Advancement criteria, including returning a signed SGIP Contract. Once the Applicant has successfully demonstrated Proof of Project Advancement, the Program Administrator will issue a Reservation Confirmation and Incentive Claim Form with a Reservation Expiration Date of 12-months from the date of the initial Conditional Reservation Notice Letter.

4.3.2 Proof of Project Advancement

Within 60 calendar days of the date on the Conditional Reservation Letter, Applicants must submit the following information to demonstrate to the Program Administrator that the project is progressing and that there is a sustained commitment to complete the project.

Table 4-2 Proof of Project Advancement Required Materials

Required Materials	Level 1 Photovoltaic, Wind Turbines & Renewable Fueled Fuel Cells	Level 2 Non-Renewable Fueled Fuel Cells	Level 3-R Renewable Fueled IC Engines, Gas Turbines & Microturbines	Level 3-N Non-Renewable and Waste Gas Fueled IC Engines, Gas Turbines & Microturbines
1. Completed Proof of Project Advancement Checklist	✓	✓	✓	✓
2. Self-Generation Incentive Program Contract w/ Original Signatures.	✓	✓	✓	✓
3. Applicant Certificate of Insurance (Worker's Comp., General Liability, Business Auto)	✓	✓	✓	✓
4. Host Customer Certificate of Insurance (Worker's Comp., General Liability, Business Auto)	✓	✓	✓	✓
5. Copy of Completed Interconnection Application	✓	✓	✓	✓
6. Copy of Executed Contract or Agreement for Installation	✓	✓	✓	✓
7. Project Cost Breakdown Worksheet	✓	✓	✓	✓
8. Revised Sizing Calculations (if applicable)	✓	✓	✓	✓
9. Revised Incentive Calculations (if applicable)	✓	✓	✓	✓
10. Revised Efficiency & Waste Heat Utilization Calculations (if applicable)	✓	✓	✓	✓

Required Materials	Level 1 Photovoltaic, Wind Turbines & Renewable Fueled Fuel Cells	Level 2 Non-Renewable Fueled Fuel Cells	Level 3-R Renewable Fueled IC Engines, Gas Turbines & Microturbines	Level 3-N Non-Renewable and Waste Gas Fueled IC Engines, Gas Turbines & Microturbines
11. Copy of Completed Air Pollution Permit Application	N/A	N/A	✓	✓
12. Fuel Cleanup Equipment Purchase Order	✓ Fuel Cells Only	N/A	✓	N/A
13. Renewable Fuel Affidavit	✓ Fuel Cells Only	N/A	✓	N/A
14. Waste Gas Fuel Affidavit	N/A	N/A	N/A	✓ Waste Gas Fuel Only

- **Proof of Project Advancement Checklist** – All Proof of Project Advancement submittals must be accompanied by a completed and signed checklist.
- **SGIP Contract** – All Proof of Project Advancement submittals must include an executed SGIP Contract with original signatures. The System Owner must sign the SGIP Contract as either the Applicant or Host Customer as appropriate.
- **Applicant Proof of Insurance** – All Applicants must provide their proof of insurance in accordance with Section 12.0 and Appendix D of the SGIP Contract.
- **Host Customer Proof of Insurance** – All Applicants must provide Host Customer proof of insurance in accordance with Section 12.0 and Appendix D of the SGIP Contract.
- **Electrical Interconnection Application** – All Applicants must include a copy of a completed and signed application to interconnect a generating facility to the local Electric Utility. For more information on the utility interconnection process, see Section 5.1.
- **Executed Contract or Agreement for System Installation or Lease** – All Applicants must submit a copy of executed contract for purchase and installation of the system, and/or alternative system ownership agreement. All leased projects must provide a copy of an executed equipment purchase order, construction contracts and any other agreements pertaining to this project. Agreements must be legally binding and clearly spell out the scope of work, terms, price, generating system components to be installed. Agreements must be signed by appropriate parties (Supplier/installer, Host Customer, Applicant and/or System Owner)
- **Project Cost Breakdown** - All Applicants, including for turnkey and lease projects, must submit a breakdown of known and estimated project cost elements. For a list of total eligible project cost

elements costs to be reported, see Appendix C. Applicants are required to use the Project Cost Breakdown worksheet (spreadsheet), available from Program Administrator's website or by e-mail request. The Program Administrator reserves the right to revise conditional reservation amount pending a review and approval of total eligible project cost and incentive amounts applied for or received.

- **Revised Sizing Calculations** – When applicable, the Applicant must submit a thorough description of any changes that have occurred in the system design effecting size or incentive amount since the initial application submittal. If funding is not available the Applicant cannot increase the reserved incentive amount regardless of the changes to the proposed generating system.
- **Revised Incentive Calculation Worksheet** – When applicable, all Applicants are required to complete and submit a revised Incentive Calculation Worksheet if system or project changes have resulted in a change to the incentive amount. The Incentive Calculation Worksheet calculates the incentive and adjusts for other incentives and project cost.
- **Revised Efficiency and Waste Heat Utilization Calculations** – When applicable, the Applicant must submit a thorough description of any changes that have occurred in the system design effecting efficiency including P.U. Code 218.5 waste heat utilization performance or minimum system efficiency. The Program Administrator will cancel any application where changes have resulted in system's inability to maintain its eligibility for waste heat utilization, minimum system efficiency or emissions standard.
- **Air Permit Application (Level 3-R, and Level 3-N Only)** – When applicable, Applicants must submit copies of any required air pollution permitting applications, such as a Permit to Operate from the Local Air District.
- **Fuel Cleanup Equipment Purchase Order (Level 1 Fuel Cells, and Level 3-R Only)** – When applicable, Applicants must submit a purchase order for renewable fuel cleanup equipment.
- **Renewable Fuel Use Affidavit (Level 1 Fuel Cells, and Level 3-R Only)** – When applicable, Applicants must submit a signed SGIP affidavit that they will not switch to fossil fuel for a period of three years for Level 3-R technologies or five years for Level 1 fuel cells, or the life of the equipment, whichever is shorter.
- **Waste Gas Fuel Use Affidavit (Level 3-N Waste Gas Only)** – When applicable, Applicants must submit a signed SGIP affidavit that they will fuel their project solely (100%) with Waste Gas for a period of three years or the life of the equipment, whichever is shorter.

4.3.3 Submitting Proof of Project Advancement

Once the Proof of Project Advancement package is complete and all the required attachments are secured, Applicants must submit their application package to the Program Administrator for review. Faxed or hand delivered applications are not allowed. To ensure confirmation of receipt, documentation is to be delivered to the appropriate Program Administrator by certified or overnight mail. No faxes or hand deliveries will be accepted.

4.3.4 Incomplete Proof of Project Advancement

If a complete Proof of Project Advancement package is not received by the Proof of Project Advancement Milestone Date, the application will be cancelled by the Program Administrator.

If submitted Proof of Project Advancement documentation are complete but require clarification, the Program Administrator will request the information necessary to process that application further. Applicants have 20 calendar days to respond with the necessary information. If, after 20 calendar days the Applicant has not submitted the requested information, the applications will be canceled.

4.3.5 Proof of Project Advancement Extensions

In general, no extensions to the Proof of Project Advancement Milestone Date are permitted.

An extension of the Proof of Project Advancement Date may be granted only for Host Customers that are Public Entities up to a maximum of 60 days at the Program Administrator's discretion. Any extension granted does not automatically extend the Reservation Expiration Date. Applicants must demonstrate that failure to submit a complete Proof of Project Advancement package was for reasons beyond their control (e.g., board agenda describing approval of project and award of bid at next meeting). If the Proof of Project Advancement Date expires and no extension is granted, the application is considered terminated. Applicants may reapply for an incentive, but such re-applications will be processed in sequence along with other new applications.

4.3.6 Approval of Proof of Project Advancement

Once Applicants have successfully demonstrated project advancement and provided a signed SGIP Contract, the Program Administrator will return executed copy(ies) of the SGIP Contract and issue a Reservation Confirmation and Incentive Claim Form. This form will list the specific reservation dollar amount and the Reservation Expiration Date. Upon project completion and prior to the Reservation Expiration Date, Applicants must submit a completed Reservation Confirmation and Incentive Claim Form along with all of the necessary documentation to request an incentive payment.

4.4 Reservation Confirmation and Incentive Claim Form

After an eligible generating system is completed, Applicants may request payment of the incentive amount listed on their Reservation Confirmation and Incentive Claim Form. A generating system is

considered “completed” when it is completely installed, interconnected, permitted, paid for and capable of producing electricity in the manner and in the amounts for which it was designed. Payment will be disbursed once the Program Administrator verifies that the generating system is “completed” and meets all the eligibility requirements of the SGIP.

4.4.1 Extending the Reservation Expiration Date

A request to extend the Reservation Expiration Date of the reservation is limited to a maximum of 180 calendar days of additional time. Any request must include a written explanation of why the extension is required and how much additional time is needed. Approval of a request for a change in Reservation Expiration Date will not change or modify any other reservation condition. Failure to submit Incentive Claim package by the original or extended Reservation Expiration Date will result in a cancellation of the application.

4.4.2 Requesting an Incentive Payment

To request an incentive payment, the Applicant completes and submits the Reservation Confirmation and Incentive Claim Form. Both Applicant and Host Customer must sign the Reservation Confirmation and Claim Form.

Please note that no incentive payment will be made until the Program Administrator has verified by field inspection that the system is operational and interconnected. See Section 4.4.7.

The completed Reservation Confirmation and Incentive Claim Form must be submitted to the Program Administrator on or before the Reservation Expiration Date, together with all required attachments described below.

4.4.3 Required Attachments

In addition to the completed Reservation Confirmation and Incentive Claim Form, Applicants must submit the following attachments when requesting incentive payment:

Table 4-3 Reservation Confirmation and Incentive Claim Required Materials

Required Materials	Level 1 Photovoltaic, Wind Turbines & Renewable Fueled Fuel Cells	Level 2 Non-Renewable Fueled Fuel Cells	Level 3-R Renewable Fueled IC Engines, Gas Turbines & Microturbines	Level 3-N Non-Renewable and Waste Gas Fueled IC Engines, Gas Turbines & Microturbines
1. Completed Incentive Claim Form Checklist	✓	✓	✓	✓
2. Completed Incentive Claim Form w/ Original Signatures	✓	✓	✓	✓

Required Materials	Level 1 Photovoltaic, Wind Turbines & Renewable Fueled Fuel Cells	Level 2 Non-Renewable Fueled Fuel Cells	Level 3-R Renewable Fueled IC Engines, Gas Turbines & Microturbines	Level 3-N Non-Renewable and Waste Gas Fueled IC Engines, Gas Turbines & Microturbines
3. Proof of Authorization to Interconnect	✓	✓	✓	✓
4. Final Building Inspection Report	✓	✓	✓	✓
5. Proof of Warranty	✓	✓	✓	✓
6. Final Project Cost Breakdown Affidavit	✓	✓	✓	✓
7. Final Incentive Calculation Worksheet	✓	✓	✓	✓
8. Substantiation of Load	✓ New Construction Only	✓ New Construction Only	✓ New Construction Only	✓ New Construction Only
9. Revised Sizing Calculations (if applicable)	✓	✓	✓	✓
10. Revised Efficiency & Waste Heat Recovery Calculations (if applicable)	✓	✓	✓	✓
11. Final Fuel Cleanup Skid Cost Documentation	✓ Fuel Cells Only	N/A	✓	N/A
12. Final Air Permit Documentation	N/A	N/A	✓	✓
13. Planned Maintenance Coordination Letter	N/A	N/A	N/A	✓ If >200 kW
14. AQMD or APCD Determination of Onsite Net Emissions Benefit	N/A	N/A	N/A	✓ Waste Gas Fuel Only

- **Reservation Confirmation and Incentive Claim Checklist** – All Reservation Confirmation and Incentive Claim submittals must be accompanied by a completed and signed checklist.
- **Reservation Confirmation and Incentive Claim Form** – A completed Reservation Confirmation and Incentive Claim form must be submitted with all applications. It must be completed and signed by representatives with signature authority for both the Applicant and Host Customer. The installers name, telephone number and contractor license number must be included with the completed

Reservation Confirmation and Incentive Claim Form. Only applications with original signatures on a single form will be accepted. Any changes in the system upon completion of the project that effect the system capacity, waste heat utilization, minimum system efficiency or project cost must include supporting documentation and a recalculated incentive. If a waiting list exists, no increases in incentive will be allowed.

- **Proof of Authorization to Interconnect** – A copy of the signed letter from their Electric Utility granting the distributed energy system owner permission to interconnect and operate in parallel with the local grid. For questions on the interconnection process, see Section 5.1.
- **Final Building Inspection Report** – A copy of their final building inspection report demonstrating that the project meets all codes and standards of the permitting jurisdiction. Contact your local permitting jurisdiction to learn about permitting requirements.
- **Proof of Warranty** – Proof of a warranty, extended warranty and/or maintenance agreement in accordance with Section 2.6 of this handbook.
- **Final Project Cost Breakdown and Affidavit** – A final project cost breakdown worksheet, along with a signed affidavit substantiating the claimed eligible project cost. The Program Administrator reserves the right to withhold final incentive payment pending review and approval of project cost and receipt of supporting documentation. For a list of total eligible project cost, see Appendix C. The Program Administrator reserves the right to periodically audit Applicant's and Host Customer's records, see Section 15.0 of the SGIP Contract.
- **Final Incentive Calculation Worksheet** – All Applicants are required to complete and submit the current Incentive Calculation Worksheet, available from Program Administrator's website, using the project's final and actual system size, project cost and other incentives.
- **Substantiation of Load (New Construction Projects Only)** – For new construction projects that submitted a calculated future load Applicants must submit documentation verifying forecasted load has materialized and can be demonstrated.
- **Revised Sizing Calculations** – When applicable, the Applicant must submit a thorough description of any changes that have occurred in the system design effecting size or incentive amount since the initial application submittal. If funding is not available the Applicant cannot increase the reserved incentive amount regardless of the changes to the proposed generating system.
- **Revised Efficiency and Waste Heat Utilization Calculations** – When applicable, the Applicant must submit a thorough description of any changes that have occurred in the system design effecting efficiency including P.U. Code 218.5 waste heat utilization performance or minimum system efficiency. The Program Administrator will cancel any application where changes have resulted in

system's inability to maintain its eligibility for waste heat utilization, minimum system efficiency or emissions standard.

- **Fuel Cleanup Skid Cost Documentation (Level 1 Fuel Cells and Level 3-R Only)** – When applicable for renewable fuel projects, Applicants must submit documentation substantiating the fuel cleanup skid cost.

- **Final Air Permitting Documentation (Level 3-R and Level 3-N Only)** – For those technologies that require an air permit, Applicants must submit a copy of the final documentation indicating compliance with all applicable air pollution regulations. Typically, this is a Permit to Operate issued by the local air district.

- **Planned Maintenance Coordination Letter (For Level 3-N projects sized over 200 kW Only)** – When applicable, Applicants with Level 3-N systems sized greater than 200 kW must submit a maintenance coordination letter to the Host Customer's Electric Utility. A copy of the coordination letter must also be sent to the Program Administrator which shows they will schedule planned maintenance only between October and March and, if necessary, only during off-peak hours and/or weekends during the months of April to September (see Section 2.5).

- **Air Quality Management District or Air Pollution Control District Determination (For Level 3-N Waste Gas Fuel Only)** – For Level 3-N projects operating on Waste Gas fuel, Applicants must provide a written determination from the local air quality permit authority that operation of the project will produce an onsite net air emissions benefit.

4.4.4 Changes to the Proposed System

The Program Administrator will expect a system to be installed as described in the Reservation Confirmation and Incentive Claim Form, but recognizes that minor changes may result during installation and that substantive changes may be necessary in extraordinary circumstances.

4.4.4.1 Substantive Changes to the Proposed Project

Substantive changes, including changes to those items included in the System Description Worksheet, such as change of System Owner, incentive payment recipient, project location, or changes in equipment type, require prior approval by the Program Administrator for the reservation to remain in force. Requests for substantive project changes must be requested in writing.

4.4.4.2 System Changes Affecting Incentive Amount

If all available funds are reserved for other projects, the Program Administrator cannot raise the originally determined incentive amount.

If any change resulted in the installed system differing in its rated electrical output from the system originally specified in the Reservation Request Form, a new incentive payment amount will be calculated.

If the installed system is smaller in output and its eligible costs are lower than those specified in the Reservation Confirmation and Incentive Claim Form, the Applicant will receive the smaller incentive amount.

If the installed system is larger or more expensive than that originally specified in the Reservation Confirmation and Incentive Claim Form, the Program Administrator may accept the revised incentive as reported in the submitted Reservation Confirmation and Incentive Claim form. There is no guarantee, however, that Applicants who increase the size of the system from that originally stated in the Reservation Request Form will receive the higher incentive amount.

If system size is increased after a conditional reservation has been issued, an incentive amount is calculated at the current SGIP incentive rate for the entire system size. This new incentive amount is compared to the amount originally reserved by the applicant and the larger of the two becomes the incentive amount.

Example #6: 245 kW Level 1 System Size Increase to 345 kW

The existing reservation is $857,500 for a 245 kW system at a $3.50/W incentive rate.

The applicant adds 100 kW for a total of 345 kW at the time of payment or when modifying the existing reservation and the current rebate level is $3.00/W, the project's new incentive amount is 345,000 W x $3.00/W = $1,035,000. The Applicant would receive a higher incentive than what was originally reserved *if* funding is available.

Example #7: 245 kW Level 1 System Size Increase to 280 kW

The existing reservation is $857,500 for a 245 kW system at a $3.50/W incentive rate. The current rebate level is $3.00.

The applicant adds 35 kW for a total of 280 kW, the project would qualify for 280,000 W x $3.00/W = $840,000. In this case, the applicant would *not* qualify for additional funding due to an increase in capacity and the existing reservation for 245 kW would remain in force.

4.4.5 Submitting Your Incentive Claim Form

Once the Incentive Claim Form is complete and all the required attachments are secured, Applicants must submit their application package to the Program Administrator. To ensure confirmation of receipt, documentation is to be delivered to the appropriate Program Administrator by certified or overnight mail. No faxes or hand deliveries will be accepted.

4.4.6 Reservation Confirmation and Incentive Claim Submittals

If a complete Reservation Confirmation and Incentive Claim package is not received by the Reservation Expiration Date of the reservation, the application may be cancelled by the Program Administrator.

If submitted Reservation Confirmation and Incentive Claim documentation are complete but require clarification, the Program Administrator will request the information necessary to process that application. Applicants have 20 calendar days to respond with the necessary information. If after 20 calendar days, the Applicant has not submitted the requested information the application will be canceled.

4.4.7 Field Verification Visit

Upon receipt of a complete Incentive Claim Form package, the Program Administrator will conduct a field verification visit to verify that the project system is installed as represented in the application, is operational, interconnected and conforms to the eligibility criteria of the SGIP. If the project is a Level 1 fuel cell, Level 3-R or Level 3-N Waste Gas technology, the availability and flow rate of the renewable fuel or Waste Gas will be demonstrated by Applicant/Host Customer. The Program Administrator also will verify system capacity rating to confirm the final incentive amount.

4.4.8 Failed Field Verification

If the field verification visit process determines that the system is not eligible, the Program Administrator will notify the Applicant and describe the reasons for system ineligibility. The Applicant will have 30 calendar days to bring the system into compliance. A subsequent inspection visit will be conducted to determine final approval. If the Applicant fails to bring the system to full eligibility within the 30 days the application will be cancelled.

4.4.9 Incentive Check Payment and Terms

Upon final approval of the incentive claim form documentation and completed field verification visit, the Program Administrator will issue the incentive in approximately 30 days. Payment will be made to the Applicant, Host Customer or third party (as designated), as indicated on the Confirmation and Incentive Claim Form, and will be mailed to the address provided. Payment may be assigned to a third party upon designation and approval by both the Applicant and Host Customer. The lump sum incentive payment issued constitutes final and complete payment.

5 OTHER INSTALLATION REQUIREMENTS & CONTINUING SITE ACCESS REQUIREMENTS

5.1 Connection to the Utility Distribution System

All distributed generation systems receiving incentives under the SGIP must be connected to the local Electric Utility's distribution system. The interconnection, operation, and metering requirements for generating systems shall be in accordance with the local Electric Utility rules for customer generating facility interconnections. In order to connect a generating system to the utility distribution system, Applicants will be required to execute certain documents such as, but not limited to, an "Application to Interconnect a Generating Facility" and a "Generating Facility Interconnection Agreement" with the local Electric Utility. Applicants will be required to submit a copy of these documents within 60 calendar days of the date the Conditional Reservation Notice was issued (see Section 4.3). Applicants will also be required to submit a copy of the fully executed Generating Facility Interconnection Agreement and the utility's written certification of interconnection and parallel operation to the Program Administrator prior to the Reservation Expiration Date.

5.1.1 How to Apply For Interconnection of Self Generation Systems

For more information on electric grid and/or natural gas pipeline interconnections, please contact your local utility (investor owned utilities are listed below). It is the sole responsibility of the SGIP Applicant to seek and obtain approval to interconnect the self-generation system to a utility's distribution system. Applicants in the SGIP should immediately contact the utility to seek guidance on how to apply for interconnection. Contact information is listed below.

Pacific Gas & Electric (PG&E)

Website: www.pge.com/gen

Email: gen@pge.com

Phone: (415) 972-5676 (PG&E Generation Interconnection Hotline)

San Diego Gas & Electric (SDG&E)

Website: www.sdge.com/business/self_generation.shtml

Contact information for photovoltaics and wind systems:	
Net Metering Team San Diego Gas & Electric PO Box 129831, CP52F San Diego, CA 92123-9749 Phone: (858) 636-5585 Email: netmetering@semprautilities.com	**Ken Parks** San Diego Gas & Electric PO Box 129831, CP52F San Diego, CA 92123-9749 Phone: (858) 636-5581 Email: kparks@semprautilities.com

All other systems:	
Self Generation Team San Diego Gas & Electric PO Box 129831, CP42K San Diego, CA 92123-9749 Phone: (858) 654-1281 Email: selfgensd@semprautilities.com	**Martha Garibay** San Diego Gas & Electric PO Box 129831, CP42K San Diego, CA 92123-9749 Phone: (858) 654-1281 Email: selfgensd@semprautilities.com

Southern California Edison (SCE)

Gerome Torribio

Southern California Edison

2244 Walnut Grove Avenue

Rosemead, Ca 91770

Phone: (626)302-9669

E-mail Gerome.Torribio@sce.com

Southern California Gas Company (SoCalGas)

www.socalgas.com

Residential Customers: (800) GAS-2200

Business Customer: (800) GAS-2000

5.2 Measurement and Evaluation (M&E) Activities

As a condition of receiving incentive payments under the SGIP, Applicants and Host Customers agree to participate in Measurement and Evaluation (M&E) activities as required by the CPUC. M&E activities will be performed by the Program Administrator or the Program Administrator's independent third-party consultant and include but are not limited to, periodic telephone interviews, on-site visits, development of a M&E Monitoring Plan, access for installation of metering equipment, collection and transfer of data from installed system monitoring equipment, whether installed by Applicant, Host Customer, third party, or by the Program Administrator.

5.2.1 Field M&E Visits

During the course of the project, the Program Administrator or the Program Administrator's independent third-party consultant will require to visit the Site for M&E purposes. These field M&E visits can occur before, during or after startup of the generating system for the purposes of developing a monitoring plan, installing additional M&E instrumentation, perform equipment operations inspection and retrieving system data. These visits are separate and distinct from the field verification visits (see Section 4.4.7) by the

Program Administrator or their consultants which are used to determine eligibility of the installed generating system and occur during the Incentive Claim stage of the application process.

5.2.2 Electrical Metering Requirements

At the discretion of the Program Administrator, and in consultation with the M&E contractor, SGIP systems may require installation of dedicated, recording, time-of-use or interval metering to measure and record electrical generation output (i.e. Net Generation Output Meter) solely for M&E purposes. Many installations will already require this type of electrical metering as a condition of interconnection with the utility grid. In the case of investor owned electric utilities, this means compliance with their filed CPUC Rule 21, Generating Facility Interconnections. Specifications for the net generator output meter can be found on the Program Administrator or the Electric Utility website.

Costs for metering normally required by the utility in accordance with its tariff rules shall be paid by the utility customer. Metering not normally required by the utility's rules, but required, as a condition of receiving incentives under the SGIP, shall be paid for by the Program Administrator.

5.2.3 Other Energy Metering Requirements

The CPUC requires that Level 1 fuel cells and Level 2, 3-R and 3-N installations be evaluated for compliance with SGIP requirements for efficiency, waste heat recovery, or use of renewable/non-renewable fuels. As a condition of receiving incentive payments in the SGIP, Applicants and Host Customers agree to allow the Program Administrator, or the Program Administrator's independent third-party consultant, to conduct measurement and evaluation activities on completed installations. Furthermore, the Applicant and Host Customer agree to cooperate with the installation of any additional system monitoring equipment that the M&E consultant may deem necessary. All labor and material costs for instrumentation and data collection required solely for SGIP M&E purposes (and not by utility tariff) will be paid by the Program Administrator. Results of measurement and evaluation activities will have no bearing on the incentive payment previously received, with the exception of projects utilizing renewable fuels (Level 1 fuel cells and Level 3-R systems).

5.2.4 M&E System Monitoring Data Transfer Requirements

For systems with Applicant, Host Customer, third party, or Program Administrator installed monitoring equipment; the Applicant and Host Customer agree to provide system monitoring data (typically 15-minute interval data) to the SGIP M&E consultant on a quarterly basis.

5.2.5 Disposition of SGIP Metering Equipment

Upon completion of the SGIP M&E metering activities at the Site, the Program Administrator will offer all M&E metering equipment to the System Owner for transference. The Program Administrator will provide an Equipment Transfer Agreement with a schedule of the SGIP M&E equipment located at the Site. The

Equipment Transfer Agreement must be signed by both the System Owner and the Program Administrator.

If the System Owner does not wish to accept the M&E metering equipment, the Program Administrator or its M&E contractor will remove the M&E metering equipment. The Program Administrator shall pay the costs for meter removal.

AB 970:

Assembly Bill 970, signed by Governor Davis on September 6, 2000. This legislation required the CPUC to initiate certain load control and distributed generation activities, which resulted in the SGIP.

AB 1407:

Assembly Bill 1407, signed by Governor Davis on September 3, 2003. This legislation voids and makes unenforceable any existing covenant, restriction, or condition contained in any deed, contract, security instrument, or other instrument affecting real property, as specified, that prohibits or restricts the installation or use of a solar energy system. Any Public Entity (see definition) may not receive funds from a state-sponsored grant or loan program, including the SGIP, for solar energy if it fails to comply with these requirements and would require a Public Entity to certify that it is meeting these requirements when applying for these grants or loans.

AB 1685:

Assembly Bill 1685, signed by Governor Davis on October 12, 2003. This legislation requires the CPUC, in consultation with the Energy Commission, to administer, until January 1, 2008, a self-generation incentive program for distributed generation resources in the same form that exists on January 1, 2004, but requires that combustion-operated distributed generation projects using fossil fuels commencing January 1, 2005, meet a NOx emission standard, and commencing January 1, 2007, meet a more stringent NOx emission standard and a minimum system efficiency standard, to be eligible for incentive rebates under the SGIP. The bill establishes a credit for combined heat and power units that the meet minimum system efficiency standard. The bill also revises the definition of an ultra-clean and low-emission distributed generation to include electric generation technologies that commence operation prior to December 31, 2008.

Applicant:

The entity applying to receive incentive funds under SGIP. Some Applicants, such as ESCOs, can apply for and receive incentive funding and do not have to own the generation equipment or operate the Site(s) where the generation equipment will be installed. However, this arrangement must be disclosed to the entity that will own the generation equipment and/or operate the Site(s) where the generation equipment will be installed.

Backup Generators:

Operate as short-term temporary replacement for electrical power during periods of utility power outages. In addition to emergency operation they ordinarily only operate for testing and maintenance. Backup generators do not produce power to be sold or otherwise supplied to the grid or provide power to loads

that are simultaneously serviced by a utility electric grid. Backup generators only service customer loads that are isolated from the grid either by design or by manual or automatic transfer switch.

Calendar Days:

All dates and schedules in the SGIP are measured in calendar days, which includes all days of the week.

CEC:

California Energy Commission

Corporate Parent:

For private sector entities, the holding company of the utility customer of record who is listed as the Host Customer on the project application. In addition, other business relations such as franchises or building associations will be handled as Corporate Parents and will be held to the same limitations and caps as Corporate Parents.

CPUC:

California Public Utilities Commission

Diesel Cycle:

A diesel cycle engine uses compression ignition rather than spark igniting to ignite the fuel air mixture in the continuous production of power. Compression ignition occurs when the air, within the engine cylinder, is compressed by the piston to a high pressure and temperature. Fuel is then injected into the cylinder where it is ignited by the elevated air temperature. By contrast, a spark ignition engine uses an electric spark to ignite the compressed fuel air mixture, already within the cylinder.

Electric Utility:

The Host Customer's Site local electric transmission and distribution service provider.

ESCO:

Energy Service Company (ESCO), a business entity that designs, builds, develops, owns, operates or any combination thereof self-generation projects for the sake of providing energy or energy services to a Host Customer.

Fuel Cell:

Power plants that produce electricity through an electrochemical reaction with a fuel source resulting in extremely low emissions and hot water or steam.

Gas Service:

The gas line from the Utility's distribution main to the serving gas meter

Government Parent:

A Government parent is divided into federal, state, and local government parents. Federal government parents include the Air Force, Army, Navy, Marines, Postal Service, General Services Administration, and

all other Federal agencies or departments. State government parents include the University of California, California State University, Department of Corrections, Department of General Services, the combination of the Department of Developmental Services and CalTrans, the combination of the California Youth Authority and the Department of Mental Health, and all other state agencies and departments. Local government parents include cities, counties, school districts, and water districts.

Host Customer:
An entity that meets all of the following criteria: 1) has legal rights to occupy the Site, 2) is a customer of PG&E, SCE, SoCalGas or SDG&E at Site, 3) receives electric service from and is connected to the electric grid, 4) is the electric customer of record at Site and 5) is the recipient of the net electricity generated from the self-generation equipment.

Hybrid System:
A self-generation system that combines more than one type of distributed generation technology and is located behind a single Electric Utility service meter.

Investor Owned Utility:
For purposes of the SGIP, this refers to Pacific Gas & Electric Company, San Diego Gas & Electric Company, Southern California Edison Company and Southern California Gas Company.

Inverter:
An electric conversion device that converts direct-current (DC) electricity into alternating current (AC) electricity.

Inverter Efficiency:
The AC power output of the inverter divided by the DC power input.

ISO:
International Standards Organization

Maximum Site Electric Load:
The peak (maximum) kW demand at the Site, regardless if served by the existing generator, the local utility or a combination of the two.

Micro-turbines:
Small-scale combustion turbines ranging from 30 kW to 100 kW in size. Larger sizes are expected in the near future.

Parallel Operation:
The simultaneous operation of a self-generator with power delivered or received by the electrical utility while interconnected to the grid. Parallel Operation includes only those generators that are interconnected with the Electric Utility distribution system for more than 60 cycles.

PG&E:

Pacific Gas and Electric Company

Power Purchase Agreements:

An agreement for the sale of electricity from one party to another, where the electricity is generated and consumed on the Host Customer Site. Agreements that entail the export and sale of electricity from the Host Customer Site do not constitute on-site use of the generated electricity and therefore are ineligible for the SGIP.

Power Rating:

The rated electric generating capacity of the power plant expressed in watts, kilowatts or megawatts.

Primary Heat Recovery Equipment:

The first heat exchanger, in the waste heat recovery system, located off of the generating system skid used to transfer recovered waste heat energy to a working fluid that is delivered to Thermal Application Equipment and/or directly to Thermal Load(s).

Program Year:

January 1 through December 31.

Proof of Project Advancement Milestone Date:

The Proof of Project Advancement Milestone Date is the date by which Applicants must submit required information to demonstrate that their project is moving forward.

Project Completion Date:

For purposes of the SGIP, the project completion date will be determine when the Host Customer receives permission, from the Electric Utility, to operate in parallel.

PTC:

The PVUSA Test Conditions that specify the conditions for rating the power of photovoltaic systems at 1,000 W/m2 irradiance, 20ºC ambient temperature and 1 m/sec wind speed.

Public Entity:

Includes the state, the Regents of the University of California, a county, city, city and county, district, public authority, public agency, and any other political subdivision or public corporation in the state or any entity acting on behalf of these agencies when acquiring real property, or any interest therein, in any city or county for public use, and any person who has the authority to acquire property by eminent domain under state law.[22]

PV:

Photovoltaic, a technology that uses a semiconductor to convert light directly into electricity.

Renewable Fuel:

A renewable fuel is a non-fossil fuel resource other than those defined as conventional in Section 2805 of the Public Utilities Code that can be categorized as one of the following: solar, wind, gas derived from biomass, digester gas, or landfill gas. A facility utilizing a renewable fuel may not use more than 25 percent fossil fuel annually, as determined on a total energy input basis for the calendar year.

Reservation Expiration Date:

The Reservation Expiration Date is one year after the date of the Conditional Reservation Notice.

SCE:

Southern California Edison

SDG&E:

San Diego Gas and Electric

SDREO:

San Diego Regional Energy Office

Self-Generation Facility:

For the purposes of complying with the reliability criteria, a Self-Generating Facility is an on-site power generator that does not exceed the load at that facility which includes the prime mover (turbine or engine), generator, primary heat recovery equipment, and auxiliary equipment.

Site:

A single business enterprise or home located on an integral parcel or parcels of land undivided by a public road or thoroughfare regardless of the number of meters serving that Site. Separate business enterprises or homes on a single parcel of land undivided by a highway, public road, thoroughfare or railroad would be considered for purposes of the SGIP as separate Sites.

SoCalGas:

Southern California Gas Company

System Owner:

The owner of the generating system at the time the incentive is paid. For example, in the case when a vendor sells a turnkey system to a Host Customer, the Host Customer is the System Owner. In the case of a leased system, the lessor is the System Owner.

Thermal Application Equipment:

Thermal end-use equipment such as but not limited to absorption chillers (indirect or direct fired), boilers,

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[22] Source: CALIFORNIA CODES - GOVERNMENT CODE SECTION 7260-7277

water heaters, space heaters, furnaces, dryers, secondary heat exchangers, thermal storage tanks or vessels including pumps, cooling towers, and piping or any other ancillary equipment.

Thermal Load:

Host Customer heating process(es) including but not limited to industrial process heating, space heating, domestic hot water heating and/or heat input to an absorption chiller used for space cooling or refrigeration.

Waste Gas:

Natural gas that is generated as a byproduct of petroleum production operations and is not eligible for delivery to the utility pipeline system.

7 PROGRAM ADMINISTRATOR CONTACT INFORMATION

Potential Applicants can receive more information and apply for incentive funding through the following Program Administrators[23:]

Pacific Gas & Electric (PG&E)

Website:	www.pge.com/selfgen
Email Address:	selfgen@pge.com
Telephone:	(415) 973-6436
Fax:	(415) 973-2510
Mailing Address:	Self-Generation Incentive Program P.O. Box 770000 Mail Code B29R San Francisco, CA 94177-001

San Diego Regional Energy Office (SDREO)

Website:	selfgen.sdenergy.org
Contact Person:	Nathalie Osborn, Program Manager
Telephone:	(858) 244-1193
Fax:	(858) 244-1178
Email:	selfgen@sdenergy.org
Address:	San Diego Regional Energy Office Attn: SELFGEN Program Manager 8520 Tech Way Suite 110 San Diego, CA 92123

Southern California Edison (SCE)

Website:	www.sce.com/sgip
E-mail:	greenh@sce.com
Address:	Program Manager Self-Generation Incentive Program Southern California Edison 2131 Walnut Grove Avenue, 3rd Floor, B 10 Rosemead, California 91770
Telephone:	1-800-736-4777
Fax:	(626) 302-6253

Southern California Gas Company (SoCalGas)

Website:	www.socalgas.com/business/selfgen
E-Mail:	selfgeneration@socalgas.com
Telephone:	1-866-DG-REBATE (1-866-347-3228)
Fax:	(213) 244-8222
Address:	Self-Generation Incentive Program Administrator Southern California Gas Company 555 West Fifth Street, GT22H4 Los Angeles, CA 90013-1011

[23] Potential Applicants with eligible projects located in the service territory of both Southern California Edison and the Southern California Gas Company can apply for incentive funding to either Program Administrator.

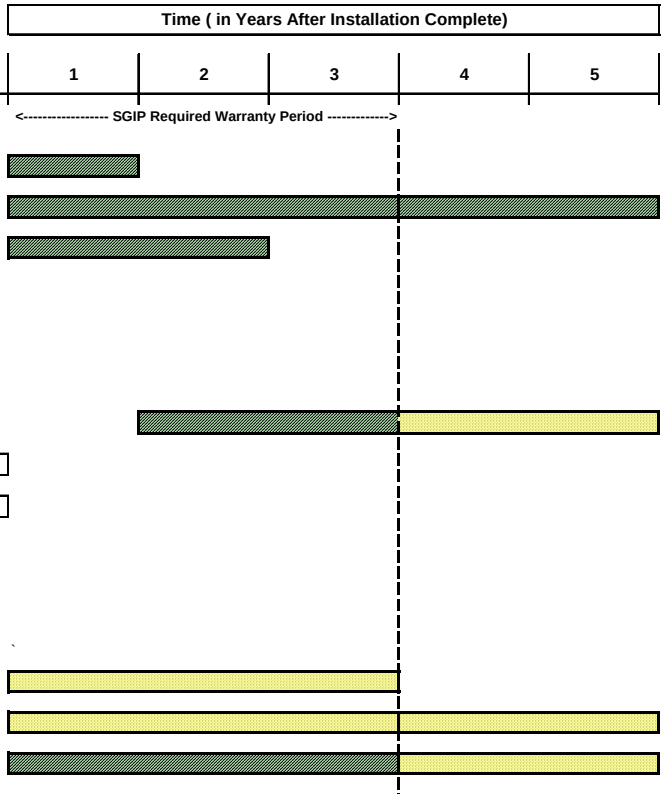
APPENDIX A

LEVEL 3-N/3-R WARRANTY/MAINTENANCE ILLUSTRATION

This illustration is relevant for 3-N and 3-R systems. For 3-R the fuel clean-up skid must be included in the warranty of the system.

Level 3 System Illustration

Item Description / Component	Coverage (Years)	Upfront Cost	Additional On-Going Cost	SGIP Eligible Cost Calculation
#1 Standard Equipment Warranty:				
a. Engine Driver	1	Incl	None	100% Eligible Cost
b. Generator	5	Incl	None	100% Eligible Cost
c. Cogeneration System	2	Incl	None	100% Eligible Cost
#2 Extended Warranty:				
a. Engine Driver	4	$150,000	None	2/4 x $150,000
b. Generator	**Not Required**			
c. Cogeneration System	**Not Available**			
#3 Maintenance Contract:				
a. Engine Driver	3	$100,000	$6.50/hr	Ineligible Cost
b. Generator	5	$25,000	$0.25/hr	Ineligible Cost
c. Cogeneration System	5	$25,000	$0.01/hr	3/5 x $25,000



***** IF the standard equipment warranty for any major system component is of insufficient duration to meet the three year minimum requirement, the customer must purchase, if one is available, an extended warranty to bridge the gap before resorting to a maintenance contract to satisfy the warranty requirement.***

****** IF a customer can show that a standard and/or extended warranty combination is unavailable for a major component to meet the three year minimum warranty requirement, the purchase of anappropriate maintenace contract will be considered an eligible cost for the entire period purchased -- up to a maximum of three years.***

Legend:

= Eligible Cost Period (if paid for upfront).

= Ineligible Cost and Period

Footnotes:

1) Major system components requiring warranty coverage vary by technology.

2) System component costs which include standard equipment manufacturer warranties extending beyond the required minimum coverage period are considered 100% eligible. To the extent that any major systemcomponent does not have a standard warranty equal to the SGIP minimum warranty period (e.g., 3 years for Level 3), the Applicant/Host Customer must first purchase an extended warranty to "bridge" the gap which exists, and if one can be shown not to exist, an appropriate maintenance contract

3) Cogeneration system, for the purposes of computing eligible warranty and maintenance costs, is defined as the primary heat exchanger and associated piping only.

APPENDIX B

ELIGIBLE PROJECT COST ITEMS FOR LEVEL 1 PV SYSTEMS

Energy Generating Equipment	**PV Mounting Systems**	**Electrical Balance of Systems**	**Labor**
• PV modules • PV material	• Fasteners – mechanical hardware, adhesive • Foundation • Free standing support structures/racks/poles • Ballast • Sealant • Tracker assembly • Mounting surface- single-ply membrane, metal roof panels • Module framing[24], mullion[25]	• Inverters • Wiring/conduit • Disconnects/junction boxes	• Labor directly associated with the photovoltaic installation.

[24] Module framing does not include building structural support members such as but not limited to roof frames, joists, beams, and columns.

[25] Mullion is defined by Merriam Webster as "a slender vertical member that forms a division between units of a window, door, or screen or is used decoratively."

APPENDIX C

DESCRIPTION OF TOTAL ELIGIBLE PROJECT COSTS

The following costs may be included in total eligible project cost:

1. Self-generation equipment capital cost
2. Engineering and design costs
3. Construction and installation costs. For projects in which the generation equipment is part of a larger project, only the construction and installation costs directly associated with the installation of the energy generating equipment are eligible.
4. Engineering feasibility study costs
5. Interconnection costs, including:
    a. Electric grid interconnection application fees
    b. Metering costs associated with interconnection
6. Environmental and building permitting costs
7. Warranty and/or maintenance contract costs associated with eligible project cost equipment (See 2.6.2 for full explanation of eligible costs)
8. Gas line installation costs, limited to the following:
    a. Costs associated with installing a natural gas line on the customer's Site that connects the serving gas meter or customer's natural gas infrastructure to the distributed generation unit(s).[26]
    b. Customer's cost for an additional (second) gas service to serve the distributed generation unit if this represents a lower cost than tying to the existing meter or gas service.
    c. Customer's cost for any evaluation, planning, design, and engineering costs related to enhancing/replacing the existing gas service specifically required to serve the distributed generation unit.
9. Sales tax and use tax
10. On-site system measurement, monitoring and data acquisition equipment.

[26] In many cases, the Utility requires a separate, Utility owned gas meter, dedicated to the generator to qualify for a generation gas rate schedule. In that case, costs associated with installing a separate gas meter that are in excess of those covered under the applicable gas rules may be included as an Eligible Project Cost.

11. Air emission control equipment capital cost
12. Primary heat recovery equipment, i.e. heat recovery equipment directly connected to the generation system whose sole purpose is to collect the waste heat produced by the power plant. For example, a heat exchanger or heat recovery boiler (a.k.a., heat recovery steam generator, or HRSG) used to capture heat from a gas turbine is an eligible cost
13. Heat recovery piping and controls necessary to interconnect the generating equipment to either the Primary Heat Recovery Equipment or the heat recovery piping and controls within the space primarily occupied by the generator partitioned by a fence or wall, whichever cost is less. If there is no identifiable Primary Heat Recovery Equipment and no identifiable space primarily occupied by the generator, eligible heat recovery piping and control costs shall be limited to the generator skid.
14. Projects that are Level 1 fuel cell or Level 3-R, may claim the cost associated with securing a bond to certify use of renewable fuel, described in the SGIP Contract, as eligible costs.
15. For Level 1 fuel cells and Level 3-R technologies only, the cost of equipment to remove moisture and other undesirable constituents from renewable fuels that would damage the generation equipment. Such equipment includes but is not limited to “gas skids”, dryers/moisture removal and siloxane removal towers.
16. For Level 1 PV applications only, customers may claim certain mounting surface costs as eligible project costs. Costs may include mounting surfaces for the photovoltaic module and/or the materials that provide the primary support for the modules. Only the percentage of mounting surface directly under the photovoltaic module is eligible. See Appendix B for more information.
17. Cost of capital included in the system price by the vendor, contractor or subcontractor (the entity which sells the system) is eligible if paid by the System Owner.

APPENDIX D

CONVERSION OF EMISSIONS PPM TO LB/MWH

Procedure for Converting Emission Data to lb/MW-hr

Engines

Engine emission standards are typically expressed in terms of ppmv or in grams/brake horsepower-hour. Given below are factors to convert from ppm to grams/brake horsepower-hour and from grams/brakehorsepower-hour to pound/megawatt hour.

The resulting answers will be approximate values since various default assumptions were used to develop natural gas default factors. The efficiency of the engine has the greatest affect on the concentration (ppmvd) to mass emission rate conversion (g/bhp-hr), which can vary from 20 to 40 percent. In the calculations below, the efficiency is proportional to the engine brake specific fuel consumption.

PPM to GM/Bhp-hr

$$\text{Concentration in exhaust by volume (dry) (ppmvd)} = \frac{\text{volume of pollutant (Vp)}}{\text{volume of exhaust (Ve)}} \times 10^6$$

Vp = emission factor (g/bhp-hr) x horsepower x (1/molecular weight) x molar volume x conversion factors

Ve = F-factor for exhaust volume x excess air correction x engine brake specific fuel consumption x horsepower x conversion factors

These factors can be reduced to: ppmvd = (gm/Bhp-hr) * factor

Reciprocating Engines, natural gas fueled

Pollutant	Factor
NOx	57-59
VOC	163-170
CO	93-97

Values taken from California Air Pollution Control Officers Association (CAPCOA) report: Portable Equipment Rule Piston IC Engine Technical Reference Document, 1995.

Source: California Air Resources Board, Guidance for the Permitting of Electric Generation Technologies, Appendix C: Procedure for Converting Emission Data to lb/MW-hr, July 2002.

Lean-burn Engines, natural gas fueled

Pollutant	Factor
NOx	80
VOC	212
CO	123

Factors provided from Waukesha

GM/Bhp-hr to Lb/MW-hr

Gm/Bhp-hr x 3.07 = lb/MW-hr

- Includes 95% factor for generator efficiency
- Conversion factors for grams to pounds and brake horsepower to watts

Gas Turbines

lb/MW-hr = (emission rate [lb/MMBtu]) x (3.413 [MMBtu/MWh]) / (efficiency)

2.5 ppmvd = 0.0093 lb/MMBtu for NOx
2 ppmvd = 0.0027 lb/MMBtu for VOC
5 ppmvd = 0.013 lb/MMBtu for CO

efficiency for central station power plant is 50%