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# California Solar Initiative Program

## Handbook

With SB1/CSI Draft Decision noted

December 19, 2006

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# 1. Introduction: California Solar Initiative Program

The California Solar Initiative (CSI) Program Handbook is designed to describe the requirements for receiving funding for the installation and operation of solar photovoltaic (PV) projects. As authorized by the California Public Utilities Commission (CPUC or Commission) and Senate Bill 1 (SB 1), the CSI program has a total budget of \$2.167 billion to be used over 10 years.<sup>1, 2</sup>

Beginning on January 1, 2007, the CSI program will pay performance-based incentives (PBI) for solar projects equal to or greater than 100 kilowatts (kW<sup>3</sup>), with monthly payments based on recorded kW hours (kWh) of solar power produced over a 5-year period. These PBI will be a flat per-kWh payment for PV system output. The CSI program will pay incentives to solar projects less than 100 kW through an up-front incentive, known as an expected performance-based buydown (EPBB). EPBB is based on an estimate of the system's future performance. These expected-performance incentives combine the benefits of rewarding performance of the PV system with the administrative simplicity of a one-time incentive paid at the time of project installation.

The solar project's Site must be within the service territory of and receive retail level electric service from Pacific Gas and Electric (PG&E), Southern California Edison (SCE), or San Diego Gas & Electric (SDG&E). Municipal electric utility customers are not eligible to receive incentives from the designated Program Administrators.

Responsibility for administration of the CSI program is shared by the following three Program Administrators:

- PG&E—PG&E customers
- SCE—SCE customers
- San Diego Regional Energy Office (SDREO)—SDG&E customers.

Other notable CSI program features include:

- A statewide on-line application process and database
- An open process to draft initial and future CSI Program Handbooks
- A CSI Program Forum to provide a process for stakeholder involvement in the on-going implementation of the CSI program.

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<sup>1</sup> CPUC Decision 06-08-028, August 24, 2006.

<sup>2</sup> California Senate Bill 1 (SB 1), signed into law August 21, 2006. The incentive levels, timelines, total funds, and/or other implementation details reflected in this document may change, pending the outcome of the CPUC's resolution of differences between SB 1 and D.06-08-028.

<sup>3</sup> Throughout this Handbook, the use of kW refers to the CEC-AC wattage ratings of kW alternating current inverter output.

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## 1.1 Program Background

In Decision (D.) 06-01-024, the CPUC, in collaboration with the California Energy Commission (Energy Commission), established the California Solar Initiative program, an ambitious incentive program with the goal of ensuring that 3,000 MW of new solar facilities are installed in homes and businesses in California by 2017.<sup>4</sup> In D.06-08-028, the CPUC established implementation details for the CSI program, particularly the adoption of the PBI incentive structure. On August 21, 2006, the Governor signed SB 1, which directs the CPUC and the Energy Commission to implement the CSI program consistent with specific requirements and budget limits set forth in the legislation. The CPUC has a rulemaking in progress to reconcile its decisions with SB1. The CPUC is working with Program Administrators and Parties to revise some handbook sections in order to agree with the CPUC Commissioners' approved Decision on December, 14, 2006. (NOTE: The final handbook will describe the SB1/CSI Draft Decision.)

## 1.2 CSI Program Budget

This section provides an overview of the CSI program budget as authorized by the CPUC and reviews the megawatt (MW) targets for the program.

The CSI program budget for each Program Administrator is as shown in Table 1.

**Table 1**  
**CSI Program Budget by Program Administrator**

NOTE: The SB1/CSI Draft Decision changes these numbers)

Utility	% of Total Budget	Budget (in millions)
PG&E	48%	\$ 1,039
SCE	37%	\$ 801
SDG&E/SDREO <sup>5</sup>	15%	\$ 325
Total	100%	\$ 2,165

All customer segments are eligible for the CSI program. Table 2 demonstrates the MW expected to be accounted for by customer segments in the CSI program.

**Table 2**  
**CSI MW Allocations by Customer Sector**

Customer Sector	MW	Percent
Residential	577.50	33%
Non-Residential	1172.50	67%
Total	1,750.00	100%

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<sup>4</sup> The Energy Commission collaborated with the CPUC in the creation of CSI by this Commission order.

<sup>5</sup> SDREO is administering the program on behalf of SDG&E.

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### 1.2.1 Special Funding for Affordable Housing Projects

The CPUC has allocated 10 percent of the overall CSI program budget, or \$216 million, to affordable housing/low-income projects. More details will become available through Phase II of the CSI proceeding at the CPUC.

## 1.3 MW Targets and Step Triggers for CSI Program

The incentive levels for the CSI program will be automatically reduced over the duration of the program based on the volume of MW of solar reservations issued. Projects are counted toward the MW trigger once they are deemed eligible, have paid an application fee (if applicable), and have received a confirmed reservation. The solar incentive levels may vary by Program Administrator service territory, depending on the pace of solar demand. Additionally, incentive levels may differ for residential and Non-Residential customer sectors based on the demand for those customer segments. Table 3 displays the MW targets by Program Administrator service territory and customer class.

**Table 3**  
**CSI MW Targets by Utility and Customer Class**

**NOTE: The SB1/CSI Draft Decision changes these numbers**

Step	MW in Step	PG&E (MW)		SCE (MW)		SDG&E/SDREO (MW)	
		Res	Non-Res	Res	Non-Res	Res	Non-Res
1	50	-	-	-	-	-	-
2	70	11.1	22.5	8.5	17.4	3.5	7.0
3	100	15.8	32.2	12.2	24.8	5.0	10.1
4	130	20.6	41.8	15.9	32.2	6.4	13.1
5	160	25.3	51.5	19.5	39.7	7.9	16.1
6	190	30.1	61.1	23.2	47.1	9.4	19.1
7	215	34.1	69.1	26.3	53.3	10.6	21.6
8	250	39.6	80.4	30.5	62.0	12.4	25.1
9	285	45.1	91.7	34.8	70.7	14.1	28.6
10	350	55.4	112.6	42.7	86.8	17.3	35.2
<b>Total</b>	<b>1800</b>	<b>277.1</b>	<b>562.9</b>	<b>213.6</b>	<b>434.0</b>	<b>86.6</b>	<b>175.9</b>
<b>Total by Utility</b>		840.0		647.6		262.5	
<b>Percent</b>		48%		37%		15%	

## 1.4 Incentive Structure

The program will offer two types of incentives: EPBB and PBI. The EPBB incentives will be paid based on verified characteristics such as location, system size, shading, and orientation. The

PBI incentive will be a flat cents-per-kWh payment for all output from a solar system over its initial 5 years. The incentive payment levels will automatically be reduced over the duration of the CSI program in 10 steps, based on the volume of MW of solar reservations issued. The EPBB and PBI levels are directly tied to the 10 MW steps as outlined in Table 4.<sup>6</sup>

**Table 4**  
**PBI and EPBB Payment Amounts by Step**

MW Step	Statewide MW in Step	EBPP Payments (per watt)			PBI Payments (per kWh)		
		Residential	Commercial	Gov't/ Nonprofit	Residential	Commercial	Gov't/ Nonprofit
1	50 <sup>7</sup>	n/a	n/a	n/a	n/a	n/a	n/a
2	70	\$ 2.50	\$ 2.50	\$ 3.25	\$ 0.39	\$ 0.39	\$ 0.50
3	100	\$ 2.20	\$ 2.20	\$ 2.95	\$ 0.34	\$ 0.34	\$ 0.46
4	130	\$ 1.90	\$ 1.90	\$ 2.65	\$ 0.26	\$ 0.26	\$ 0.37
5	160	\$ 1.55	\$ 1.55	\$ 2.30	\$ 0.22	\$ 0.22	\$ 0.32
6	190	\$ 1.10	\$ 1.10	\$ 1.85	\$ 0.15	\$ 0.15	\$ 0.26
7	215	\$ 0.65	\$ 0.65	\$ 1.40	\$ 0.09	\$ 0.09	\$ 0.19
8	250	\$ 0.35	\$ 0.35	\$ 1.10	\$ 0.05	\$ 0.05	\$ 0.15
9	285	\$ 0.25	\$ 0.25	\$ 0.90	\$ 0.03	\$ 0.03	\$ 0.12
10	350	\$ 0.20	\$ 0.20	\$ 0.70	\$ 0.03	\$ 0.03	\$ 0.10

As of January 1, 2007, incentives for residential, commercial, Government and Non-Profit entities will be set at Step 2 levels under the CSI program. For the purpose of the CSI program, commercial sectors include agricultural and industrial customers.

Pending a CPUC decision, mixed-use property (properties with both commercial and residential units) may be eligible for the CSI program.

### 1.4.1 Expected Performance Based Buydown (EPBB) Incentives

The EPBB pays a one-time up-front incentive (\$/W) based on a system's estimated future performance. The Program Administrators will use the Energy Commission's CEC-AC method to determine the system's capacity rating. The system rating will be multiplied by a design factor that will consider certain factors (i.e., location, orientation, and shading) that have an influence on system performance.

<sup>6</sup> The Commission is currently assessing whether the MW-based reduction plan in D.06.08.028 complies with SB 1 or whether it must adopt annual incentive reductions.

<sup>7</sup> The first 50 MW are allocated under the 2006 Self-Generation Incentive Program (SGIP) and are not pro-rated by customer class or service territory. In 2006, most residential systems participated in the Energy Commission's Emerging Renewables Program (ERP).

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#### **1.4.1.1 EPBB for New Construction (Note: SB1/CSI Draft Decision would delete this exemption from PBI for new construction)**

All Non-Residential new construction projects will be paid EPBB incentives. Residential new construction projects will be funded through the New Solar Homes Partnership (NSHP) administered by the Energy Commission. Again, pending a CPUC decision, new construction projects for mixed-use property (properties with both commercial and residential units) may be eligible for the CSI program.

#### **1.4.2 Performance Based Incentives (PBI)**

The CSI program will apply a PBI structure to all systems equal to or greater than 100 kW beginning on January 1, 2007, although any other size system may also opt into the PBI structure. Beginning in January 2010, systems equal to or greater than 30 kW will be on a PBI incentive structure. (NOTE: SB1/CSI Draft Decision would add the PBI requirement for systems equal to or greater than 50 kW for 2008)

The PBI payments will be made over a 5-year period following system installation, submission, and approval of incentive claim materials. Payments will be made on a monthly basis. These payments will be based on the per-kWh incentive rate and the actual energy (kWh) produced in that time period.

The Program Administrator for each utility shall estimate the total 5-year PBI payments for completed projects and deposit this amount in an interest-bearing balancing account to ensure fund security over the period of the expected PBI payments.

##### **1.4.2.1 PBI for Building Integrated Photovoltaic (BIPV) Systems on New Construction, Non-Residential Projects**

For projects that have installed building integrated PV systems (BIPV), even those on new construction projects, the CPUC requires the CSI incentives to be paid through a PBI structure.

### **1.5 CSI Program Forum**

CPUC D. 06-08-028 directed that a CSI Program Forum should “provide a public venue for interested parties to identify and discuss ongoing issues related to CSI administration and implementation.” The Forum will be used to explore needed updates to this Handbook, as well as substantive program modifications that should be considered, including incentives for non-PV solar projects and energy efficiency requirements. Forum meetings will provide the opportunity for CSI stakeholders to develop consensus-based revisions to the CSI Program Handbook and to the CSI program itself. Beginning in the first quarter of 2007, the Program Administrators and the CPUC Energy Division will convene, facilitate, and develop the agenda for regular public meetings of the Forum. It is anticipated that the meetings will be held at least quarterly, with more frequent meetings as needed during the initial phase of implementing the program.

If the Forum results in consensus on revisions to the CSI Program Handbook, the CPUC has invited the Forum to designate one of its members to file a proposed Handbook revision by

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Advice Letter with the Energy Division. If the group achieves consensus for more substantive program modifications that go beyond the level of the Program Handbook, the Forum may designate a member to file a petition to modify a Commission order relating to the CSI program.<sup>8</sup>

## **1.6 Transition Issues Related to the Emerging Renewables Program and Self Generation Incentive Programs**

### **1.6.1 New Solar Homes Partnership (NSHP)**

The Energy Commission will administer the NSHP program that will offer financial incentives for solar PV systems installed on new homes. Information regarding the NSHP program can be found on the Energy Commission's website: [www.GoSolarCalifornia.ca.gov](http://www.GoSolarCalifornia.ca.gov).

### **1.6.2 Emerging Renewables Program (ERP)**

The Energy Commission administered the ERP to provide consumers with financial incentives to install renewable energy systems on their property. The ERP provided incentives for the eligible renewable generating technologies.

As of January 1, 2007, the CSI program and the NSHP will replace the ERP program to offer monetary incentives for solar PV systems under 1 MW. The ERP will remain in effect to provide financial incentives for qualifying non-PV self-generation equipment.

ERP applications received by the Energy Commission prior to December 31, 2006 will remain under the oversight of the Energy Commission's ERP program, regardless of whether the project will be completed after January 1, 2007. Current ERP applicants with reservations for PV systems may opt to withdraw their ERP program application and apply for the CSI program or NSHP program after January 1, 2007, provided that the project meets the eligibility requirements of the respective programs. Rules governing the withdrawal or cancellation of the ERP project will apply.

### **1.6.3 Self-Generation Incentive Program (SGIP)**

The Self-Generation Incentive Program (SGIP) provides 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 ERP by providing incentive funding to larger renewable and nonrenewable self-generation units up to the first 1 MW in capacity.

As of January 1, 2007, the CSI program and the NSHP will replace the SGIP to offer monetary incentives for solar PV systems under 1 MW that displace electricity. The SGIP will remain in effect to provide financial incentives for qualifying non-PV self-generation equipment. **(NOTE: There could be an additional discussion of gas-displacing projects from the SB1/CSI Draft Decision)**

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<sup>8</sup> The CSI Program Forum is described in detail on pages 65-67 of D. 06-08-028.



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SGIP applications received prior to December 31, 2006 will remain under the oversight of the SGIP Program Administrators, regardless of whether the project will be completed after January 1, 2007, provided that all program requirements and guidelines are met. Current SGIP applicants with reservations for PV systems may opt to withdraw their program application and apply for either the CSI program or NSHP program after January 1, 2007, provided that the project meets the eligibility requirements of the respective programs. Rules governing the withdrawal or cancellation of the SGIP project will apply.

Pending a CPUC decision, applicants who have 1 MW of solar approved through the SGIP program may be eligible for an additional 1 MW under the CSI program. Additionally, pending CPUC approval, the CSI program may accept applications up to 5 MW with incentives being paid only on the first MW installed under the program. (NOTE: the Draft Decision would change this paragraph from “may” to “will.”)

## 1.7 Future Program Modifications

Future CSI program features could include non-PV solar projects and energy efficiency requirements. The following modifications to the CSI program are also anticipated:

- PBI will be applied to all systems over 30 kW beginning in 2010.
- The default capacity factor will increase from 18 to 20 percent, beginning with Step 4 of the Incentive Adjustment Mechanism.
- Time-differentiated PBI may be investigated for later stages of the program.
- On or before January 1, 2008, the warranty requirements will be increased to a minimum of 5 years for meters.
- (NOTE: THE SB1/CSI Decision contains information on the treatment of non-PV systems)

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## 2. Program Eligibility Criteria and Requirements

The California Solar Initiative (CSI) program offers monetary incentives for systems up to the first 1,000 kW (1 MW) of alternating current generated by an eligible solar energy system. To qualify for incentives, all CSI program eligibility criteria must be satisfied. The effective dates for the CSI program are January 1, 2007 through December 31, 2016 or until the CSI program budget has been fully reserved for each Program Administrator. Program Administrators will begin to accept applications to the CSI program on January 1, 2007.

### 2.1 The Participants in the CSI Program

Any retail electric distribution customer of Pacific Gas and Electric (PG&E), Southern California Edison (SCE) or San Diego Gas & Electric (SDG&E) is eligible to install a solar project and receive incentives from the CSI program. Within the nomenclature of the CSI program, the person who applies for an incentive will be referred to as an Applicant, a Host Customer, and/or a System Owner.

#### 2.1.1 Host Customer

Any retail electric distribution customer of PG&E, SCE or SDG&E is eligible to install a solar project and receive incentives from the CSI program and can, therefore, be a Host Customer.

The Host Customer must be the utility customer of record at the location where the generating equipment will be located. Any class of customer (industrial, agricultural, commercial, or residential) is eligible to be a Host Customer. The project's Site must be within the service territory of, and receive retail level electric service<sup>9</sup> from, PG&E, SCE, or SDG&E. Municipal electric utility customers are not eligible to receive incentives from the designated Program Administrators.

The Host Customer becomes the incentive reservation holder. The Host Customer may act as the Applicant and/or System Owner. The Host Customer alone will retain sole rights to the incentive reservation and corresponding incentive reservation number. A reservation for a specific Site is not transferable. The Host Customer has the right to designate the Applicant, energy services provider, and/or system installer to act on their behalf. However, the Host Customer shall be party to the CSI program contract.

To be eligible for an incentive, the Host Customer or Applicant must receive a confirmed reservation notice letter from the Program Administrator prior to the Applicant receiving final interconnection authorization from their utility to operate the project in parallel with the grid. If a project cancels due to not meeting the reservation period, they must reapply to the CSI program prior to receiving a final interconnection authorization from their utility to operate the project in parallel with the grid.

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<sup>9</sup> "...retail level electric service..." means that the Host Customer pays for and receives distribution services, as defined by their respective utility rate schedule.

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The following are *not* eligible for incentives under the CSI program:

- Customers who have entered into utility 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 third-party ownership arrangements, i.e., 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 CSI program. Customers must agree to maintain the firm service level at or above capacity of the proposed solar system for the duration of the required applicable warranty period (see Section 2.5). 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.
- Publicly owned or investor-owned gas, electricity distribution utilities or any electrical corporation (ref. Public Utility Code 218) that generates or purchases electricity or natural gas for wholesale or retail sales.
- Residential new construction systems are not eligible for the CSI program and should apply to the California Energy Commission's New Solar Homes Partnership Program.

### **2.1.2 System Owner**

The System Owner is the owner of the generating equipment at the time the incentive is paid. For example, when a vendor sells a turnkey system to a Host Customer, the Host Customer is the System Owner. In the case of a third-party-owned system (or leased system, for example), the third party (or lessor) is the System Owner.

The System Owner should be designated on the Reservation Request Form, if known at that time, and on the Incentive Claim Form. If different from the Host Customer, the System Owner shall also be a party to the CSI program contract. The Program Administrator may require documentation substantiating equipment ownership.

### **2.1.3 Applicant**

The Applicant is the entity that completes and submits the CSI program application and serves as the main contact person for the CSI Program Administrator throughout the application process. Host Customers may act as the Applicant or they may designate a third party to act as the Applicant on their behalf. Applicants may be third parties (e.g., a party other than the

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Program Administrator or the utility customer) such as, but not limited to, engineering firms, installation contractors, equipment distributors, energy service companies (ESCO) and equipment lessors.

#### **2.1.4 Installer**

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 (CSLB). Installation contractors must have an active A, B, or C-10 license, or a C-46 license for photovoltaic (PV) systems.

Although not required, installation contractors are encouraged to become certified by the North American Board of Certified Energy Practitioners (NABCEP). For additional information on NABCEP, go to [www.nabcep.org](http://www.nabcep.org).

In all cases, systems must be installed in conformance with the manufacturers' specifications and with all applicable electrical and building codes and standards.

To participate in the CSI program, eligible companies that install system equipment must be listed with the Program Administrator. The Program Administrator will request the following information:

- Business name, address, phone, fax, and e-mail address
- Owner or principal contact
- Business license number
- Contractor license number (if applicable)
- Proof of good standing on the records of the California Secretary of State, as required for corporate and limited liability entities
- Reseller's license number (if applicable)

This information must be submitted to the Program Administrator before a company can become eligible to participate in the CSI program. To remain eligible, a company must resubmit this information annually by March 31. This annual submittal is required even if the information identified in the company's prior submittal has not changed. In addition, a company must submit updated information any time its reported information has changed. The updated information must be submitted to the Program Administrator within 30 days of the change of any reported information.

The above information must be listed before the Applicant can receive any reservation confirmation or payment. The Program Administrator will compile the information and make it available to consumers to assist them in making purchase decisions and taking any remedial action on their systems. Information about listed installers is posted on the Program Administrator's websites.

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## 2.1.5 Equipment Sellers

To participate in the CSI program, companies that sell system equipment must be certified by the Energy Commission. The Energy Commission requests the following information on their form CEC-1038 R4:

- Business name, address, phone, fax, and e-mail address
- Owner or principal contact
- Business license number
- Contractor license number (if applicable)
- Proof of good standing on the records of the California Secretary of State, as required for corporate and limited liability entities
- Reseller's license number

This information must be submitted to the Energy Commission before a company can become eligible to participate in the CSI program. To remain eligible, a company must resubmit this information annually by March 31. This annual submittal is required even if the information identified in the company's prior submittal has not changed. In addition, a company must submit updated information any time its reported information has changed. The updated information must be submitted to the Program Administrator within 30 days of the change of any reported information.

The above information must be certified before the applicant can receive any reservation confirmation or payment. The Energy Commission will compile the information and make it available to consumers to assist them in making purchase decisions and taking any remedial action on their systems. Information about registered equipment sellers is posted on the Energy Commission's website, [www.energy.ca.gov](http://www.energy.ca.gov).

## 2.2 Generator System Equipment Eligibility

Currently, only PV systems (i.e., systems that cause direct conversion of sunlight to electricity) are eligible to receive incentives from the CSI program. Details of the eligibility requirements for generation system equipment follow. (NOTE: the SB1/CSI Draft Decision addresses non-PV systems.)

### 2.2.1 New Equipment, Not Pilot or Demonstration Systems

All major system components (panels and inverters) must be new and must not have been previously placed in service in any other location or for any other application. Rebuilt, refurbished, or relocated equipment is not eligible to receive CSI program incentives, save in rare relocation exceptions (see Sections 2.5 and 2.9).

Components that are critical to the PV systems must have at least 1 year of documented commercial availability to be eligible. Commercially available means that the major solar system components are acquired through conventional procurement channels, installed and operational at a Site. Commercially available does not include field demonstrations for proof-of-concept

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operation of experimental or non-conventional systems partially or completely paid for by research and development funds. Components that are enhancements to existing products and new models of existing product lines do not have to meet the commercial availability requirement as long as they are UL-certified and performance data exists to allow the Program Administrators to estimate their expected performance.

An alternative method of seeking eligibility for solar systems that use new technologies is to obtain certification from a nationally recognized testing laboratory indicating that the technology meets the safety and/or performance requirements of a nationally recognized standard. System component ratings must also be certified by the CEC as described in section 2.2.4.

As an exception, the Applicant may specify equipment that has not yet received CEC certification, but the equipment must be certified prior to the first incentive payment.

## **2.2.2 Eligibility of Replacement PV Systems**

Any replacement solar systems must meet the criteria for new systems and are eligible for the CSI program only if the removed system did not previously receive an incentive through the CSI program, the Self-Generating Incentive Program, the Energy Commission's Emerging Renewables Program, or Rebuild a Greener San Diego Photovoltaic Incentive Program.

## **2.2.3 Equipment Must Serve On-Site Electrical Load**

To be eligible, the system must be sized so that the amount of electricity produced by the system primarily offsets part or all of the customer's electrical needs at the Site of installation. The expected production of electricity by the system may not exceed the actual energy consumed during the previous 12 months at the Site, as calculated per the following formula:

$$\text{Maximum System Capacity (kW)} = \frac{\text{12-months previous energy usage (kWh)}}{(0.18 \times 8760 \text{ hours/year})}$$

The Applicant must show evidence of the system sizing with the submittal of the initial application.

## **2.2.4 Equipment Certifications and Rating Criteria**

System components must be certified through the Energy Commission's program that certifies major components of PV systems and provides lists of eligible equipment. The list of the currently certified equipment is available through:

- The California Energy Commission: [www.energy.ca.gov](http://www.energy.ca.gov)
- California Energy Commission Call Center: (800) 555-7794.

The Program Administrators will confirm that equipment identified in a reservation application meets eligibility requirements prior to providing a confirmed reservation notice letter. As described in Section 2.2.1, one exception would be for new equipment that has not yet received

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certification but for which the process has been initiated. Equipment is periodically added and removed from the lists of eligible equipment so Applicants should confirm that the components purchased for a system are eligible prior to installing them.

The Energy Commission certifies modules, inverters, and system performance meters. The system must be interconnected to the grid. Inverters and modules must each carry a 10-year warranty, and meters a one-year warranty, in 2007. Eligibility requirements for components are summarized below:

- PV modules must be certified to UL 1703 by a nationally recognized testing laboratory (NRTL).
- Performance meters must measure kWh (or Watt hours) with a manufacturer's uncertainty of  $\pm 2$  or  $\pm 5$  percent (depending on rating size and incentive), retain data in the event of a power outage, and be easy to read for the customer's benefit. See Section 11.1.2.
- Inverters must be certified to UL 1741 by a NRTL. They also must have completed the Energy Commission's required weighted efficiency testing.

## 2.2.5 System Size

The minimum system size eligible for an incentive is 1 kW. While systems sizes up to 5 MW are eligible to participate in the program, the maximum incentive provided under the CSI program is based on a system size no greater than 1 MW. The system size must be calculated using the CEC-AC rating standards,<sup>10</sup> including inverter DC-to-AC losses and a design factor. To calculate the CEC-AC rating, the following formula should be used:

$$\text{System Size (kilowatts)} = \text{Quantity} \times \text{CEC Rating of Photovoltaic Modules} \times \text{CEC Inverter Efficiency Rating} / 1000 \text{ (watts/kilowatt)}$$

Pending CPUC approval, the maximum incentive provided for a Host Customer Site under the CSI program is 1,000 kW (1 MW); however, a Host Customer Site may elect to install up to 5 MW of generation.<sup>11</sup> (NOTE: The SB1/CSI Draft Decision would remove the "Pending CPUC approval" from the first sentence.) If an Applicant has already received 1 MW of funding from another solar incentive program (such as the SGIP or ERP), they can apply for up to another 1 MW under the CSI program as long as they can demonstrate that the electricity produced by the combined system sizes do not exceed the actual energy consumed during the previous 12 months at the Site, based on the formula provided in Section 2.2.3.

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<sup>10</sup> The CEC-AC rating standards are based upon 1,000 Watt/m<sup>2</sup> solar irradiance, 20 °Celsius ambient temperature, and 1 meter/second wind speed. The CEC-AC Watt rating is lower than the Standard Test Conditions (STC), a Watt rating used by manufacturers.

<sup>11</sup> Because the CSI Program and statutes only allow for customers to receive incentives up to the first MW, PBI payments for energy output on systems larger than 1 MW will be prorated based on the ratio of 1 MW to the entire size of the facility. See Section 3.3 for further detail.

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### **2.2.5.1 System Sizing Based on Future Load Growth**

In the case of Applicants with new or expanded facilities where no electric bill or where the existing electric bill does not reflect the Applicant's expected expanded consumption, the Applicant must include an engineering estimate. The engineering estimate must include the appropriate substantiation of the forecast of the Host Customer Site's annual energy use (in kWh) 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 verify the load growth predicted before moving forward with the Confirmed Reservation Notice.

## **2.3 Energy Efficiency Requirements**

(NOTE: the SB1/CSI Draft Decision addresses the requirement for an energy efficiency audit, who could perform it, and exceptions to the audit requirement. Clarifying text will be available soon in this Handbook.)

## **2.4 Warranty Requirements**

In 2007, all systems must have a minimum 10-year warranty provided in combination by the manufacturer and installer to protect the purchaser against system or component breakdown. Warranties must cover the solar generating system only, including PV modules (panels), inverters, and meters, and provide for no-cost repair or replacement of the system or system components, including any associated labor during the warranty period. The warranty must cover the major components of the solar system (PV modules and inverters) against breakdown or degradation in electrical output of more than 15 percent from their originally rated electrical output during the 10-year period.

Self-installed systems must have a minimum 10-year warranty on the equipment to be installed to protect the purchaser against breakdown or electrical output degradation of major system components. In this case, the warranty need not cover the labor costs associated with removing or replacing major components because any repairs would be done by the self-installer or at the self-installer's expense.

For the 2007 program year, meters must have a one-year warranty. On or before January 1, 2008, the warranty requirements will be increased to a minimum of 5 years for meters, unless the CEC establishes alternate requirements.

## **2.5 Performance and Permanency Requirements**

Equipment installed under the CSI program 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



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PV 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 in accordance with industry practice for permanently installed equipment. Equipment must be secured to a permanent surface. 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.

In rare occasions, there may be extenuating circumstances that warrant equipment relocation. The Program Administrators will use their discretion whether to allow the relocation to continue to receive program incentives.

Contractual permanence, corresponding to a time period of 10 years, is to be demonstrated as follows:

- 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 milestones stage or the incentive-claim stage at the latest). These agreements include, but are not limited to, system purchase and installation agreements, warranties, leases, energy or solar services agreements, energy savings guarantees, and system performance guarantees.
- The System Owner agrees to notify the Program Administrator in writing a minimum of 60 days prior to any change in either the site location of the PV system or change in ownership of the generation system if the change(s) takes place within the applicable warranty period. The warranty period for the CSI program is 10 years.
- If the PV system is removed prior to end of the warranty period, either:
  - The PV system may be installed at another site within the Program Administrator service territory within 6 months. The system installed at the alternate site would not be eligible for an additional CSI EPBB incentive; or
  - The System Owner would be unable to participate in the CSI program for any additional installations under the CSI program, including any active reservations that have not yet been paid.
- If the house or business is sold, the new owners can continue to receive the Performance-Based Incentives (PBI) and be eligible to receive future CSI program incentives if they complete a new interconnection agreement. If the sellers remove the panels, they can continue to receive the incentive payments and be eligible to receive future CSI program incentives if the panels they removed are installed within the same service territory within 6 months, and they complete an interconnection agreement at the new address. PBI recipients will receive a full five year PBI payment period, as long as they reinstall their systems within the specified timeframe.

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## 2.6 Insurance Requirements

The Program Administrators require insurance as a condition for receiving a CSI program incentive because, through the CSI program incentive, the utilities (and SDREO) become part of the customer's decision (and extended process) to install a solar energy system. Consequently, it is appropriate for the Program Administrators and the Commission to impose insurance requirements that will provide protection to those involved in the project and that limit the risk to the Program Administrator (and thus the ratepayers) who fund these projects.

### 2.6.1 Insurance Requirements for Host Customer and System Owner of Systems

All systems  $\geq 30$  kW receiving a CSI program incentive will require that the Host Customer and System Owner have the following minimum level of homeowner liability insurance or commercial general liability insurance for the term of the CSI program contract:

- \$2,000,000 for each occurrence if the system rating is greater than 100 kW
- \$1,000,000 for each occurrence if the system rating is greater than 30 kW and less than or equal to 100 kW

Non residential projects must also fulfill the following general insurance requirements:

**Workers' Compensation:** Workers' Compensation insurance or self-insurance indicating compliance with any applicable labor codes, laws or statutes, state or federal, at the Site where Host Customer or System Owner performs work.

**Business Auto:** Auto coverage shall be at least as broad as the Insurance Services Office California Business Auto Coverage Form (CA 00 01 03 06) covering Automobile Liability symbols 7, 8, and 9. Specifically described autos shall include any and all autos that will be used in connection with the project. The limit shall be not less than \$1,000,000 each accident for bodily injury and property damage.

Additional insurance requirements and terms are included in the CSI program contract.

Insurance requirements for systems  $< 30$  kW will be equivalent to what is currently required for interconnection to the utility grid.

### 2.6.2 Insurance Requirements for Installers

Installation contractors must have valid workers compensation, business auto and commercial general liability insurance. Commercial general liability insurance must be in the following amounts:

- \$1,000,000 for each occurrence and \$2,000,000 aggregate.

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- Workers compensation insurance or self-insurance indicating compliance with any applicable labor codes, laws or statutes, state or federal, where Installer performs work.
  - Auto coverage shall be at least as broad as the Insurance Services Office California Business Auto Coverage Form (CA 00 01 03 06) covering Automobile Liability symbols 7, 8, and 9. Specifically described autos shall include any and all autos that will be used in connection with the project. The limit shall be not less than \$1,000,000 each accident for bodily injury and property damage.

### **2.6.3 Insurance Requirements for Government**

The Program Administrators recognize that some Government entities are self-insured and/or have blanket coverage. The Program Administrators will accept proof of that coverage as long as the Government entity can show that they meet the level of insurance required by the CSI program.

## **2.7 Interconnection to the Electric Utility Distribution System**

Eligible renewable energy systems must be permanently interconnected to the electrical distribution grid of the utility serving the customer's electrical load. Portable systems are not eligible. The system interconnection must comply with applicable electrical codes and utility interconnection requirements.

The Host Customer, or designate, must also submit an application and enter into an interconnection agreement with their local electric utility for connection to the electrical distribution grid. Proof of interconnection and parallel operation is required prior to receiving an incentive payment.

(NOTE: The SB1/CSI Draft Decision would add a new section on the requirement for the Applicant to be on Time of Use Rates. There would also be a definition added in the Definition Section for "Time-of-Use Rates.")

## **2.8 Metering Requirements**

The CSI program requires accurate solar production meters for all projects that receive CSI program incentives. Accurate measurement of solar output is of paramount importance to ensure optimum value for both solar owners and ratepayers. For systems with a system rating of less than 10 kW, a basic meter with accuracy of  $\pm 5$  percent is required. For systems with a system rating of 10 kW and greater, an interval data meter with accuracy of  $\pm 2$  percent is required. An extensive discussion on metering is contained in Appendix B.

EPBB program participants must provide Program Administrators or their authorized agents with physical access to the meter for testing or inspection, and if applicable, data gathering. If the

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customer's meter is located in a place that is not readily accessible, such access will be by appointment. To avoid inconvenience to customers, installers are encouraged to locate meters in areas that are easily accessible.

PBI customers must provide Program Administrators or their authorized agents with physical access to the meter at all times.

## **2.9 Inspection Requirements**

It is the intent of the CSI program to provide incentives for reliable, permanent, safe systems that are professionally installed, and comply with all applicable federal, state, and local regulations. Program Administrators will conduct a system inspection visit for every system rated from 30 kW up to 100kW that have not opted to receive PBI incentive payments in order to verify that the project is installed as represented in the application, is operational, interconnected and conforms to the eligibility criteria of the CSI program. Program Administrators will perform random field inspections to verify system characteristics for systems less than 30 kW. These inspections will reflect a statistically reasonable random sample. Systems receiving a PBI may still be required to have a field inspection.

A mandatory site inspection is required for all relocated equipment. System Owners that have received an EPBB incentive and have relocated their system must orient their relocated equipment to produce at least the same generation as their initial incentive payment was based upon.

### **2.9.1 Systems that Fail Inspections**

If a system fails a field inspection, the Program Administrator will notify the Applicant, Host Customer, and System Owner with the reasons for the field inspection failure. Such reasons for failure may include but are not limited to the following:

- Material mechanical failure: A failure that results in a decline in the expected performance of the system (i.e., one or more of the system components is not operating properly).
- Immaterial mechanical failure: minor failures that can be corrected within 60 days.
- Material compliance failure: the system as verified does not match the application's stated system and/or the system does not meet the CSI program eligibility requirements (i.e., the EPBB characteristics are incorrect, the system components or number of components are incorrect, etc.).
- Immaterial compliance failure: failures that have no impact on the expected performance of the system and can be corrected within 60 days (i.e. submission of erroneous system data).

The Program Administrators will exercise their judgement in assessing the materiality of non-compliance. For either mechanical or compliance failures: If a material failure occurs due to gross negligence or intentional submission of inaccurate system information in an attempt to

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collect more incentive dollars, the responsible party will be immediately prohibited from participating in the program.

If there is a failed inspection for *mechanical* failures, the Applicant, Host Customer, and/or System Owner will have 60 calendar days to bring the system into compliance after a failed inspection. A subsequent inspection visit will be conducted to determine final approval and will be subject to a re-inspection fee. If the Applicant, Host Customer, and System Owner fail to resolve the failure within the 60 days, or the failed inspection is due to a Material Mechanical Failure, the application will be cancelled, determined to be a failed inspection, and a strike will be imposed against the Installer, Applicant, seller, or other responsible party. The field inspector and/or the Program Administrator will be authorized to identify the responsible party, based on available information obtained during the inspection and from applicable forms. However, this designation will be considered preliminary and is subject to revision upon receipt of additional information or on appeal.

If there is a failed inspection because the verified system is not in *compliance* with the stated system, the Applicant, Host Customer, and/or System Owner will have 60 calendar days to bring the system into compliance as stated on the project application. If the Applicant, Host Customer, and System Owner fail to bring the system to full eligibility within the 60 days, or the failed inspection is due to a Material Compliance Failure, the application will be cancelled, determined to be a failed inspection, and constitute a strike. The strike will be imposed on the entity that signed and submitted the erroneous information on the project application and/or subsequent incentive claim form, unless the Installer or Applicant can demonstrate that another party, such as a seller or consultant, is responsible. The field inspector and the Program Administrator will be authorized to identify the responsible party, based on available information obtained during the inspection and from applicable forms. However, this designation will be considered preliminary and is subject to revision upon receipt of additional information or on appeal.

Project Installers, Applicants, and/or sellers that fail two inspections will be on probation, wherein every project will be inspected. If the entity fails a third inspection, the entity will be disqualified from participating in the CSI program for one year, except in cases of fraud.

For high volume installers (those that install more than 200 systems per year), if the installer accumulates two strikes, the entity will be placed on probation. If no additional strikes are accumulated within the first year, their first strike is removed and they continue on probation until the second strike's probation year ends. If they acquire no additional strikes, the second strike is removed, and they will be restored to a zero-strike status. However, if they acquire an additional strike after the first strike is removed, an additional probation period begins from the last strike. If they accumulate three strikes, they will be disqualified from participating in the program for one year.

If an Installer or Applicant disputes the failed inspection or disqualification, he or she may appeal in writing within 30 days of notification of the failed inspection via US certified mail to the Program Administrator. A panel of all of the Program Administrators and a representative from the Energy Division of the California Public Utilities' Commission will review the appeal. Written appeals should substantiate any reasons he or she believes warrant reconsideration of the

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failure or disqualification. The appealing party may request an audience with the panel. The panel may also request additional information to substantiate the written appeal. The final decision will be provided to the Applicant or Installer within 60 days of receipt of the written appeal and the appeal decision of the panel shall be final.

### **2.9.2 Inspector Training Criteria**

The CPUC requires that all system inspection visits must be performed by trained personnel, whether the inspection is performed by utility interconnection inspectors, other utility personnel, or contractors. The Program Administrators will develop a site inspectors' training plan that is consistent among the Program Administrators.

### 3. California Solar Initiative Program Incentive Structure

This section provides a general overview of the California Solar Initiative (CSI) Incentive structure. The CSI program offers two types of incentives: PBI and EPBB. Table 5 provides an overview of the two incentive structures under the CSI program. For the purpose of the CSI program, commercial sectors include agricultural and industrial customers. Typically, the incentive structure is determined by the size of the system installed. However, customers installing smaller systems have the option to choose the PBI structure regardless of the size of their system.

**Table 5**  
**CSI Incentive Structures**

Type of CSI Incentive	Size Category	Payment Structure	Customers Eligible	Notes
Performance Based Incentive (PBI)	≥ 100 kW	Payments based on \$/kWh produced over 5 year term	Residential, Commercial, Government and Nonprofit	<ul style="list-style-type: none"> <li>❖ Smaller systems may Opt into PBI</li> <li>❖ PBI is required for Building Integrated PV (BIPV) Systems</li> </ul>
Expected Performance Based Buydown (EPBB)	< 100 kW	1 lump sum based on \$/watt	Residential, Commercial, Government and Nonprofit	<ul style="list-style-type: none"> <li>❖ EPBB is required for Non-Residential new construction systems, excluding BIPV.</li> <li>❖ Residential New Construction projects are funded through the Energy Commission's New Solar Homes Partnership (not CSI)</li> </ul>

Both PBI and EPBB incentives are available for residential and Non-Residential customers as displayed in Table 6.

**Table 6**  
**Type of CSI Incentive by Customer Sector**

Type of CSI Incentive	Size Category	Residential <sup>12</sup>	Commercial	Gov't and Nonprofit
Performance Based Incentive (PBI)	≥ 100 kW <sup>13</sup>	√	√	√
Expected Performance Based Buydown (EPBB)	< 100 kW	√	√	√

<sup>12</sup> Residential installations on existing structures. New residential construction projects will be funded through the Energy Commission's New Solar Homes Partnership.

<sup>13</sup> Smaller systems may opt-in to receive a PBI incentive rather than the EPBB incentive.

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## 3.1 CSI Program Incentive Trigger Mechanism

The incentive payment levels will automatically be reduced over the duration of the CSI program in 10 steps, based on the volume of MW of confirmed reservations issued within each utility service territory.<sup>14</sup> On average, the CSI incentives are projected to decline at a rate of 7 percent each year following the start of implementation in 2007. The incentives will gradually phase out over the 10 steps. The Table 7 outlines the 10 steps for the incentive levels for the CSI Program.<sup>15</sup>

**Table 7**  
**PBI and EPBB Payment Amounts by Step**

		EBPP Payments (per watt)			PBI Payments (per kWh)		
MW Step	Statewide MW in Step	Residential	Commercial	Gov't/ Nonprofit	Residential	Commercial	Gov't/ Nonprofit
1	50	n/a	n/a	n/a	n/a	n/a	n/a
2	70	\$ 2.50	\$ 2.50	\$ 3.25	\$ 0.39	\$ 0.39	\$ 0.50
3	100	\$ 2.20	\$ 2.20	\$ 2.95	\$ 0.34	\$ 0.34	\$ 0.46
4	130	\$ 1.90	\$ 1.90	\$ 2.65	\$ 0.26	\$ 0.26	\$ 0.37
5	160	\$ 1.55	\$ 1.55	\$ 2.30	\$ 0.22	\$ 0.22	\$ 0.32
6	190	\$ 1.10	\$ 1.10	\$ 1.85	\$ 0.15	\$ 0.15	\$ 0.26
7	215	\$ 0.65	\$ 0.65	\$ 1.40	\$ 0.09	\$ 0.09	\$ 0.19
8	250	\$ 0.35	\$ 0.35	\$ 1.10	\$ 0.05	\$ 0.05	\$ 0.15
9	285	\$ 0.25	\$ 0.25	\$ 0.90	\$ 0.03	\$ 0.03	\$ 0.12
10	350	\$ 0.20	\$ 0.20	\$ 0.70	\$ 0.03	\$ 0.03	\$ 0.10

The duration of that phase-out will be dependent on: (1) whether the incentive budgets are depleted; (2) when the Program Administrators reach their MW goal; or (3) by the end of the program or 2016, whichever comes first. Table 8 displays the MW targets by Program Administrator service territory and customer class.

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<sup>14</sup> Investor-owned utility service territories only (PG&E, SCE, SDG&E)

<sup>15</sup> See footnote 6



**Table 8**  
**CSI MW Targets by Utility and Customer Class**

(NOTE: The SB1/CSI Draft Decision changes these numbers)

Step	MW in Step	PG&E (MW)		SCE (MW)		SDG&E/SDREO (MW)	
		Res	Non-Res	Res	Non-Res	Res	Non-Res
1	50	-	-	-	-	-	-
2	70	11.1	22.5	8.5	17.4	3.5	7
3	100	15.8	32.2	12.2	24.8	5	10.1
4	130	20.6	41.8	15.9	32.2	6.4	13.1
5	160	25.3	51.5	19.5	39.7	7.9	16.1
6	190	30.1	61.1	23.2	47.1	9.4	19.1
7	215	34.1	69.1	26.3	53.3	10.6	21.6
8	250	39.6	80.4	30.5	62	12.4	25.1
9	285	45.1	91.7	34.8	70.7	14.1	28.6
10	350	55.4	112.6	42.7	86.8	17.3	35.2
<b>Total</b>	<b>1800</b>	<b>277.1</b>	<b>562.9</b>	<b>213.6</b>	<b>434</b>	<b>86.6</b>	<b>175.9</b>
<b>Total by Utility</b>		840		647.6		262.5	
<b>Percent</b>		48%		37%		15%	

Projects are counted toward the MW trigger once they are deemed eligible, have paid an application fee (if applicable), and have been issued a confirmed reservation. As the number of MW allocated through the confirmed reservations reaches its maximum within any particular step, the Program Administrators will move to the next step. If there are any MW that remain unused in the previous step due to events such as Applicants dropping out of the process, those MW will be added to the next step, increasing the number in that step and ensuring that no MW are left outstanding.

The CSI program incentive levels may vary by service area, depending on the pace of solar demand in each Program Administrator's territory. Additionally, the CSI program incentive levels may differ based on demand in the residential and Non-Residential customer sectors. Refer to the Program Administrator's website to determine the step and incentive rate that is currently applicable to each customer sector in that utility's service territory. The Program Administrators will include on their websites an indication of the MW of Confirmed Reservations in each customer sector that is as close as possible to real time.

## 3.2 Expected Performance Based Buydown (EPBB) Incentives

The CSI program will pay incentives to solar projects with system ratings of less than 100 kW through an up-front incentive known as an EPBB. These EPBB incentives are based on an estimate of the system's future performance. EPBB incentives combine the benefits of rewarding performance with the administrative simplicity of a one-time incentive paid at the time of project completion.

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The Program Administrators will use the Energy Commission's CEC-AC method to determine the system rating. In addition, the EPBB program will apply to all new construction other than building integrated systems (BIVP), regardless of size.

The following formula determines the EPBB incentive:

$$\text{EPBB Incentive Payment} = \text{Incentive Rate} \times \text{System Rating} \times \text{Design Factor}$$

The design factor is a ratio comparing a proposed system to a baseline system as follows:

Design Factor =	$\frac{\text{Proposed System}}{\text{Baseline System}}$
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The design factor for EBPP will:

- Treat all systems oriented between 180° and 270° equally
- Assign optimal orientation tilt for each compass direction in range of 180° and 270°, optimized for summer production
- Include location-specific criteria to account for weather variation and shading
- Be based on an optimal reference system and location
- Determine optimal reference latitude tilt that relates to local latitude.

### **3.2.1 Incentives for Residential Installations**

Residential installations will be provided a one-time payment under the EPBB program to help reduce the cost of installation provided the system size is less than 100 kW. The amount of the EPBB incentive payment is as calculated pursuant to the formula in Section 3.2, with the incentive rate portion of the formula determined as shown by Table 9.

**Table 9**  
**Residential EPBB Incentive Levels by MW Steps and Service Territory**

**NOTE:** The SB1/CSI Draft Decision changes the PG&E, SCE and SDREO numbers

Step	Residential EPBB (\$/watt)	PG&E Res (MW)	SCE Res (MW)	SDG&E/SDREO Res (MW)
1	n/a	-	-	-
2	\$ 2.50	11.1	8.5	3.5
3	\$ 2.20	15.8	12.2	5
4	\$ 1.90	20.6	15.9	6.4
5	\$ 1.55	25.3	19.5	7.9
6	\$ 1.10	30.1	23.2	9.4
7	\$ 0.65	34.1	26.3	10.6
8	\$ 0.35	39.6	30.5	12.4
9	\$ 0.25	45.1	34.8	14.1
10	\$ 0.20	55.4	42.7	17.3
<b>Total</b>		<b>277.1</b>	<b>213.6</b>	<b>86.6</b>

The CSI program incentive levels may vary by utility service area, depending on the pace of solar demand in each utility's territory. Refer to the Program Administrator's website to determine the currently-effective step and incentive rate.

Incentives for residential new construction projects will be funded through the Energy Commission's New Solar Homes Partnership program.

### 3.2.2 Incentives for Non-Residential Installations

Non-Residential installations will be provided a one-time payment under the EPBB program to help reduce the cost of installation provided the system size is less than 100 kW. There are different incentive rates for System Owners who are commercial entities or Government or Non-Profit entities. If a Government or Non-Profit entity is not the System Owner, the incentive amount will be determined by the tax status of the System Owner. The amount of the EPBB incentive payment is as calculated pursuant to the formula in Section 3.2, with the incentive rate portion of the formula determined as shown in Table 10.

**Table 10**  
**Non-Residential EPBB Incentive levels by MW Step and Service Territory**

**NOTE:** The SB1/CSI Draft Decision changes the PG&E, SCE, and SDREO numbers

Step	Commercial EPBB (\$/watt)	Gov't/ Non-Profit EPBB (\$/watt)	PG&E Non Res (MW)	SCE Non Res (MW)	SDG&E Non Res (MW)
1	n/a	n/a	-	-	-
2	\$ 2.50	\$ 3.25	22.5	17.4	7
3	\$ 2.20	\$ 2.95	32.2	24.8	10.1
4	\$ 1.90	\$ 2.65	41.8	32.2	13.1
5	\$ 1.55	\$ 2.30	51.5	39.7	16.1
6	\$ 1.10	\$ 1.85	61.1	47.1	19.1
7	\$ 0.65	\$ 1.40	69.1	53.3	21.6
8	\$ 0.35	\$ 1.10	80.4	62	25.1
9	\$ 0.25	\$ 0.90	91.7	70.7	28.6
10	\$ 0.20	\$ 0.70	112.6	86.8	35.2
<b>Total</b>			<b>562.9</b>	<b>434</b>	<b>175.9</b>

Government and non-profit entities will be required to submit verification of their tax-exempt status to receive this incentive amount. Additionally, Government and Non-Profit entities must include a certification under penalty of perjury from their chief financial officer or equivalent that they are a Government or Non-Profit entity and that the system is not receiving and will not in the future receive federal tax benefits through financial arrangements for the entire warranty period of the system (i.e., the System Owner if a third-party, which will be receiving tax benefits from the system).

The CSI program incentive levels may vary by utility service area, depending on the pace of solar demand in each utility's territory. Refer to the Program Administrator's website to determine the currently effective step and incentive rate.

### 3.3 Performance Based Incentives (PBI)

The CSI program will pay PBI for solar projects with systems equal to or greater than 100 kilowatts (kW), with monthly payments based on recorded kilowatt hours (kWh) of solar power produced over a 5-year period. The Commission has determined that customers who receive incentives under a performance-based approach will be motivated to focus on proper installation, maintenance, and performance of their systems. Therefore, systems equal to or greater than 100 kW are required to participate in the PBI program. In addition, building integrated systems (BIPV), regardless of size, are required to participate in the PBI program. Furthermore, systems of any size may elect to opt into the PBI program.

Once the PBI incentive rate has been determined and a confirmed reservation issued, the \$/kWh incentive rate will remain constant for the 5-year term. PBI payments shall be made on a monthly basis after commissioning of the system.

PBI payments will be calculated for solar energy systems that exceed 1 MW in size by prorating the energy output based on the ratio of 1 MW to the size of the facility. Thus, if a customer has installed a 5 MW system, the customer would receive PBI payments for 1/5 of the output of the system. As an alternative, and if possible, the customer may, at its election and cost, separately meter a 1 MW element of a larger system.

### 3.3.1 PBI for Residential Projects

Monthly payments will be made based on actual electricity generated in kWh as per the monthly reading of the meter. The residential PBI incentive rate (\$/kWh) shall be in accordance with Table 11.

**Table 11**  
**Residential PBI Incentive Levels by MW Steps and Service Territory**

**NOTE: The SB1/CSI Draft Decision changes the PG&E, SCE, and SDREO numbers**

Step	Residential PBI (\$/kWh)	PG&E Res (MW)	SCE Res (MW)	SDG&E/SDREO Res (MW)
1	n/a	-	-	-
2	\$ 0.39	11.1	8.5	3.5
3	\$ 0.34	15.8	12.2	5
4	\$ 0.26	20.6	15.9	6.4
5	\$ 0.22	25.3	19.5	7.9
6	\$ 0.15	30.1	23.2	9.4
7	\$ 0.09	34.1	26.3	10.6
8	\$ 0.05	39.6	30.5	12.4
9	\$ 0.03	45.1	34.8	14.1
10	\$ 0.03	55.4	42.7	17.3
<b>Total</b>		<b>277.1</b>	<b>213.6</b>	<b>86.6</b>

The PBI incentive levels may vary by utility service area, depending on the pace of solar demand in each utility's territory. Refer to the Program Administrator's website to determine the currently effective step and incentive rate.

### 3.3.2 PBI for Non-Residential Projects

There are different incentive rates for commercial entities and for Government or Non-Profit entities that are the System Owners. If a Government or Non-Profit entity is not the System Owner, the incentive amount will be determined by the tax status of the System Owner. The Program Administrators will make the monthly payments based on actual electricity generated in kWh as per the monthly reading of the meter. The incentive amount (\$/kWh) will be in accordance with Table 12.

**Table 12**  
**Non-Residential PBI Incentive levels by MW Step and Service Territory**

**NOTE: The SB1/CSI Draft Decision changes the PG&E, SCE and SDG&E numbers**

<b>Step</b>	<b>Commercial PBI (\$/watt)</b>	<b>Gov't/ Nonprofit PBI (\$/watt)</b>	<b>PG&amp;E Non Res (MW)</b>	<b>SCE Non Res (MW)</b>	<b>SDG&amp;E Non Res (MW)</b>
1	n/a	n/a	-	-	-
2	\$ 0.39	\$ 0.50	22.5	17.4	7
3	\$ 0.34	\$ 0.46	32.2	24.8	10.1
4	\$ 0.26	\$ 0.37	41.8	32.2	13.1
5	\$ 0.22	\$ 0.32	51.5	39.7	16.1
6	\$ 0.15	\$ 0.26	61.1	47.1	19.1
7	\$ 0.09	\$ 0.19	69.1	53.3	21.6
8	\$ 0.05	\$ 0.15	80.4	62	25.1
9	\$ 0.03	\$ 0.12	91.7	70.7	28.6
10	\$ 0.03	\$ 0.10	112.6	86.8	35.2
<b>Total</b>			<b>562.9</b>	<b>434</b>	<b>175.9</b>

The PBI incentive levels may vary by the Program Administrators' territory, depending on the pace of solar demand in each territory. Refer to the Program Administrator's website to determine the currently effective step and incentive rate.

Government and Non-Profit entities will be required to submit verification of their tax-exempt status to receive this incentive amount. Additionally, Government and Non-Profit entities must include a certification under penalty of perjury from their chief financial officer or equivalent that they are a Government or Non-Profit entity and that the system is not receiving and will not in the future receive federal tax benefits through financial arrangements for the entire warranty period of the system (i.e., the System Owner if a third-party, which will be receiving tax benefits from the system). This certification must be renewed annually if receiving PBI payments.

## 3.4 Incentive Limitations

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

- Total eligible project costs
- Other incentives or rebates received
- Project size and Host Customer Site limitations.

### 3.4.1 Total Eligible Project Costs

No project can receive total incentives (incentives from the CSI program combined with other programs) that exceed total eligible project costs. The Applicant must submit project cost details to report total eligible project costs and to ensure that total incentives do not exceed out-of-

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pocket expenses for the System Owner. See Appendix A for eligible cost items. Total eligible project costs cover the solar system and its ancillary equipment. Equipment and other costs outside of the project envelope defined in Appendix A are considered ineligible project costs but also must be reported. For large, multifaceted projects where the solar system costs are embedded, applications must include a prorated estimate of the total eligible costs for the solar system. Applications must include the project cost breakdown worksheet available from the Program Administrators' websites.

### **3.4.2 Other Incentives or Rebates**

Customers may not receive CSI program incentives for the same self-generation equipment from more than one Program Administrator (e.g., PG&E, SCE, SDREO). For projects receiving incentives under other programs, the CSI program incentive may be reduced, depending on the source of the other incentive. For projects that receive "other incentives" for the same generating equipment that are funded by California investor-owned utility ratepayers (e.g., utility or Energy Commission public goods charge programs, etc.), the CSI program incentive is discounted by the amount of the other incentive. For projects that receive "other incentives" funded from other sources than utility ratepayers (federal and state grants, air district grants, tax credits, etc.) no adjustment is made to the CSI incentive, except where a CSI incentive would otherwise cause total incentives to exceed total eligibility costs.

In no event may the combined incentives received from CSI program and other funding sources exceed the total eligible project cost. Host Customers, Applicants and System Owners are required to disclose information about all other incentives, including incentives for equipment or systems ancillary to the solar system, post-installation performance payments, or additional incentives. Program Administrators will enter applications into a statewide database that will permit universal tracking of applications for this and other programs.

### **3.4.3 Right to Audit Final Project Costs**

The Program Administrators reserve the right to conduct spot checks to verify that payments were made as identified in the final invoices or agreements provided by equipment sellers and/or installers. As part of these spot checks, the Program Administrators will require Applicants to submit copies of cancelled checks, credit card statements, or equivalent documentation to substantiate payments made to the equipment seller and/or installer. When submitting this documentation, Applicants are encouraged to remove their personal account numbers or other sensitive information identified in the documentation. Applicants must explain the difference if the final amount paid by the Applicant is different from the amount of the purchase or installation shown in any agreement or invoice or in the previously submitted Reservation Request.

If selected for a random audit, Applicants must submit final system cost documentation clearly identifying the final amount paid or legally incurred to purchase the system and the final amount paid to install the system. The cost documentation must provide proof of the final amount paid or legally incurred by the System Owner to the equipment seller and/or installer and provide sufficient information to clearly identify the equipment purchased and the labor paid. The final amount paid or legally incurred to the equipment seller and/or the final amount paid to the

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installer must match the cost information identified in the Reservation Confirmation and Incentive Payment Claim Form. To meet this requirement, the System Owner must submit final invoices and/or a copy of the final agreement. The actual amount paid or legally incurred by the purchaser to the equipment seller and/or the actual amount paid to the installer must be clearly indicated. If there is no direct proof of actual payment from the System Owner to an appropriately licensed installer or seller, the incentive will be cancelled or reduced.

In addition, the final invoices or agreements should clearly indicate the extent to which the California Solar Initiative program incentive lowered the cost of the system to the System Owner. If the System Owner has entered into an agreement to pay the equipment seller over time rather than in lump sum, the final agreement must indicate the terms of payment and the amount of any deposits or payments paid by Applicant to the equipment seller to date. The System Owner must pay the cost of any system installation prior to submitting a payment request to the Program Administrator.

#### **3.4.4 Site and Host Customer Limitations**

There are restrictions on the amount of incentive funding a Host Customer can reserve and receive. Host Customers can reserve up to 1 MW of maximum incentive funding from the CSI program for a single Site for the duration of the CSI program.

### **3.5 CSI Program Database**

One of the notable features of the CSI program is the on-line database. The Program Administrators will establish and maintain an up-to-date database on their websites that will list information on the progress of the CSI program. The Program Administrators will show detailed information on the number of PV systems and confirmed reservations, systems installed from January 2007 forward with links to the archived database of all systems installed under the Energy Commission's Emerging Renewables Program, Self-Generation Incentive Program, and Rebuild a Greener San Diego Photovoltaic Incentive Program.

The information will include the following data from each project:

- Installer
- Seller
- City
- ZIP code
- Utility name
- Technology
- Size (Watts)
- Installed price approval
- PV manufacturer
- PV model
- Inverter manufacturer



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- Inverter model
  - Date completed
  - Date of approved reservation.

Initially, program data will be updated quarterly. It is anticipated that once fully developed, the database will provide program data on a real-time basis.

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## 4. Application Process for California Solar Initiative Projects

Through the California Solar Initiative (CSI) program, funding may be reserved for Applicants who have committed to purchase and install an eligible photovoltaic (PV) system at a given Site. A funding reservation provides the purchaser assurance that the reserved funds will be available when the payment claim is made.

Table 13 describes various situations and identifies the subsections that provide details on how to apply for funding.

**Table 13**  
**Summary of Application Procedures by Track**

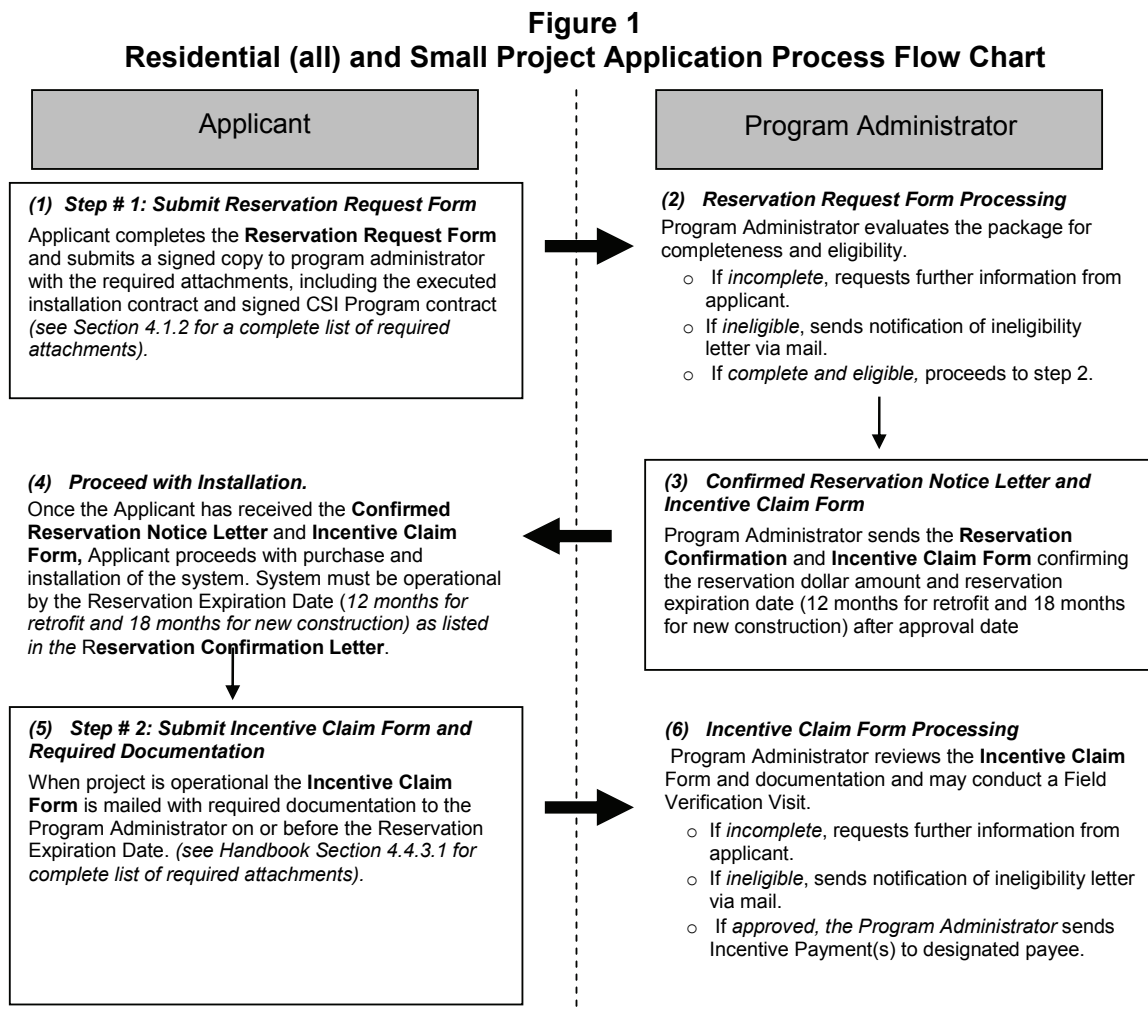
Track	Sector	Application Fee	System Size	Reservation Period	Relevant Section
1	All Residential	No	All	12 months	Section 4.1
1	Commercial	No	Less than or equal to 10 kW	*12 months for retrofit *18 months for new construction projects	Section 4.1
1	Government, Non-profit, Public Entities (small projects)	No	Less than or equal to 10 kW	12 months	Section 4.1
2	Commercial	Yes	Greater than 10 kW	*12 months for retrofit projects *18 months for new construction projects	Section 4.2 Section 4.2.1
2	Government, Non-profit, Public Entities	Yes	Greater than 10 kW	18 months	Section 4.2 Section 4.2.2

### 4.1 Residential (All) and Small Non-Residential Projects ( $\leq 10$ kW)

This section describes the application process for all projects installed on a residential Host Customer Site as well as projects less than or equal to 10 kW installed on Non-Residential Host Customer Sites. All residential and small projects are eligible to receive a lump sum EPBB incentive payment. However, there is an option to opt in to receive PBI based on \$/kWh produced.

The CSI program uses an on-line application tool to simplify the application process and confirm the rebate amount reserved, contingent on receiving all documents. Section 12 includes a blank copy of the Reservation Request Form and accompanying instructions. To obtain additional blank forms, the forms may be downloaded from the Program Administrators' website.

Figure 1 outlines the application process for residential and small projects less than or equal to 10 kW.



#### 4.1.1 Two-Step Process for Residential and Small Non-Residential Applicants

There are two primary steps for residential and small Non-Residential Applicants as follows:

1. Complete and submit an Application (on line or available at the Program Administrator's website) and Reservation Application Package

- 
- a. Include copy of executed contract for PV system purchase and installation
    - b. See Section 4.7 for a list of required documentation
  - 2. Complete and submit the Incentive Claim Form
    - a. See Section 4.7 for a list of required documentation.

Table 14 details the application forms and documentation requirements for the two-step application process.

**Table 14**  
**Two-Step Application Process – Forms and Documentation Requirements**

<b>Step 1: Reservation Request</b>
Reservation Request Application Checklist
Reservation Request Application with Original Signature
Proof of Electric Utility Service for Site
System Description Worksheet
Electrical System Sizing Documentation (new/expanded load only)
Incentive Calculation Worksheet & EPBB Documentation
Description of other Funding Sources (If applicable)
Evidence of Executed Agreement of System Purchase
Signed CSI Program Contract
Host Customer Certificate of Insurance
System Owner Certificate of Insurance (if different than Host Customer)
Copy of Completed Interconnection Application
Certification of tax-exempt status and AB1407 compliance (Gov't and Nonprofit only)
<b>Step 2: Reservation Confirmation and Claim</b>
Incentive Claim Checklist
Incentive Claim Form with Original Signatures
Installer/Seller EPBB Field Checklist with Original Signature
Proof of Authorization to Interconnect
Copy of Building Permit and Final Inspection signed
Proof of Warranty
Final project Cost Breakdown Worksheet
Final project Cost Breakdown Affidavit
Revised Sizing Calculations (if applicable)
Payee Data Record

#### **4.1.2 Step # 1: Submit Reservation Request Application Package**

Once the customer has decided to install a solar system and has an executed contract with their system installer, an Application (on-line or available at the Program Administrator's website) and

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Reservation Request Application Package are submitted in the first step of the application process.

The Reservation Request Form must have original signatures of Applicant and Host Customer and should be submitted with the following documentation:

1. Completed Reservation Request Application Checklist
2. Completed Reservation Request Application
  - b. Original Signatures of the System Owner and Host Customer required
3. Evidence of Executed Agreement or Contract for System Purchase
4. Signed CSI program contract
5. Host Customer Certificate of Insurance
6. System Owner Certificate of Insurance (if different than the Host Customer)
7. Proof of Electric Utility Service (copy of utility bill)
8. Incentive Calculation Worksheet & EPBB Required documentation
9. Interconnection Application (may be submitted online if available) Check with your Program Administrator.
10. Certification of AB 1407 compliance and tax-exempt status (Government and Non-Profit entities only).

Refer to Section 4.7 for more information on the above-referenced forms and documents.

Detailed instructions are included with the Reservation Request Form. Appendix C includes a blank copy of the Reservation Request Form and accompanying instructions. To obtain additional blank forms, download the forms on line from the Program Administrator's website.

The Host Customer and System Owner must sign the Reservation Request Form.

### **4.1.3 Incomplete Reservation Requests**

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

Incentive funds are not reserved until the Program Administrator receives all information and documentation required for the Reservation Request and the project is approved.

### **4.1.4 Approval of Reservation Request**

Once received, the Program Administrator will review the application package for completion 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.

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Once the Program Administrator approves the reservation request, the Program Administrator will issue a Confirmed Reservation Notice Letter that confirms that a specific incentive amount is reserved for the project. This confirmation notice will also include an Incentive Payment Claim Form.

The system must be purchased, installed, and put into operation by the Reservation Expiration Date (see Section 4.1.4.1 for length of reservation) as listed in the Confirmation Reservation Notice Letter. The Incentive Payment Claim Form will list the specific reservation dollar amount and the Reservation Expiration Date. For more information on the Incentive Claim Form package, refer to Section 4.7.

#### **4.1.4.1 Reservation Period**

Incentives can be reserved for up to 12 months for residential retrofit projects and commercial retrofit projects. Incentives can be reserved for up to 18 months for government, non-profits and public entities and also for new construction projects.

#### **4.1.5 Step # 2: Submit Incentive Claim Form Package**

After the solar system is purchased, installed, and put into operation, the Applicant should submit the Incentive Claim Form and the required supporting documentation. For information on submitting the Incentive Claim Form package, refer to Section 4.7.3.

### **4.2 Non-Residential Projects (>10 kW) and PBI Projects**

This section describes the application process for all Non-Residential projects >10 kW for commercial and industrial, Government, Non-Profit, and Public Entities and for any project receiving payment under a PBI structure.

*Please note that Non-Residential projects (>10kW) may opt into the two-step process if they would like to, but are still subject to the eligibility requirements based on their system size and type. See section 4.1.1 for required timelines and paperwork.*

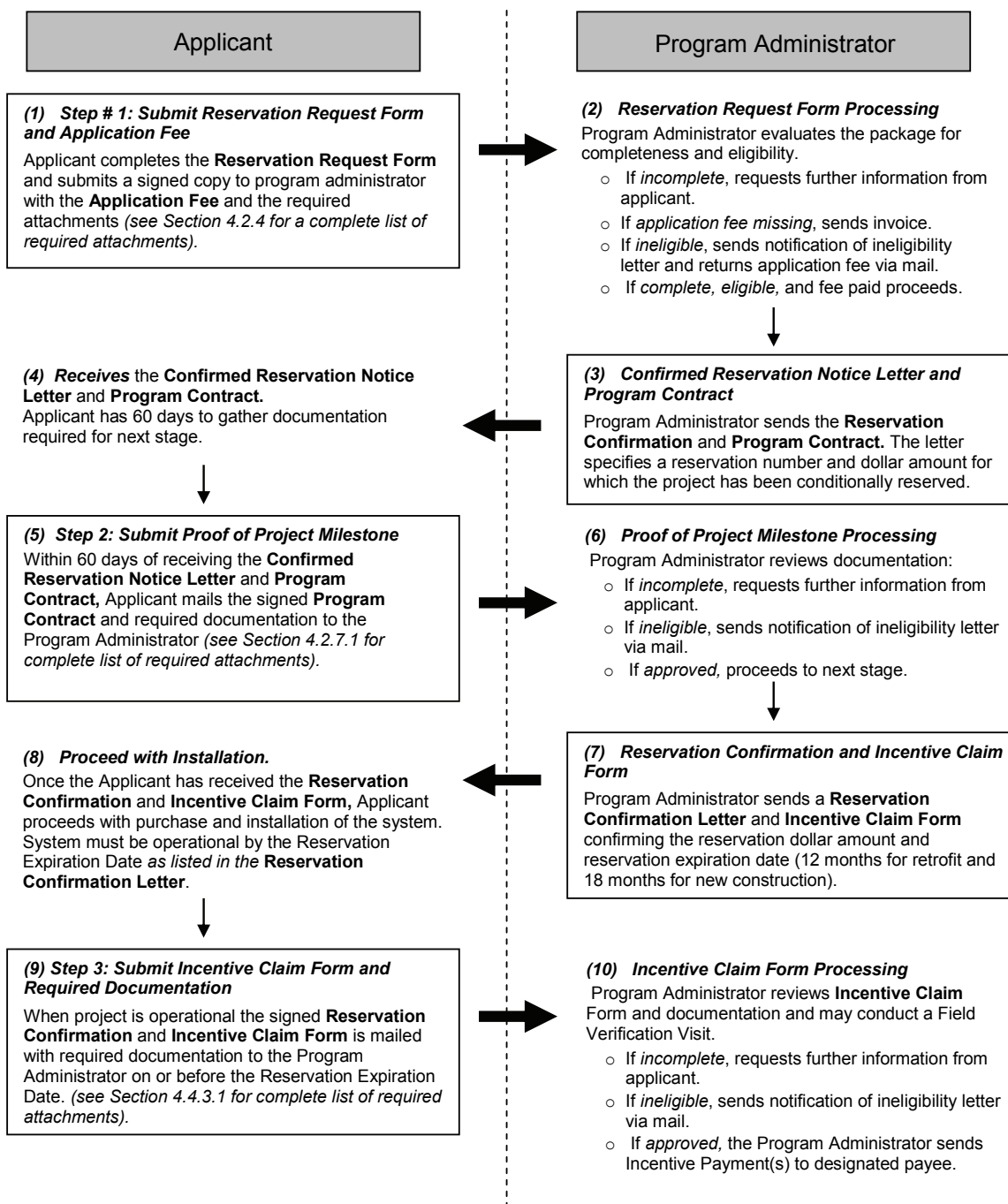
The Applicant can expedite the three step process by providing the requisite information to the program administrators in two steps. Non-residential projects (>10 kW) are still subject to the eligibility requirements based on their system size and type, including the submission of any required application fees. See section 4.2.3 for required timelines and paperwork.

The CSI program anticipates an on-line application tool to simplify the application process.

#### **4.2.1 Application Process Flow Chart for Commercial Industrial Applicants (>10 kW)**

Figure 2 documents the application process for commercial and industrial customers.

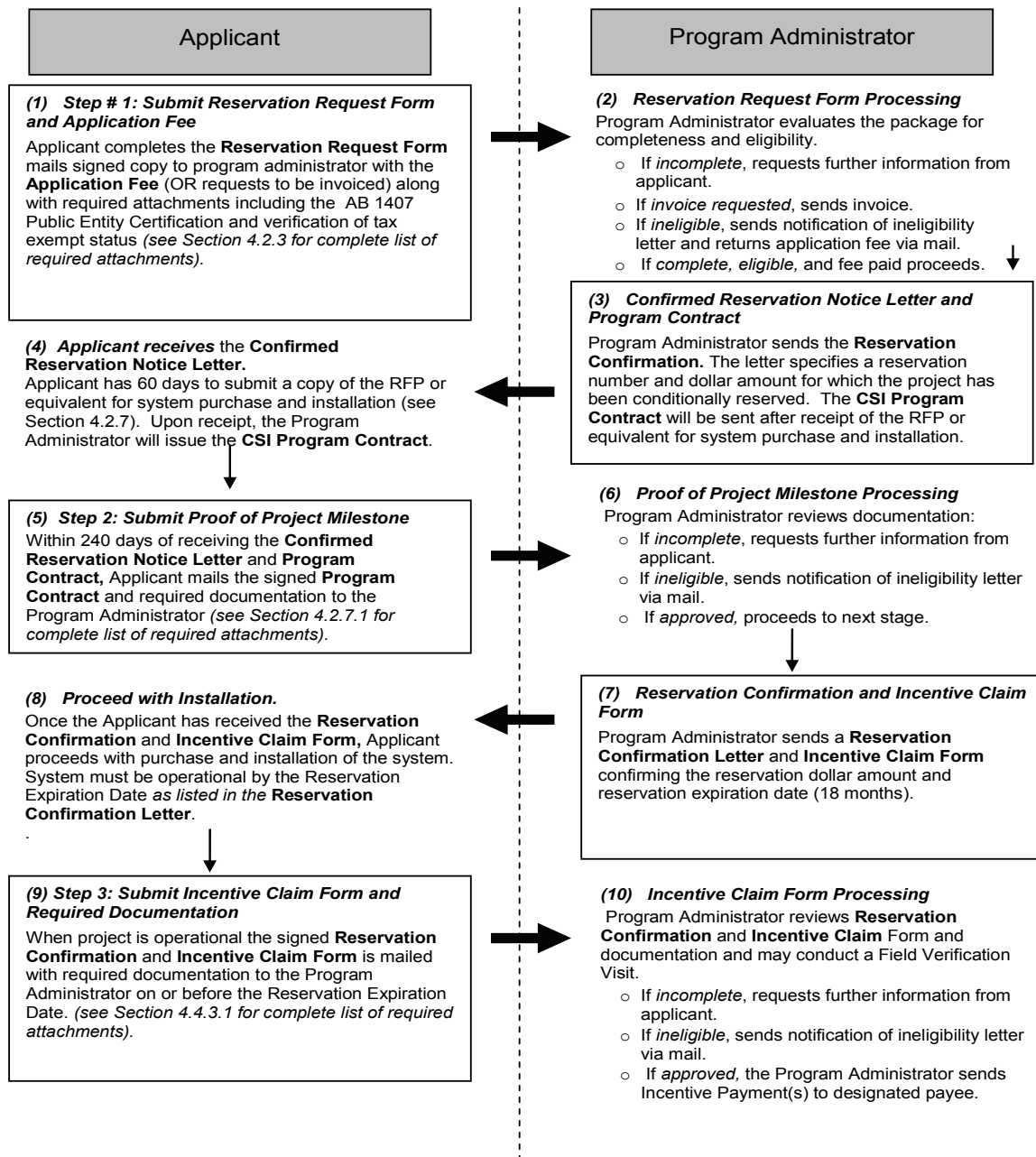
**Figure 2**  
**Commercial and Industrial (> 10 kW) Application Process Flow Chart**



## 4.2.2 Application Process Flow Chart for Government, Non-Profit, and Public Entities (>10 kW)

Figure 3 documents the application process for Government, Non-Profit, and Public Entities.

**Figure 3**  
**Government, Non-Profit, and Public Entities (> 10 kW) Application Process Flow Chart**





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### **4.2.3 Three-Step Process for Non-Residential Applicants (> 10 kW)**

There are three primary steps for Non-Residential Applicants with systems larger than 10 kW as follows:

1. Complete and submit the Reservation Application Package (on line or available at the Program Administrator's website) and Application fee
  - a. See Section 4.2.5 for a list of supporting documentation required
2. Complete and submit the Proof of Project Milestone Package
  - a. Refer to Section 4.7.2 for list of supporting documentation required
3. Complete and submit an Incentive Claim Form Package
  - a. See Section 4.7.3 for list of supporting documentation required.

Table 15 details the application forms and documentation requirements for the three-step application process.

**Table 15**  
**3-Step Application Process – Forms and Documentation Requirements**

<b>Step 1: Reservation Request</b>
Reservation Request Application Checklist
Reservation Request Application with Original Signature
Proof of Electric Utility Service for Site
System Description Worksheet
Electrical System Sizing Documentation
Incentive Calculation Worksheet & EPBB Documentation
Description of other Funding Sources (If applicable)
Evidence of Executed Agreement of System Purchase
Application Fee
Certification of tax-exempt status and AB1407 compliance (Government, Non-profit, and Public Entities only)
<b>Step 2: Proof of Project Milestone</b>
Completed Proof of Project Milestone Checklist
Host Customer Certificate of Insurance
System Owner Certificate of Insurance (if different than Host Customer)
Copy of Completed Interconnection Application
Copy of executed contract for system installation
Copy of executed alternative System Ownership agreement (if System Owner is different than Host Customer)
Project Cost Breakdown Worksheet
Revised Sizing Calculations (If applicable)
Revised Incentive Calculation Worksheet (If applicable)
CSI Program Contract with Original Signature
Copy of RFP or solicitation (Government, Non-profit, and Public Entities only)
<b>Step 3: Incentive Form Package</b>
Incentive Claim Checklist
Incentive Claim Form with Original Signatures
Installer/Seller EPBB Field Checklist with Original Signature
Proof of Authorization to Interconnect
Copy of Building Permit and Final Inspection sign-off
Proof of Warranty
Final Project Cost Breakdown Worksheet
Final Project Cost Affidavit
Final Incentive Calculation Worksheet
Revised Sizing Calculations (if applicable)
Payee Data Record

#### **4.2.4 Step # 1: Request to Reserve Funding**

This subsection applies to all Non-Residential Applicants with solar systems larger than 10 kW, regardless of whether the Applicant is a private or public entity. To reserve a specified incentive

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amount, Applicants must submit the Reservation Request Form, Application Fee, and all required documentation attachments. The Reservation Request Form and instructions can be downloaded from the local Program Administrator's website.

Section 12 includes a blank copy of the Reservation Request Form and accompanying instructions. The System Owner and Host Customer must always sign the Reservation Request Form. In addition, all Applicants applying for incentives must provide the following:

1. Completed Reservation Request Application Checklist
2. Completed Reservation Request Application w/ original signatures
3. Proof of electric utility service
4. Electrical system sizing documentation
5. System description worksheet
6. Incentive Calculation Worksheet & EPBB Required documentation
7. Description of other funding sources
8. Certification of tax-exempt status and compliance with AB1407 (Government, Non-Profit and Public Entities only).

For more information on the above referenced forms and documents, go to Section 4.7.

#### **4.2.5 Application Fee Process**

In addition to the Reservation Request Form and Required Attachments, Applicants will also be required to submit an application fee. Applicants with projects that are residential, or less than or equal to 10 kW, need not pay an application fee.

The application fee is 1 percent of the unadjusted requested CSI program incentive amount. Application fees will be rounded to the nearest dollar amount. The formula for the EPBB or PBI fee is as follows:

Application Fee = (Design Factor System Size x current applicable/equivalent EPBB incentive rate) x 1%

- Applicants may submit the application fee with the Reservation Request Form with original signatures. If application fee is not received with the Reservation Request Form, the Program Administrators will invoice the Host Customer (utility customer of record) after review of the Reservation Request Form package.
- The Host Customer will have 30 days to submit payment for the application fee in order to activate the Reservation Request. The payment must reference the project application number.
- Program Administrators will accept payments from either the Applicant or a third party on behalf of the Host Customer for a particular project; however, a returned application fee shall only be paid to the Host Customer.
- Program Administrators will only accept application fees in the form of a check. Cash, credit cards, money orders, promissory notes, etc. will not be accepted.

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- Application fees will be linked to reservation numbers, not to the project sites; therefore, the project must be completed under the same reservation number as the one linked to the application fee.
  - Upon verification of the installed CSI project and initial incentive payment, the application fee will be returned in full to the Host Customer.
  - No interest shall be paid on application fees.

#### **4.2.5.1 Failure to Submit Application Fee**

- Returned checks will result in the Program Administrator rejecting the Reservation Request form.
- Failure to submit payment within 30 days will result in the cancellation of the Reservation Request.

#### **4.2.5.2 Return of Application Fee**

- If upon eligibility screening the project does not qualify for the CSI program, the application fee will be returned in full to the Host Customer.
- If a project that has received an Incentive Claim Form from the Program Administrator is withdrawn due to extenuating circumstances beyond the Applicant's control, the application fee may be returned pending discussion and agreement of the Program Administrators. This will be determined on a case-by-case basis.

#### **4.2.5.3 Forfeit of Application Fee**

- Once a confirmed reservation is granted and the project is cancelled or withdrawn by the Applicant and/or Host Customer, the application fee will be forfeited.
- Once a confirmed reservation is granted and the Program Administrator rejects the project for failing to meet adequate proof of project milestone or reservation expiration date requirements, the application fee will be forfeited.
- If a project reservation is allowed to lapse and the project is later built under a new reservation, the application fee for the previous reservation will be forfeited.

All forfeited application fees will be re-allocated to the Program Administrator's incentive budget.

#### **4.2.5.4 Effect of Change of System Change on Application Fee**

- If a confirmed reservation is granted and the incentive level has been reduced (due to Commission directive, moving to the next step, etc.), the Applicant and Host Customer will be notified and given 20 calendar days to submit in writing a request to withdraw their reservation request without losing their application fee. Upon receipt of a request to withdraw, the application fee shall be returned to the Host Customer. If the Applicant fails to withdraw the reservation request within 20 calendar days, the application will be processed at the new, lower incentive level.

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If the application is not withdrawn within the 20-day period, the Applicant will forfeit the application fee if it subsequently withdraws or fails to pursue its project.

- Application fees will be retained until the completion of the proposed CSI project and will not be adjusted downward due to changes in system size or incentive amount.

## **4.2.6 Approval of Reservation Request**

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.

### **4.2.6.1 Incomplete Reservation Requests**

Incentive funds are not reserved until the Program Administrator receives all information and documentation required for the Reservation Request Form Package, the application fee and the project is approved.

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. Application packages that are resubmitted after such a cancellation will be treated as a new application (i.e., all required documents must be resubmitted) and processed in sequence along with other new applications.

### **4.2.6.2 Approval of Reservation Request**

Once a Reservation Request Form package is determined to be complete and eligible, the Program Administrator will reserve a specific dollar amount for a specified system size. The Program Administrator will send a Confirmed Reservation Notice Letter to the Applicant.

The Confirmed Reservation Notice Letter documents that a specific incentive amount has been reserved for a project. The letter will list, at a minimum, the approved incentive amount and the date that the Proof of Project Milestone package must be submitted. The Confirmed Reservation Notice Letter also will list the required information that Applicants must submit by the Proof of Project Milestone.

Once the application documentation has successfully fulfilled the Proof of Project Milestone documentation, the Program Administrator will issue an Incentive Claim Form with a Reservation Expiration Date of 12 months for commercial retrofit projects, 18 months for commercial new construction projects, and 18 months for Governmental, Non-Profit, and Public Entities from the date of the initial Confirmed Reservation Notice Letter.

Refer to Section 4.2.7 for more information on the Proof of Project Milestone requirements.

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#### **4.2.6.3 Reservation Period**

The initial reservation is valid only until the Proof of Project Milestone Date. The Proof of Project Milestone Date will be 60 calendar days after the date of the Confirmed Reservation Notice Letter for residential and commercial projects. Within noted calendar days of the date the Confirmed Reservation Letter, the Applicant must submit to their Program Administrator the Proof of Project Milestone package. All project advancement criteria, including returning a signed CSI program contract, must be satisfied. Once the Applicant has sufficiently demonstrated that the project is advancing, the Program Administrator will issue an Incentive Claim Form. The Applicant will have 12 months to complete the project from the date that the Confirmed Reservation Notice Letter is issued for retrofit projects and 18 months for new construction projects.

#### **4.2.6.4 Reservation Period for Government, Non-Profit and Public Entity Projects**

The initial reservation is only valid for until the Proof of Project Milestone date. Within 60 days after the Confirmed Reservation Notice letter, Government, Non-Profit and public entities must turn in the Proof of Project Milestone checklist and a copy of the RFP or other solicitation for the installation of the project. Then, Government, Non-Profit, and Public Entities will have an additional 180 days to provide the entire Proof of Project Milestone package. All project advancement criteria, including returning a signed CSI program contract, must be satisfied. Once the Applicant has sufficiently demonstrated that the project is advancing, the Program Administrator will issue an Incentive Claim Form. The Applicant will have 18 months to complete the project from the date that the Confirmed Reservation Notice Letter is issued.

#### **4.2.7 Step # 2: Submit Proof of Project Milestone Package**

Within 60 calendar days (240 days for Governmental entities) of the date on the Confirmed Reservation Letter, the Proof of Project Milestone package with all supporting documentation must be submitted to demonstrate to the Program Administrator that the project is progressing and that there is a sustained commitment to complete the project within the allowed timeline. The specific requirements by sector are as follows:

- Non-Residential projects greater than 10 kW and projects that are receiving a PBI payment within 60 days of the Confirmed Reservation Notice Letter must submit a Proof of Project Milestone package, including all required documentation.
- Government, Non-profit, and Public Entities, within 60 calendar days of the date of the Confirmed Reservation Letter, must submit a copy of the issued request for proposal (RFP or equivalent) for purchase or installation of the solar system. Within 240 calendar days of the date of the Confirmed Reservation Letter, they must satisfy all proof of project milestone criteria, including all required documentation.

Once the Applicant has successfully met Proof of Project Milestone requirements, the Program Administrator will issue an Incentive Claim Form with a Reservation Expiration Date of 12

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months from the date of the initial Confirmed Reservation Notice Letter for commercial retrofit projects, 18 months for commercial new construction projects, and 18 months from the date of the initial Confirmed Reservation Notice Letter for Governmental, Non-Profit, and Public Entities.

#### **4.2.7.1 Required Attachments to Demonstrate Project Milestone**

The following documentation must be submitted on or before the Proof of Project Milestone date indicated in the Confirmed Reservation Letter.

1. Completed Proof of Project Milestone Checklist
2. CSI Program Contract with original signatures
3. Host Customer Certificate of Insurance
4. System Owner Certificate of Insurance
5. Copy of Completed Interconnection Application
6. Copy of Executed Agreement to Purchase or Lease
7. Project Cost Breakdown Worksheet
8. Revised Sizing Calculations (if applicable)
9. Revised Incentive Calculation Worksheet (if applicable).

For more information on the above-referenced forms, go to Section 4.7.

#### **4.2.7.2 Incomplete Proof of Project Milestone**

If submitted Proof of Project Milestone documentation is received by the Proof of Project Milestone Date but requires 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.

#### **4.2.7.3 Proof of Project Milestone Extensions**

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

#### **4.2.7.4 Submitting Proof of Project Milestone**

Once the Proof of Project Milestone package is complete and all the required attachments are secured, Applicants must submit their application package to the Program Administrator for review. To ensure confirmation of receipt, it is recommended that documentation is to be delivered to the appropriate Program Administrator by certified or overnight mail. No faxes or hand deliveries will be accepted.

#### **4.2.7.5 Approval of Proof of Project Milestone**

Once Applicants have successfully met the Proof of Project Milestones requirements, the Program Administrator will issue an Incentive Claim Form. This form will list the specific

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reservation dollar amount and the Reservation Expiration Date. Upon project completion and prior to the Reservation Expiration Date, Applicants must submit a completed Incentive Claim Form along with all of the necessary documentation to request an incentive payment.

For more information on how to submit an Incentive Claim, refer to Section 4.4.3.

#### **4.2.8 Step # 3: Submit Incentive Claim Form Package**

Refer to Section 4.7.3 for more information about the requirements associated with submitting the Incentive Claim Form package.

### **4.3 Changes to Reservations**

#### **4.3.1 Extending the Reservation Expiration Date**

A request to extend the Reservation Expiration Date 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 the Incentive Claim Form package by the original or extended Reservation Expiration Date will result in a cancellation of the application. The Applicant should submit a time extension in writing to the Program Administrators. In describing the reason for the time extension request, the Applicant should provide information on the following to aid the Program Administrators in their decision to grant an extension:

1. Circumstances were beyond the control of the reservation holder that prevented the system from being installed as described in the reservation request. Describe the need and reasons for the request.
2. If there was a problem in the permitting process and it was the cause of delay, provide documentation, such as any correspondence with the building department, to support this explanation.
3. Cost documentation must demonstrate that the system purchaser has incurred at least 50 percent of the reserved system's total purchase price. However, in cases where this amount exceeds the purchaser's contribution then the purchaser may still retain 10 percent of the total system cost and meet this cost documentation requirement. Attach copies of paid invoices, checks or other verifying documentation to the Request for Project Extension Form.
4. Documentation of any equipment installed at the site.

In order for any project to receive an extension, the Applicant must show documentation of a purchase order or commitment from a PV panel manufacturer to supply the necessary equipment.

The Program Administrator reserves the right to perform a Site inspection to verify the status of the project installation prior to granting the request for extension. If required, the Program Administrator shall notify the Applicant and schedule the Site visit within 10 days of notification.



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## **4.4 Incentive Payment Process**

Once a system is completed, Applicants may request payment of the incentive amount listed on their Incentive Payment Claim Form. A project 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.

To receive the incentive, all CSI program requirements must be met and a complete Incentive Claim Form package is submitted prior to the Reservation Expiration Date.

The Program Administrator reserves the right to withhold final incentive payment pending review and approval of the incentive claim documentation and field inspection results if that project is determined to require a field inspection.

### **4.4.1 Requesting an Incentive Payment**

After an eligible solar system is completed, Applicants may request payment of the incentive amount listed on their Incentive Claim Form. Payment will be disbursed once the Program Administrator verifies that the solar system is completed and meets all the eligibility requirements of the CSI.

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

Please note that no incentive payment will be made until the Program Administrator has inspected and found that the system is operational and interconnected if that project is determined to require a field inspection. For further information regarding field inspections, refer to Section 4.6.

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

### **4.4.2 Assignment of Incentive Payment to Third Party**

The designated payee of the incentive payment may assign his or her right to receive the payment to a third party by completing the Payment Assignment Form and submitting it with the Incentive Payment Claim Form. The Payment Assignment Form may not be submitted by fax as original signatures are required to process the assignment.

### **4.4.3 Incentive Payment Claim Form Package**

The Applicant must submit the Incentive Claim Form package, complete with all required attachments, to the Program Administrator prior to the Reservation Expiration Date. The Host Customer and System Owner must read, sign, and date the Incentive Payment Claim Form. This form must be returned to the Program Administrator by mail, as original signatures are required to process a payment.

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#### **4.4.3.1 Required Documents**

In addition to the completed Incentive Claim Form, Applicants must submit the following documents when requesting an incentive payment:

1. Incentive Claim Form Checklist
2. Incentive Claim Form with original signatures
3. Installer/Seller EPBB Field Checklist with Original Signature
4. Proof of Authorization to Interconnect
5. Copy of Building Permit and Final Inspection Sign Off — includes EPBB Compliance
6. Proof of Warranty
7. Final Project Cost Breakdown Worksheet
8. Final Project Cost Breakdown Affidavit
9. Final Incentive Calculation Worksheet
10. Revised Sizing Calculations (if applicable)
11. Payee Data Record

For more information on the above-referenced forms, go to Section 4.7.

#### **4.4.4 Submitting an Incentive Claim Form Package**

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

Applicants are advised to keep a copy of the Incentive Claim Form package along with all required documentation for their records.

##### **4.4.4.1 Incomplete Incentive Claim Form Packages**

If an incentive claim form package is incomplete or 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 request for payment may be denied.

If an Incentive Claim Form package is not received by the expiration date of the Incentive Claim Form, or the Incentive Claim Form package indicates that the project is otherwise ineligible, the Program Administrator will send a written notice stating the reasons why the project is ineligible and the project will be rejected. If this is the case, the Applicant or Host Customer may reapply

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for a incentive reservation but will be subject to the eligibility requirements, incentive levels, and funding available at that time of reapplication.

#### **4.4.5 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 for EPBB incentive payments. For PBI payments, the Program Administrator will issue the first incentive payment within 30 days of the first scheduled performance output meter read. Payment will be made to the Host Customer or a third party (as designated), as indicated on the Incentive Claim Form, and will be mailed to the address provided. As the reservation holder, the Host Customer may assign payment to a third party by submitting a completed payment assignment form to the Program Administrator with the Incentive Claim Form. A payment assignment form can be requested from the Program Administrator or downloaded from the Program Administrator website. The lump sum incentive payment issued constitutes final and complete payment.

##### **4.4.5.1 Expected Performance Based Buydown (EPBB) Incentive Payment Terms**

Most residential systems will receive an EPBB incentive. The EPBB incentive will be a one-time lump sum payment to help reduce the cost of installing a residential PV system. Upon final approval of the incentive claim form package and completed field inspection visit, if applicable, the Program Administrator will issue the incentive in approximately 30 days.

The lump sum EPBB incentive payment issued constitutes final and complete payment.

##### **4.4.5.1.1 Performance Based Incentive Payment Terms**

Incentives for systems equal to or greater than 100 kW, building integrated PV systems, or systems less than 100 kW who elect to opt in, will receive the performance based incentive (PBI) payments. PBI will be paid based on the actual kWh output of the system.

PBI payments will be made monthly and paid out over a 5-year period. The monthly PBI payment shall be calculated as follows:

$$\text{Monthly PBI Incentive Payment} = \text{Incentive Rate} \times \text{Measured kWh Output}^{16}$$

Upon final approval of the incentive claim form documentation and completed field verification visit, if applicable, the Program Administrator will issue the first PBI incentive payment approximately 30 days after the first scheduled performance output meter read. PBI payments will continue to be paid on a monthly basis for the next 60 months (5 years).

Payments will be made to the Applicant, Host Customer, or a third party (as designated), as indicated on the Incentive Payment Claim Form. At the discretion of Program Administrators, payments may either be mailed to the address provided or paid via credits on the utility bill. The

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<sup>16</sup> Because the CSI Program and statutes only allow for customers to receive incentives up to the first MW, PBI payments for energy output on systems larger than 1 MW will be prorated based on the ratio of 1 MW to the entire size of the facility. See Section 3.3 for further detail.

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Host Customer may assign payment to a third party by submitting a completed payment assignment form to the Program Administrator with the Incentive Claim Form. A payment assignment form can be requested from the Program Administrator or downloaded from the Program Administrator's website.

If a monthly payment is determined to be incorrect due to a faulty meter read, the correction will be made in the next available payment period.

If a Host Customer moves during the 5-year period, they must notify the Program Administrator, who may make subsequent adjustments to the CSI program.

The 60<sup>th</sup> monthly PBI incentive payment constitutes final and complete payment.

## **4.5 System Changes Affecting Incentive Amount**

The Program Administrator will expect a system to be installed as described in the Reservation Request Form. However, it is recognized that changes may occur during installation and that changes may be necessary in some circumstances.

If the installed system is smaller in output than specified in the Reservation Request Form or subsequent updates, the incentive amount will be calculated using the installed system size. If the installed system is larger than that originally in the Reservation Request Form or subsequent updates, the incentive will be recalculated based upon the installed system size, with the incremental addition to the system receiving the current level of incentive. If the size of the increase moves the system from the EPBB structure to the PBI structure, the entire system will receive the PBI based upon the current incentive level.

If the increase in size occurs after the expiration date of the Confirmed Reservation, the incremental addition will be considered a new project and must submit a Reservation Request with its required documentation.

If the entire available budget for a Program Administrator is reserved for other projects and there is no available funding, the Program Administrator cannot increase the reserved incentive amount.

## **4.6 Field Inspection**

### **4.6.1 Field Inspections**

Program Administrators will conduct field inspection visits on a statistically reasonable random sample of projects less than 30 kW. Upon receipt of a complete Incentive Payment Claim Form package, the Applicant's project may be randomly selected for a field inspection visit to verify that the system is installed as represented in the application, is operational, is interconnected and conforms to the eligibility criteria of the CSI program. All projects between 30 kW and 100 kW in system size are required to receive a field inspection to verify the accuracy of system data submitted in the original CSI program incentive application. Projects equal to or over 100 kW may also be randomly selected for field verification visits.

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If randomly selected or required, the field inspection visit will be scheduled within 15 calendar days of receipt of the completed Incentive Claim Form package. Field inspections will be conducted concurrent with review and approval of the incentive payment. Incentive payments will be contingent on the field inspection visit and may be adjusted depending on the results of the field inspection.

#### **4.6.2 Trained Inspectors**

Field inspections shall be performed by trained personnel certified to perform CSI program system inspections. The Program Administrators will develop a site inspectors training plan that is consistent among the participating Program Administrators.

#### **4.6.3 Failed Field Inspection**

If the field inspection determines that the installed system varies from the documentation, it will result in a failed field inspection. If a system fails a field inspection, the Program Administrator will notify the Applicant, Host Customer, and System Owner with the reasons for the field inspection failure.

Please refer to Section 2.9.1 for more information regarding situations that constitute a failure.

### **4.7 Application Forms and Documentation**

The following section discusses each of the forms and documentation requirements listed in the subsections above. Refer to the subsection describing the process for your application type to determine which of the following documents are required for your situation.

#### **4.7.1 Reservation Request Package and Required Documentation**

##### **4.7.1.1 Reservation Request Application Checklist**

All Reservation Request Form submittals must be accompanied by a completed and signed checklist. All forms are available from the Program Administrators' website.

##### **4.7.1.2 Reservation Request Application Form**

To reserve a specified incentive amount, a Reservation Request Form must be submitted with all required documentation attached. The seller, installer, and any other third party providing service related to a system installation should be identified on the application form, together with a description of services provided.

##### **4.7.1.3 Proof of Electric Utility Service for the Site**

Eligibility requirements restrict participation in the CSI program to customers who are located in PG&E, SCE, or SDG&E service territories and physically connected to the electric utility transmission and distribution system. All applications must include a copy of a recent electric utility bill that shows the service address of the installation Site, the name of the Host Customer,

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and electric energy usage for the Site. All pages of a utility bill should be submitted to ensure that this information is provided. The utility bill should be no older than 6 months from the date of application. For new construction, the Applicant must receive confirmation from the serving utility.

#### **4.7.1.4 System Description Worksheet**

All Applicants are required to complete and submit a System Description Worksheet.

#### **4.7.1.5 Electrical System Sizing Documentation**

To confirm that participating distributed generation systems will not exceed the capacity of the Host Customer's previous 12-month historical usage, all Applicants must submit a copy of the data and calculations used to determine system size.

#### **4.7.1.6 Incentive Calculation Worksheet**

All Applicants are required to complete and submit an Incentive Calculation Worksheet, which calculates the incentive and adjusts for other incentives and project cost.

#### **4.7.1.7 Description of Other Funding Sources**

When applicable, Applicants must disclose all project funding and/or project assistance sources that reduce the System Owner's otherwise out-of-pocket expenses for the project. This funding or assistance (e.g., gifted equipment) may be from any other source, and received before, during or after equipment installation.

#### **4.7.1.8 Additional Requirements for Residential and Small Non-Residential Projects (< 10 kW)**

##### **4.7.1.8.1 Copy of Executed Agreement of Solar System Purchase**

For residential and small Non-Residential (<10 kW) applications, the Applicant must submit a copy of an executed agreement to purchase and install the solar system at the time of submitting the Reservation Request Application Form.

##### **4.7.1.8.2 Copy of Application for Interconnection Agreement**

For residential and small Non-Residential (<10 kW) projects, Applicants must submit a copy of the Application for Interconnection to the local utility grid. This final Interconnection Agreement will be a legal contract between the Host Customer and the electric utility. Because the power from the solar system housed on the Host Customer's Site will likely be exported to the grid, it is critical that the utility be confident that the system is operating safely and in parallel with the grid, which helps to assure the safety and reliability of the electric distribution and transmission system.

##### **4.7.1.8.3 CSI Program Contract with Original Signature**

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For residential and small Non-Residential (<10 kW) projects, a CSI Program Contract with original signatures should be submitted with the Reservation Request Form package. The Host Customer and System Owner (if different) must sign the CSI Program Contract.

#### **4.7.1.8.4 Host Customer Certificate of Insurance**

All Applicants must provide Host Customer proof of insurance in accordance with Section 2.6 of the CSI Program Contract. Section 2.6 provides details on the minimum insurance requirements.

#### **4.7.1.8.5 System Owner Certificate of Insurance (if different than Host Customer)**

All Applicants must provide System Owner proof of insurance (if different than Host Customer) in accordance with Section 2.6 of the CSI Program Contract. Section 2.6 provides details on the minimum insurance requirements.

#### **4.7.1.9 Additional Requirements for Government and Non-profit projects**

##### **4.7.1.9.1 Certification of tax-exempt status and AB1407 compliance**

Any Government and Non-Profit entities must include a certification under penalty of perjury from their chief financial officer or equivalent that they are a Government or Non-Profit entity and that the system is not receiving, and will not in the future receive, federal tax benefits through financial arrangements (i.e., the System Owner if a third-party, which will be receiving tax benefits from the system). This certification must be renewed annually if receiving PBI payments.

Additionally, any public entity applying for CSI program incentives must certify that it has voided any existing law, under its authority, that prohibits or restricts the installation or use of a solar energy system in accordance with the requirements set forth in AB 1407.

#### **4.7.2 Proof of Project Milestone Package (for Projects on a Three-Step Process)**

##### **4.7.2.1 Completed Proof of Project Milestone Checklist**

All Proof of Project Milestone submittals must be accompanied by a completed and signed checklist.

##### **4.7.2.2 Host Customer Certificate of Insurance**

All Applicants must provide Host Customer proof of insurance in accordance with Section 2.6 of the CSI Program Contract. Section 2.6 provides details on the minimum insurance requirements.

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#### **4.7.2.3 System Owner Certificate of Insurance (if different than Host Customer)**

All Applicants must provide System Owner proof of insurance (if different than Host Customer) in accordance with Section 2.6. Section 2.6 provides details on the minimum insurance requirements.

#### **4.7.2.4 Copy of Completed Interconnection Application**

Customers must submit a copy of the Application for Interconnection to the local utility grid. This final Interconnection Agreement will be a legal contract between the Host Customer and the electric utility. Because the power from the solar system housed on the Host Customer's Site will likely be exported to the grid, it is critical that the utility be confident that the system is operating safely and in parallel with the grid, which helps to ensure the safety and reliability of the electric distribution and transmission system.

#### **4.7.2.5 Copy of Executed Agreement to Purchase or Lease**

Applicants must submit a copy of executed contract for purchase and installation of the system, and/or alternative System Ownership agreement. Agreements must be legally binding and clearly spell out the scope of work, terms, price, solar system components to be installed. Agreements must be signed by appropriate parties (supplier/installer, Host Customer, Applicant and/or System Owner). In the case of alternate System Ownership arrangements, the System Owner must provide a copy of their agreement(s) to purchase and install a system.

The Applicant must provide copies of executed purchase and/or installation agreements with the Reservation Request, and the information must be internally consistent and must be consistent with the Reservation Form. Agreements for the purchase of a system or system equipment must be in writing and must include, at a minimum, the following information:

- The quantity, make and model number (as shown on the Energy Commission lists of eligible equipment) for the PV modules, inverters, and system performance meters
- The total purchase price of the system before applying the incentive
- Language indicating the purchaser's commitment to buy the system
- Printed names and signatures of the purchaser and equipment seller's authorized representative.

Installation contracts must comply with the Contractors State License Board (CSLB) requirements. In addition, these contracts must contain the following information:

- Name, address and contractor's license number of the company performing the system installation
- Site address for the system installation
- Description of the work to be performed
- Total agreed price to install the system
- Payment terms (payment dates and dollar amounts)



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- Printed names and signatures of the purchaser and the company's authorized representative.

Please refer to the CSLB website for more information on CSLB guidelines at [www.cslb.ca.gov](http://www.cslb.ca.gov).

Entities without a valid A, B, C-10 or C-46 contractor's license may not offer installation services or charge for installation in any agreement.

The above requirements are sufficient evidence of an agreement to purchase and install a system for cases where a contractor sells and installs the system.

#### **4.7.2.6 Project Cost Breakdown Worksheet**

All Applicants, including for turnkey and lease projects, must submit a breakdown of known and estimated project cost. For a list of total eligible project cost elements to be reported, see Appendix A. Applicants are required to use the Project Cost Breakdown worksheet (spreadsheet), available from the Program Administrator's website or by e-mail request. The Program Administrator reserves the right to revise Confirmed Reservation amount pending a review and approval of total eligible project cost and incentive amounts applied for or received.

#### **4.7.2.7 Revised Sizing Calculations**

When applicable, the Applicant must submit a thorough description of any changes that have occurred in the system design affecting size or incentive amount subsequent to the initial application submittal.

#### **4.7.2.8 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.

#### **4.7.2.9 CSI Program Contract with Original Signature**

All Proof of Project Milestone submittals must include an executed CSI Program Contract with original signatures. The Host Customer and System Owner must sign the CSI Program Contract.

#### **4.7.2.10 Additional Requirements for Government and Non-Profit Entities**

##### **4.7.2.10.1 Request for Proposal (RFP) Documentation**

Within 60 days after the Confirmed Reservation Notice letter, Government, Non-Profit, and Public Entities must submit a copy of the RFP, Notice to Invite Bids, or similar solicitation issued for the installation, lease, and/or purchase of the system proposed for the project. The RFP must include sufficient documentation details including the scope of work, schedule, terms, budget, and system components to be installed.

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For Government, Non-Profit, and Public Entities not issuing an RFP for the project, all Proof of Project Milestone documentation listed in Section 4.7.2 must be submitted within Proof of Project Milestone Date.

### **4.7.3 Incentive Claim Form Package**

#### **4.7.3.1 Incentive Claim Form Checklist**

All Incentive Claim Form packages must include a completed and signed checklist.

#### **4.7.3.2 Confirmation and Incentive Claim Form with Original Signatures**

A completed Incentive Claim Form must be submitted. It must be read, completed, and signed by both the Host Customer and System Owner (if different). The installer's name, telephone number and contractor license number must be included with the completed 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 must include supporting documentation and a recalculated incentive.

#### **4.7.3.3 Installer/Seller EPBB Field Checklist with Original Signature**

This checklist must be filled out and submitted with the Claim package for all EPBB rebates. It must be confirmed on site and requires original signatures from the CSI approved and listed Seller/Installer confirming the as-built quantity and model numbers of inverters, meters, and modules, as well as tilt, orientation, shading, etc. as required for final calculation of the EPBB rebate.

#### **4.7.3.4 Proof of Authorization to Interconnect**

The Applicant must demonstrate that the system is interconnected to the utility distribution grid and that the utility has approved this interconnection for the system's operation at the Site of installation. The Applicant must demonstrate this by submitting a copy of the signed letter from their electric utility granting the permission to interconnect and operate in parallel with the local grid. A copy of the final interconnection agreement must also be submitted.

For questions on the interconnection process, see Section 5.1.

#### **4.7.3.5 Copy of Building Permit and Final Inspection Sign Off**

A copy of the final building inspection report must be submitted to demonstrate that the project meets all codes and standards of the permitting jurisdiction. The name and address on the final building permit and final inspection signoff must match the name and address shown on the Incentive Payment Claim Form.

Contact your local permitting jurisdiction to learn about permitting requirements.

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#### **4.7.3.6 Proof of Warranty**

A Proof of Warranty Form, providing evidence of a 10-year warranty on system installation must be completed and signed by the appropriate party(ies) and given to the System Owner. See Section 2.4 for details.

#### **4.7.3.7 Final Project Cost Breakdown Worksheet & Affidavit**

A final project cost breakdown worksheet must be submitted 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 costs, see Appendix A. The Program Administrator reserves the right to periodically audit Applicant's and Host Customer's records, see the CSI program contract.

#### **4.7.3.8 Final Project Cost Affidavit**

An affidavit signed by the System Owner or purchaser of the system (if other than the System Owner) must be submitted substantiating that the claimed eligible project cost is correct and has been paid in full.

#### **4.7.3.9 Final Incentive Calculation Worksheet**

All Applicants are required to complete and submit a Final 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.

#### **4.7.3.10 Revised Sizing Calculations (if applicable)**

Where applicable, applications must include a thorough description of any changes that have occurred in the system design effecting size or incentive amount since the initial application submittal.

#### **4.7.3.11 Payee Data Record**

When the Applicant completes the Payee Data Record, the Program Administrator's will have the necessary information to aid in keeping accurate records and providing timely incentive payments.

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## **5. Other Installation Requirements and Continuing Site Access Requirements**

### **5.1 Connection to the Utility Distribution System**

All solar electric systems receiving incentives under the California Solar Initiative (CSI) program must be connected to the local electric utility's distribution system. The interconnection, operation, and metering requirements for solar systems shall be in accordance with the local electric utility rules for customer generating facility interconnections. To connect a solar system to the utility distribution system, Host Customers, and/or System Owners 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 or Net Energy Metering Agreement with the local electric utility.

A copy of Generating Facility Interconnection Agreement or Net Energy Metering Agreement also must be submitted with the utility's written letter authorizing parallel operation to the Program Administrator prior to the reservation expiration date.

Applicants, Host Customers, and System Owners are solely responsible to submit interconnection applications to the appropriate electric utility interconnection department as soon as the information to do so is available to prevent any delays in system parallel operation.

#### **5.1.1 How to Apply For Interconnection of CSI Projects**

For more information on electric grid interconnections, please contact your local utility (investor-owned utilities are listed below). It is the sole responsibility of the CSI program System Owner and Host Customer to seek and obtain approval to interconnect the solar electric system to a utility's electric distribution system. System Owners and Host Customers participating in the CSI program should immediately contact the utility to seek guidance on how to apply for interconnection. Contact information is listed below.

##### **5.1.1.1 Pacific Gas & Electric (PG&E)**

Website: [www.pge.com/gen](http://www.pge.com/gen)

Email: [gen@pge.com](mailto:gen@pge.com)

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

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#### 5.1.1.2 San Diego Gas & Electric (SDG&E)

**Website:** [www.sdge.com/business/self\\_generation.shtml](http://www.sdge.com/business/self_generation.shtml)

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

#### 5.1.1.3 Southern California Edison (SCE)

NEM Program Administrator  
Southern California Edison  
2244 Walnut Grove Avenue  
Rosemead, Ca 91770  
Phone: (626) 302-9680  
E-mail [solarNEM@sce.com](mailto:solarNEM@sce.com)

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## **6. Additional Information**

### **6.1 Circumstances Requiring Additional Documentation**

#### **6.1.1 Owner or Self-Installed System**

In situations where the System Owner installs the system, the Applicant must provide the following information during the first or second stage of the application process:

- An equipment purchase agreement as described above, or
- In cases where there is not a signed agreement to purchase equipment the purchaser may provide invoices or receipts showing that at least 10 percent of the system equipment purchase price (generating equipment and inverters) has been paid to the seller(s).<sup>17</sup>

#### **6.1.2 Contractor-Installed System with Separate Seller and Installer**

In situations where the owner is purchasing the system from one company and hiring a separate company (licensed contractor) for installation, the owner must obtain proof of his or her commitment to purchase and install the system in separate documents as follows:

- An equipment purchase agreement as described above, or
- In cases where there is not a signed purchase agreement the owner may provide invoices or receipts showing that at least 10 percent of the system equipment purchase price (generating equipment and inverters) has been paid to the seller(s), and
- An installation contract from the second company as described above.

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<sup>17</sup> An example of this situation is where the purchaser buys new equipment via the Internet or mail order.

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## **7. Measurement and Evaluation Requirements**

To be eligible for CSI incentives, all Applicants, Host Customers, and System Owners must agree to comply with the terms and requirements of the measurement and evaluation program. This includes providing access to the Program Administrators and/or third-parties contracted by the California Public Utilities Commission and/or Program Administrator access to the site and any available data and information collected on the system.

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## 8. Definitions and Glossary

This section provides a list of acronyms used and definitions of key concepts in this handbook.

### 8.1 Acronyms

**AB (as in AB 1407):** Assembly Bill

**AC:** Alternating Current

**AMI: Advanced Metering Infrastructure**

**BIPV:** Building Integrated Photovoltaic

**CEC:** California Energy Commission

**CEC-AC:** California Energy Commission Alternating Current, refers to inverter efficiency rating

**CPUC:** California Public Utilities Commission

**CSI:** California Solar Initiative

**CSLB:** Contractors State License Board

**DC:** Direct Current

**ERP:** Emerging Renewables Program

**EPBB:** Expected Performance-Based Buydown

**ESCO:** Energy Service Company

**IDR:** Interval Data Recorder

**IOU:** Investor-Owned Utility

**KW:** Kilowatt

**KWH:** Kilowatt-hour

**M&E:** Measurement and Evaluation

**M&V:** Measurement and Verification

**MW:** Megawatt

**NABCEP:** North American Board of Certified Energy Practitioners



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**NRTL:** Nationally Recognized Testing Laboratory

**NSHP:** New Solar Homes Partnership

**PBI:** Performance-Based Incentives

**PG&E:** Pacific Gas and Electric Company

**PIER:** Public Interest Energy Research

**PTC:** PVUSA Test Conditions

**PV:** Photovoltaic

**PY:** Program Year

**SB (as in SB 1):** Senate Bill

**SCE:** Southern California Edison Company

**SDG&E:** San Diego Gas & Electric Company

**SDREO:** San Diego Regional Energy Office

**SGIP:** Self Generation Incentive Program

**STC:** Standard Test Conditions

**UL (as in UL 1703):** Underwriters Laboratories, Inc.

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## 8.2 Definitions

### **AB 1407:**

Assembly Bill 1407, codified as California Civil Code section 714, was signed by Governor Davis on September 3, 2003. Among other things, 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, excepting provisions that impose reasonable restrictions on solar energy systems. This statute also mandates that whenever approval is required for the installation or use of a solar energy system, that such approval be processed in the same manner as approval of an architectural modification, and not be willfully avoided or delayed. Any Public Entity (see definition) may not receive funds from a state-sponsored grant or loan program, including the CSI, for solar energy if it fails to comply with these requirements. A Public Entity must certify that it is meeting these requirements when applying for these grants or loans. Please see California Civil Code section 714 for full statutory requirements and further detail.

### **Affidavit:**

An affidavit is a written statement in writing, sworn to before a notary public or other approved officer. In the CSI program, the Final Project Cost Breakdown and Affidavit includes the final Project cost breakdown worksheet, along with a signed affidavit substantiating the claimed eligible Project cost.

### **Alternating Current (AC):**

Electric current that reverses direction, usually many times per second. Opposite of direct current (DC). Most electrical generators produce alternating current. Under the CSI program, PV electric output calculations must always be made using the CEC-AC rating standards which include inverter DC to AC conversion losses.

### **Applicant:**

The entity, either the Host Customer, System Owner, or third party designated by the Host Customer, that is responsible for the development and submission of the CSI application materials and the main point of communication between the CSI Program Administrator for a specific CSI Application.

### **Application Fee:**

An Application Fee is required once the Reservation Request has been submitted for all Non-Residential projects over 10 kW. Where applicable, the Application Fee is 1% of unadjusted requested CSI incentive and is refundable, in general, when the Project is completed and the incentive is paid, anytime before the application receives a Confirmed Reservation, or after that time, so long as the project is withdrawn due to extenuating circumstances beyond the Host Customer's control. Application fees are also refunded anytime before the application receives a Conditional Reservation, or after that time, so long as the project is withdrawn due to extenuating circumstances beyond the Host Customer's control.

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**Azimuth Orientation:**

Azimuth is the horizontal angular distance between the vertical plane containing a point in the sky and true south. To qualify for incentives in the CSI program, all PV systems with an azimuth orientation between 180 degrees and 270 degrees, facing south, southwest and west, will be treated equally.

**Backup Generators:**

Backup generators operate as short-term temporary replacement for electrical power during periods of utility power outages. In addition to emergency operation they ordinarily operate for testing and maintenance. Backup generators do not produce enough 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.

**Building Integrated Photovoltaic (BIPV):**

Building integrated PV systems are solar electric systems in which the PV panels constitute part of the building's roof or facade, replacing conventional building materials. For example, solar shingles may replace conventional asphalt shingles, providing roof protection while producing electricity.

**Calendar Days:**

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

**California Energy Commission (CEC):**

California's primary energy policy and planning agency. Created in 1974 and headquartered in Sacramento, the Commission has responsibility for activities that include forecasting future energy needs, promoting energy efficiency through appliance and building standards, and supporting renewable energy technologies. On August 21, 2006, the Governor signed Senate Bill (SB 1) which directs the CPUC and the CEC to implement the CSI program consistent with specific requirements and budget limits set forth in the legislation.

**California Public Utilities Commission (CPUC):**

The CPUC regulates a number of industries including the electric utility industry that impact public well-being. Among other activities, the CPUC establishes service standards and safety rules and authorizes rate changes. The CPUC, in conjunction Senate Bill 1 (SB 1), has authorized the California Solar Initiative (CSI). In CPUC Decision (D.) 06-01-024, the California Public Utilities Commission (CPUC) established the CSI program. In D.06-08-028, the CPUC established implementation details for the CSI program.

**California Solar Initiative (CSI):**

The California Solar Initiative program pays incentives to solar photovoltaic (PV) projects in the three California IOU service territories. This Handbook is designed to describe the requirements for receiving funding under the CSI. The program was authorized by the California Public Utilities Commission (CPUC) and Senate Bill 1 (SB 1). Responsibility for administration of the CSI Program is shared by Pacific Gas and Electric Company – PG&E customers; Southern California Edison Company – SCE customers; and San Diego Regional Energy Office (SDREO) – SDG&E customers.

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**Capacity Factor:**

The ratio of the electrical energy produced by the generating system during a specific period, to the electrical energy the generating system could have produced if it had operated at full capacity rating during the same period.

**Capacity Rating:**

The capacity rating is a load that a power generation unit, such as a photovoltaic system, is rated by the manufacturer to be able to meet or supply. The Program Administrator will verify system capacity rating to confirm the final incentive amount.

**CEC-AC Rating:**

The CSI Program Administrators will use the California Energy Commission's CEC-AC method to measure nominal output power of photovoltaic cells or modules to determine the system's rating in order to calculate the appropriate incentive level. The CEC-AC rating standards are based upon 1,000 Watt/m<sup>2</sup> solar irradiance, 20 degree Celsius ambient temperature, and 1 meter/second wind speed. The CEC-AC Watt rating is lower than the Standard Test Conditions (STC).

**Commercial:**

Commercial entities are defined as non-manufacturing business establishments, including hotels, motels, restaurants, wholesale businesses, retail stores, and for-profit health, social, and educational institutions. For the purpose of CSI, commercial sectors include agricultural and industrial customers.

**Contractor:**

A person or business entity who contracts to erect buildings, or portions of buildings, or systems within buildings. Under the CSI program, 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.

**Contractors State License Board (CSLB):**

Installation contracts for photovoltaic systems installed under the CSI program must comply with the Contractors State License Board (CSLB) requirements. Please refer to the CSLB website for more information on CSLB guidelines at: [www.cslb.ca.gov](http://www.cslb.ca.gov).

**CSI Program Forum:**

The CSI Program Forum was established in CPUC D.06-08-028 to provide a public venue for interested parties to identify and discuss ongoing issues related to CSI administration and implementation. The forum will be used to provide input on any needed updates to this Handbook and future more substantive program modifications that may be considered. For more information on the CSI Program Forum, refer to Section 1.5.

**Curtable Rate Schedule:**

Also referred to as an interruptible rate schedule. A type of rate schedule that allows the transmission provider to interrupt all or part of a transmission service under specified terms due to constraints that reduce the capability of the transmission network to provide that service. Under the CSI program, generation which serves any portion of a customer's load that is

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committed to curtailable rate schedules, programs or any other such state agency-sponsored demand-response programs is not eligible for incentives.

**Demand-Response:**

Demand response refers to the reduction of customer energy usage at times of peak usage. Demand response programs may include dynamic pricing/tariffs, price-responsive demand bidding, contractually obligated and voluntary curtailment, and direct load control/cycling. Under the CSI program any generation serving a portion of customer load that is committed to demand-response programs or on curtailable rate schedules is not eligible for incentives.

**Design Factor:**

The Design Factor is a ratio comparing a proposed system's expected generation output with that of a baseline system. The Design Factor is used in calculating the EPBB incentive (it is multiplied by the system rating and the incentive rate to determine EPBB incentives).

**Direct Current (DC):**

Electric current in which electrons are flowing in one direction only; which is the opposite of alternating current (AC). Under the CSI program, photovoltaic electric output calculations must always be made using the CEC-AC rating standards which include inverter DC to AC conversion losses.

**Electric Utility:**

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

**Electrical Distribution Grid:**

A network of power stations transmission circuits, and substations conducting electricity. Under the CSI program, eligible renewable energy systems must be permanently interconnected and operating parallel to the electrical distribution grid of the utility serving the customer's electrical load.

**Emerging Renewables Program (ERP):**

The ERP is an Energy Commission program offering cash rebates on eligible grid-connected renewable energy electric-generating systems.

**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.

**Energy Service Provider (ESP):**

An entity that provides electric power and ancillary services (including but not limited to aggregators, brokers, and marketers, but excluding utilities) to an end use customer. Also referred to as an Electric Service Provider.

**Expected Performance Based Buydown (EPBB):**

The EPBB incentive methodology pays an up-front incentive to participants installing systems less than 100 kW in size that is based on a system's expected future performance. EPBB incentives combine the performance benefits of PBI with the administrative simplicity of a one-

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time incentive paid at the time of project installation. The EPBB Incentive will be calculated by multiplying the incentive rate by the system rating by the design factor.

**Firm Service Level:**

Power supplies that are guaranteed to be delivered under terms defined by contract. For electric utility customers who are on a interruptible or curtailable rate, only generation that serves the portion of their electric load that is designated as firm service is eligible for CSI incentives. Under the CSI program, 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. Customers may submit a letter requesting an exemption to the firm service rule if they plan to terminate or reduce a portion of their available load.

**Government:**

A Government entity is any federal, state, or local government agency. Federal government entities include the Air Force, Army, Navy, Marines, Postal Service, General Services Administration, and all other Federal agencies or departments. State government entities 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 entities include cities, counties, school districts, and water districts.

**Host Customer:**

An individual or entity that meets all of the following criteria: 1) has legal rights to occupy the Site, 2) receives retail level electric service from PG&E, SCE, or SDG&E, 3) is the utility customer of record at the Site 4) is connected to the electric grid, and 5) is the recipient of the net electricity generated from the solar 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.

**Incentive Adjustment Mechanism:**

A mechanism for solar incentives to automatically decline each year based upon MW reserved over the 10 years of the CSI. The adjustment mechanism reduces the statewide incentive level when specified MW levels, or "triggers," of solar installations are achieved. [May change to include calendar year trigger, pending reconciliation of SB 1 and CPUC Decision]

**Interconnection Agreement:**

A legal document authorizing the flow of electricity between the facilities of two electric systems. Under the CSI program, eligible renewable energy systems must be permanently interconnected and operating in parallel to the electrical distribution grid of the utility serving the customer's electrical load. Portable systems are not eligible. Proof of interconnection and parallel operation is required prior to receiving an incentive payment.

**Interruptible Rate Schedule:**

The right of a utility to interrupt all or part of electric service due to system or generation constraints. May also be called a Curtailable Rate Schedule. Under the CSI program,

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generation which serves any portion of customer load that is committed to such rate schedules or any other state agency-sponsored curtailable or demand-response program is not eligible for incentives.

**Interval Data Recorder (IDR):**

IDR is a metering device capable of recording minimum data required. Minimum data requirements include (a) hourly data required for the Direct Access settlement process; and (b) data required to bill the utility's distribution tariffs including 15-minute demand data--also referred to as Hourly Metering.

**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.

**Investor Owned Utility (IOU):**

For purposes of the CSI, this refers to Pacific Gas & Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company.

**Kilowatt (kW):**

A unit of electrical power equal to 1,000 watts, which constitutes the basic unit of electrical demand. The watt is a metric measurement of power (not energy) and is the rate (not the duration over which) electricity is used. 1,000 kW is equal to 1 megawatt (MW). Throughout this Handbook, the use of kW refers to the CEC-AC wattage ratings of kW alternating current inverter output.

**Kilowatt Hour (kWh):**

The use of 1,000 watts of electricity for one full hour. Unlike kW, kWh is a measure of energy, not power, and is the unit on which the price of electrical energy is based. Electricity rates are most commonly expressed in cents per kilowatt hour.

**Lessor:**

A person or entity who rents property to another under a lease. Under the CSI program, in the case of a third-party owned system (or leased system, for example), the lessor is classified as the System Owner.

**Load:**

Either the device or appliance which consumes electric power, or the amount of electric power drawn at a specific time from an electrical system, or the total power drawn from the system. Peak load is the amount of power drawn at the time of highest demand.

**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.

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**Measurement and Evaluation (M&E):**

A process or protocol to evaluate the performance of an energy system. As a condition of receiving incentive payments under the CSI program, System Owners 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 Host Customer, System Owner, a third party, or the Program Administrator.

**Measurement and Verification (M&V):**

A process or protocol to confirm the actual energy savings realized from a project once the project is implemented and operating.

**Megawatt (MW):**

Unit of electrical power equal to one million watts; also equals 1,000 kW.

**Meter:**

A device used to measure and record the amount of electricity used or generated by a consumer. The CSI program requires accurate solar production meters for all solar projects that receive incentives. Systems under 10 kW require a meter accurate to within 5%, while systems 10 kW and larger require a more precise meter accurate to within 2%.

**Modules:**

Under the CSI program, a module is the smallest complete environmentally protected assembly of interconnected photovoltaic cells. Modules are typically rated between 50 and 200 W.

**Nationally Recognized Testing Laboratory (NRTL):**

The Occupational Safety and Health Administration's (OSHA) Directorate of Science, Technology, and Medicine operates a program that certifies private sector organizations as NRTLs, which subsequently judges that specific equipment and materials ("products") meet consensus-based standards of safety for use in the U.S. workplace. Under the CSI program, PV Modules must be certified to UL 1703 by a Nationally Recognized Testing Laboratory (NRTL). Inverters must be certified to UL 1741 by a NRTL.

**Net Energy Metering Agreement:**

An agreement with the local utility which allows customers to reduce their electric bill by exchanging surplus electricity generated by certain renewable energy systems such as the PV systems the CSI subsidizes. Under net metering, the electric meter runs backwards as the customer-generator feeds extra electricity back to the utility. The CSI program permits net energy metering agreements.

**New Construction:**

New construction is defined as the construction of new buildings or major renovations of existing buildings. Residential new construction systems are not eligible for the CSI program, and should apply to the California Energy Commission's New Solar Homes Partnership Program.



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**New Solar Homes Partnership (NSHP):**

A California Energy Commission program offered as of January 1, 2007 that works with home builders and the building industry to accelerate the growth of PV in residential new construction.

**Non Profit:**

A Non-Profit institution is an entity not conducted or maintained for the purpose of making a profit, and is registered as a 501(c)3 corporation. No part of the net earnings of such entity accrues or may lawfully accrue to the benefit of any private shareholder or individual.

**North American Board of Certified Energy Practitioners (NABCEP):**

A professional association developing a voluntary national certification program for solar practitioners. Although not required by the CSI program, installation contractors are encouraged to become certified by the NABCEP.

**Pacific Gas & Electric Company (PG&E):**

An investor owned utility (IOU). The utility that provides natural gas and electricity to most of Northern California.

**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 PV systems that are interconnected with the Electric Utility distribution system for more than 60 cycles.

**Performance Based Incentives (PBI):**

The CSI program will pay Performance Based Incentives (PBI) for solar projects equal to or larger than 100 kilowatts (kW), with monthly payments based on recorded kilowatt hours (kWh) of solar power produced over a five-year period. Solar projects receiving PBI incentives will be paid a flat per kWh payment monthly for PV system output that is serving on Site load. The monthly PBI incentive payment is calculated by multiplying the incentive rate by the measure kWh output.

**Photovoltaic (PV):**

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

**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 CSI.

**Program Administrator (PA):**

For purposes of the CSI program, PG&E, SCE & SDREO (which administers the program on behalf of SDG&E).

**Program Year (PY):**

January 1 through December 31.

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**Proof of Project Milestone Date:**

The Proof of Project Milestone Date is the date when required information to demonstrate that a Project seeking CSI incentives is moving forward is due.

**Project:**

For purposes of the CSI, the "Project" is the installation and operation of the proposed eligible PV system, as described by the submitted Reservation Request documentation.

**Public Entity:**

Includes the United States, the state and any county, city, public corporation, or public district of the state, and any department, entity, agency, or authority of any thereof.<sup>18</sup>

**Rebuild A Greener San Diego Photovoltaic Incentive Program:**

San Diego area program authorized by the CPUC Resolution E-3860, created to provide incentives to homeowners rebuilding homes affected by the October 2003 wildfires. The Rebuild a Greener San Diego Photovoltaic Incentive Program accepted applications from April 1, 2006 through May 31, 2006.

**Renewable:**

Electricity supplied by energy sources that are naturally and continually replenished, such as wind, solar power, geothermal, small hydropower, and various forms of biomass.

**Reservation Expiration Date:**

The Reservation Expiration Date is the date up to when the project is active in the CSI program.

**Residential:**

Residential entities are private household establishments that consume energy primarily for space heating, water heating, air conditioning, lighting, refrigeration, cooking, and clothes drying. The classification of an individual consumer's account, where the use is both residential and commercial, is based on principal use.

**Retrofit:**

A retrofit is a modification of an existing building or facility to include new systems or components.

**San Diego Gas & Electric Company (SDG&E):**

One of California's four investor-owned utilities (IOU's). SDG&E provides natural gas and electricity to San Diego County and southern Orange County in southern California. It is owned by Sempra Energy. The CSI program is available to customers of PG&E, SCE and SDG&E.

**San Diego Regional Energy Office (SDREO):**

A Non-Profit 501(c)3 corporation that implements the CSI program on behalf of SDG&E.

**Self Generation Incentive Program (SGIP):**

The SGIP, created pursuant to California Assembly Bill 970, provided financial incentives for business and residential customers who install up to 5.0 MW of "clean" distributed generation

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<sup>18</sup> Source: CALIFORNIA CODES - PUBLIC CONTRACT CODE, SECTION 21611

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equipment onsite. The current program runs through December 31, 2007. The SGIP was extended in modified form for certain technologies through AB1685.

**Seller:**

Any person or business entity that transfers property or property rights by sale in commerce. To participate in the CSI program, companies who sell system equipment must be certified by the CEC or some approved third party.

**Senate Bill 1 (SB 1):**

This Senate Bill establishes the goals of installing 3,000 MW of solar generation capacity in the state of California, establishing a self-sufficient solar industry, and placing photovoltaic systems on 50 percent of new California homes within 13 years. The bill was signed into law on August 21, 2006, and it becomes effective date on January 1, 2007. SB 1 requires the CPUC, in implementing the California Solar Initiative (CSI) to adopt performance-based subsidies (e.g. subsidies that pay based on the amount of electricity produced) by January 1, 2008 where 100% of incentives are based on performance for all PV systems 100 kW and larger, and 50% of incentives are based on performance for systems 30 kW and larger. Performance-based subsidies are encouraged, but not required, for smaller systems. Moreover, SB 1 authorizes the CPUC to award \$101 million in subsidies for solar thermal systems and authorizes the CPUC to award \$50 million for solar research and development. The bill requires municipal utilities to establish solar energy programs in support of the 3,000 MW goal and raises the net metering cap from 0.5 percent to 2.5 percent.

**Site:**

The Host Customer's premises, consisting of all the real property and apparatus employed in a single enterprise on an integral parcel of land undivided, excepting in the case of industrial, agricultural, oil field, resort enterprises, and public or quasi-public institutions divided by a dedicated street, highway or other public thoroughfare or railway. Automobile parking lots constituting a part of and adjacent to a single enterprise may be separated by an alley from the remainder of the premises served. Separate business enterprises or homes on single parcel of land undivided by a highway, public road, and thoroughfare or railroad would be considered for purposes of CSI as separate Sites. Each individual Site must be able to substantiate sufficient electrical load to support the proposed system size.

**Solar Irradiance:**

Radiant energy emitted by the sun, particularly electromagnetic energy. In the CSI program the CEC-AC rating standards are based upon 1,000 Watt/m<sup>2</sup> solar irradiance, 20 degree Celsius ambient temperature, and 1 meter/second wind speed. The CEC-AC watt rating is lower than the Standard Test Conditions (STC), a watt rating used by manufacturers.

**Southern California Edison Company (SCE):**

An investor owned utility (IOU), that provides electricity in a 50,000-square mile service territory in Southern California.

**Standard Test Conditions (STC):**

A watt rating used by manufacturers of photovoltaic cells or modules. The CEC-AC watt rating used in the CSI is lower than the Standard Test Conditions.

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**System Size:**

For purposes of the CSI program, system capacity is defined as the expected electrical output of a given photovoltaic system based upon CEC-AC rating standards. Under the CSI program, the expected production of electricity by the system may not exceed the actual energy consumed during the previous 12 months at the Site.

**System Installer:**

The System Installer is responsible for installing for the Host Customer the photovoltaic system that will be eligible to receive CSI program incentives. A qualified solar system installer should be able to evaluate factors that will affect photovoltaic system performance, such as the orientation (tilt and direction) of the system, wire length and size, shading, module output mismatch, inverter efficiency, module cleanliness, and other factors.

**System Owner:**

The owner of the PV 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.

**UL Listed:**

Tested and listed by the Underwriters Laboratories, Inc. In the CSI program, PV modules must be certified to UL 1703 by a Nationally Recognized Testing Laboratory (NRTL). Inverters must be certified to UL 1741 by a NRTL.

**Vendor:**

A seller of property, goods, or services. According to the CSI program, in cases when a vendor sells a PV system to a Host Customer, the Host Customer is the System Owner.

**Warranty:**

A promise, either written or implied, that the material and workmanship of a product are without defect or will meet a specified level of performance over a specified period of time. In the CSI program, inverters and modules must each carry a 10 year warranty, and meters a one-year warranty. The warranty may be provided in combination by the manufacturer and installer. On January 1, 2008, the warranty requirements will be increased to a minimum of five years for meters.

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## 9. Program Administrator Contact Information

Potential Host Customers and their Applicants can receive more information and apply for incentive funding through the following Program Administrators:

### 9.1 Pacific Gas & Electric (PG&E)

Website: [www.pge.com/solar](http://www.pge.com/solar)  
Email Address: [solar@pge.com](mailto:solar@pge.com)  
Contact Person: Program Manager, California Solar Initiative Program  
Telephone: (800) 743-5000  
Fax: (415) 973-2510  
Mailing Address: PG&E Integrated Processing Center  
P.O. Box 7265  
San Francisco, CA 94120-7265

### 9.2 San Diego Regional Energy Office (SDREO)

Website: [www.csi.sdenergy.org](http://www.csi.sdenergy.org)  
Email Address: [csi@sdenergy.org](mailto:csi@sdenergy.org)  
Contact Person: Nathalie Osborn, Program Manager  
Telephone: (858) 244-1177/(866)-sdenergy  
Fax: (858) 244-1178  
Mailing Address: San Diego Regional Energy Office  
Attn: SELFGEN Program Manager  
8690 Balboa Avenue Suite 100  
San Diego, CA 92123

### 9.3 Southern California Edison (SCE)

Website: [www.sce.com/rebatesandsavings/CaliforniaSolarInitiative/](http://www.sce.com/rebatesandsavings/CaliforniaSolarInitiative/)  
E-mail Address: [greenh@sce.com](mailto:greenh@sce.com)  
Contact Person: Program Manager, California Solar Initiative Program  
Telephone: (800) 799-4177  
Fax: (626) 302-6253  
Mailing Address: Southern California Edison  
2131 Walnut Grove Avenue, G03, 3rd Floor, B10  
Rosemead, California 91770

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## **10. Appendix A: Description of Total Eligible Project Costs**

### **10.1 Eligible Project Cost Items**

The California Solar Initiative program collects information on photovoltaic system project costs solely for reporting purposes. The following costs may be included in total eligible project cost:

1. Photovoltaic 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. Building permitting costs
7. Warranty and/or maintenance contract costs associated with eligible project cost equipment
8. Sales tax and use tax
9. On-site system measurement, monitoring and data acquisition equipment.
10. 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.
11. Cost of capital included in the system price by the vendor, contractor or subcontractor (the entity that sells the system) is eligible if paid by the System Owner.

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## 11. Appendix B: Metering Requirements

The following Appendix contains detailed information with respect to the minimum metering and monitoring requirements for participation in the CSI Program. These minimum requirements were developed to increase owner knowledge of system performance, foster adequate system maintenance, and thereby ensure ratepayer incentives result in expected levels of solar generation.

CSI Program participants are required to install the following metering related components based on the size of their system and type of program participation (i.e. EPBB or PBI):

**Table 16**  
**Metering Summary**

	5% Meter (Inverter Integrated)	2% Meter (Standalone Meter)	PMRS
EPBB < 10kW	Required	Optional	Required*
EPBB ≥ 10kW and <20 kW	N/A	Required	Required*
EPBB > 20 kW	N/A	Required	Required
PBI (All System Sizes)	N/A	Required	Required

Notes:

- PMRS stands for Performance Monitoring and Reporting System
- \*Required unless the cost of the PMRS fall above the cost cap (the cost of the minimum metering, communication, and reporting system over the first five years for each solar installation size grouping shall be less than 1% of total installed cost for systems up to 30 k and 0.5% for larger systems. See CPUC Decision D.06-08-028). The customer seeking exemption must demonstrate to the Program Administrator that they were not able to satisfy the metering requirements within the applicable cost cap.
- N/A = Not Applicable

Recipients of CSI funding are not precluded or penalized from purchasing or installing a performance monitoring system that exceeds the minimum requirements or any cost caps. The selection of performance monitoring system and service provider is made at the recipient's choice and expense.

As with other required solar system components, all installed meters and Performance Monitoring and Reporting Systems (PMRS) must be listed with the Energy Commission. Lists of qualifying meters and PMRS Systems can be found on the California Energy Commission's website ([www.energy.ca.gov](http://www.energy.ca.gov)).

Detailed information on these summarized requirements follows.

### 11.1 Minimum Meter Requirements

All systems must be installed with a meter or meters so that the System Owner and Program Administrator can determine the amount of energy produced by the system and the System Owner may support proper system operation and maintenance. The meter must be listed with the Energy Commission and must meet the minimum meter requirements of this section.

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The California Energy Commission's list of qualifying meters can be found at:  
([www.energy.ca.gov](http://www.energy.ca.gov)).

### **11.1.1 Meter Type**

For all systems with a CEC-AC rating of 10 kW or higher the installed meter(s) must be a separate Interval Data Recording (IDR) meter(s), or a complete system that is functionally equivalent to an IDR meter recording data no less frequently than every 15 minutes. Installed meter(s) for systems below 10 kW do not need to be separate IDR meters and may be internal to the inverter(s). Program Administrators may have additional meter functionality requirements for systems receiving PBI, as the utilities will use these meters to process PBI payments and system compatibility may be required. For example, meters and service panels must meet all local building codes and utility codes. Each Program Administrator will maintain a publicly-available list of any additional functionality requirements. Please consult your Program Administrator to determine whether any additional requirements apply.

### **11.1.2 Meter Accuracy**

The installed meter(s) must be accurate to  $\pm 5\%$  for all systems with a CEC-AC rating below 10kW (a " $\pm 5\%$  Meter") and  $\pm 2\%$  for all systems with a CEC-AC rating of 10 kW or higher or for systems receiving PBI payments (a " $\pm 2\%$  Meter").

### **11.1.3 Meter Measurement**

Meters must measure net generated energy output as well as instantaneous power.

### **11.1.4 Meter Testing Standards**

$\pm 2\%$  Meters must be tested according to all applicable ANSI C-12 testing protocols.  $\pm 5\%$  Meters must be tested to testing protocols as defined by the California Energy Commission.

### **11.1.5 Meter Certification**

The accuracy rating of  $\pm 2\%$  Meters must be certified by an independent testing body (i.e., a NRTL such as UL or TUV).

The accuracy rating of  $\pm 5\%$  Meters must be certified by the manufacturer of the  $\pm 5\%$  Meter or an independent testing body (i.e., a NRTL such as UL or TUV).

All test results or NRTL documentation supporting the certification must be maintained on file for inspection by the Commission or Energy Commission.

### **11.1.6 Meter Communication / Data Transfer Protocols**

Protocols for the minimum required Solar Performance / Output Data must enable any Independent Performance Monitoring and Reporting Service Provider to communicate with the



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meter to obtain the minimum required Solar Performance / Output Data from the meter. The data transfer protocol provided to the utility must satisfy servicing utility requirements.

### **11.1.7 Meter Data Access**

All meters must provide the Performance Monitoring and Reporting Service Provider with the ability to access and retrieve the minimum required Solar Performance / Output Data from the meter using the Meter Communication / Data Transfer Protocols. In the event that the system is not required to have a Performance Monitoring and Reporting Service (PMRS) as shown in the summary table above, the Program Administrator must work with the System Owner to develop a means to retrieve the minimum required Solar Performance/Output Data from the meter.

### **11.1.8 Meter Display**

All meters must provide a display showing the meter's measured net generated energy output and measured instantaneous power. This display must be easy to view and understand. This display must be physically located on the meter or inverter, and it may also be located on a remote device.

### **11.1.9 Meter Memory and Storage**

All meters must have the ability to retain collected data in the event of a power outage. Meters that are reporting data remotely must have sufficient memory to retain 60 days of data if their standard reporting schedule is monthly and 7 days of data if their standard reporting schedule is daily. Meters that do not remotely report their data must retain 60 days of data. In all cases meters must be able to retain lifetime production.

## **11.2 Minimum Communication Requirements**

All systems must be installed with some form of communication capability that will provide meaningful feedback to System Owners and Program Administrators. For all systems greater than 20 kW, and where otherwise possible, the systems should have remote communicating capability whereby performance data can be collected, accessed remotely, and uploaded for processing by a PMRS. For systems smaller than 20 kW, there is no specific communication technology requirement (e.g. telephone modem, cable, wireless, utility's existing meter reading system, etc), but as discussed above, the meter display must be accessible to the System Owner, and the Program Administrator must be provided means to retrieve data to collect performance data.

## **11.3 Minimum Performance Monitoring & Reporting Capability Requirements (see Table 16)**

In order to enable system owners to properly maintain and evaluate the performance of their systems and to allow Program Administrators to monitor the performance of systems receiving CSI incentives, a Performance Monitoring and Reporting System must be installed to monitor and report on the following minimum data points and all monitoring, data collection, data

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retention, and reporting must be performed as specified in the corresponding sub-sections below.

The Performance Monitoring and Reporting System must be listed with the Energy Commission and must meet the minimum requirements of this section.

The California Energy Commission's list of qualifying performance monitoring system providers can be found at [www.energy.ca.gov](http://www.energy.ca.gov)

### **11.3.1 Required Solar Performance / Output Data**

The Performance Monitoring and Reporting System must monitor, record, and report on instantaneous AC kW and net kWh Generated by the PV system.

### **11.3.2 Minimum Report Delivery Requirements**

The Performance Monitoring and Reporting System must provide for the electronic delivery of reports.

### **11.3.3 Time Granularity of Acquired Data**

The Performance Monitoring and Reporting System must log all Required Solar Performance / Output Data points no less frequently than once every 15 minutes.

### **11.3.4 Frequency of Data Collection**

The Performance Monitoring and Reporting System must remotely acquire and process all data points no less frequently than once per day.

### **11.3.5 Minimum Reporting Requirements**

The Performance Monitoring and Reporting System must provide the following reports based on acquired, processed, and analyzed data:

- Data as collected and summarized by hour, day, month, and year.
- System alerts that indicate a non-functioning or poorly functioning system.

### **11.3.6 Frequency of Data Reporting**

The Performance Monitoring and Reporting System must at all times provide system owners with on-demand access to all reports required by Section 11.3.5. Time sensitive reports (i.e. System Alerts) shall be made available within 24 hours of the monitoring service provider receiving the recorded data points which, when analyzed, indicated a problem with the system.

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### **11.3.7 Data Retention Policy**

The performance monitoring system must retain and provide the System Owner and Program Administrator with remote access to 15 minute average data for a minimum of five years for PBI program participants and two years for EPBB program participants.

## **11.4 Independence of Performance Monitoring & Reporting Service Provider**

The entity responsible for providing and administering the Performance Monitoring and Reporting System shall not be affiliated with the incentive recipient, or any solar manufacturer or installer.

## **11.5 Eligible Recipients of Information**

Subject to the stated Data Privacy restrictions appearing in Section 11.5.3, the performance monitoring system must at a minimum provide each group listed below with access to data as defined.

### **11.5.1 System Owner**

The performance monitoring system shall at a minimum provide System Owners and/or host site customers (if different) with access to all Required Solar Performance / Output Data.

### **11.5.2 Program Administrators**

The performance monitoring system shall at a minimum provide Program Administrators with all data listed in Section 11.3 for all systems.

### **11.5.3 Data Privacy**

Protecting the privacy of System Owners and host site customers is of the highest order. As such, data shall be collected, processed, and reported to the System Owner and the Program Administrator in accordance with this Appendix. The PMRS may provide data to third parties, including installers and host customers (if different than the system owners), provided the System Owner has consented in writing to the release of such performance data.

## **11.6 Advanced Metering Infrastructure (AMI) Coordination**

To the extent AMI coordination is an important component of PBI or EBPP program administration, the Commission will re-evaluate the requirements of this section at that time.

## **11.7 Overall Cost Constraint**

As described in Table 16, all recipients of CSI funding with systems sizes greater than or equal to 20 kW, or participating in the PBI program regardless of system size, are required to install a

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performance monitoring system with 5 years of service that meets all of the applicable minimum standards defined in this Appendix.

Recipients of CSI funding are not precluded or penalized from purchasing or installing a performance monitoring system that exceeds the minimum requirements or any cost caps. The selection of performance monitoring system and service provider is made at the recipient's choice and expense.

To the extent that a recipient of CSI funding is not required to install a PMRS, the recipient of CSI funding is still required to install a metering system that meets all applicable parts of Section 11.1 (See Table 16).

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## **12. Appendix C: Contract and Forms**

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## 13. Index

