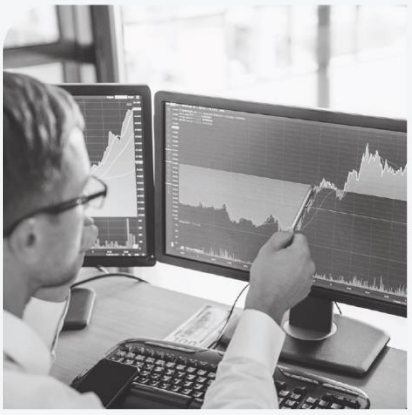
Statewide State of California Energy Strategy and Support (SOC ESS) Program

Program Manual



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Pacific Gas and Electric

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1. Eligible Measures Or Measure Eligibility, if Applicable

Provide requirements for measure eligibility or a list of eligible measures.

The Statewide State of California Energy Strategy and Support (SOC ESS) Program accepts a wide variety of energy-savings projects. A list of deemed measures can be found in **Table 10 – Program Offered Deemed Measures** in the Implementation Plan. A list of example custom measures and operational strategies is included in **Appendix A**. Measure eligibility will be made at the discretion of the Program on a per site basis, however all measures must meet the following criteria:

- **Must Exceed Baseline Energy Performance:** Incentives are paid on the energy savings and demand reduction above and beyond baseline energy performance, which for some measures may include state-mandated codes, federal-mandated codes, industry-accepted performance standards, existing baselines, or other baseline energy performance standards as determined by Pacific Gas and Electric (PG&E).
- **Measure Persistence:** To ensure that energy savings persist, the following requirements apply:
    - Normal replacement (NR), new construction (NC), Accelerated Replacement (AR), Add-On Equipment (AOE), and building weatherization (BW) measures, should typically be permanently installed. If proposed measures are not permanently installed, the project must demonstrate how the energy savings will persist over the measure life.
    - NR, NC, AR, and AOE measures must include installation of new equipment or controls. Repair or re-deployment of existing equipment is not eligible for NR, NC, AR, and AOE but may be eligible as a Behavioral, Retro-commissioning, and Operational (BRO) and BW measure.
    - For NR and AR measures, existing equipment must be decommissioned and removed from site. Decommissioned equipment must not be reused, sold, or retained for backup purposes without Program pre-approval.
- **Cannot Overlap with Other Incentive Programs:** Customer may not apply to more than one California energy efficiency incentive or rebate program for the same measure or receive incentives from more than one such program for any measure. Gas and Electric components of a measure should be considered separately. Other California end-user energy efficiency programs include but are not limited to: any program offered by or through PG&E, Southern California Edison (SCE), Southern California Gas Company (SoCalGas), San Diego Gas and Electric (SDG&E); the California Energy Commission (CEC); and the California Public Utilities Commission (CPUC), including Public Purpose Program (PPP) funded local programs, third-party programs, or government partnerships. This includes both upstream and midstream programs, which provide incentives to manufacturers and distributors.
- **Demonstrate an Equivalent Level of Service**: Energy efficiency (EE) measure and baseline equipment choices must operate at a comparable level of service. If the EE measure provides either enhanced or reduced levels of service compared to the baseline, energy savings must be normalized to comparable levels of service.
- **Qualify as Utility-Approved Measure**: For a measure to qualify for rebates, it must be included in the list of approved measures. At any time during the Program cycle, the

CPUC may provide direction that triggers a change to incentive rates, savings calculations, and/or eligibility for a measure or group of measures. In the event a measure is not encompassed in an existing measure code offering and is deemed to be energy-efficient, the SOC ESS team will work with PG&E to develop a new custom measure code.

- **Installations Must Adhere to Laws and Codes**: All measures(s) must be installed in accordance with all applicable federal, state, and local laws, building codes, manufacturers' specifications, and permitting requirements. If a customer or contractor is the recipient of a rebate or incentive offered for an energy efficiency improvement or installation of energy efficient components, equipment, or appliances, a rebate or incentive can only be provided if the customer or contractor certifies that the improvement or installation has complied with any applicable permitting requirements, including any applicable specifications or requirements set forth in the California Building Standards Code (Title 24 of the California Code of Regulations).

  In addition, if a contractor performed the installation or improvement, the contractor must hold the appropriate license for the work performed. Also, if a customer or contractor is the recipient of a rebate or incentive offered by an energy efficiency program specifically for the purchase or installation of central air-conditioning or heat pump units and their related fans, the rebate or incentive will be paid only if the customer or contractor provides proof of permit closure. The implementer and PA will only verify the reasonableness, not the authenticity, of the submitted proof of permit closure per SB-1414.

All projects must adhere to these Program rules and any other current and future applicable utility or statewide rules. This includes but not limited to the rules outlined in the following documents:

- Statewide Custom Project Guidance Document
- PG&E Resource Savings Rulebook
- Rulebook for Programs and Projects Based on Normalized Metered Energy Consumption

2. Customer Eligibility Requirements

Provide requirements for program participation (e.g., annual energy use, peak kW demand)

The SOC ESS program is open to any state-owned building at all California state agencies except the higher education system (University of California, California State University, California Conservation Corps) that 1. receive natural gas and/or electric services from PG&E, SCE, SCG, and/or SDG&E, 2. are not net energy or gas producers, and 3. pay the PPP surcharge on the gas or electric meter on which the energy efficient equipment is proposed. Pathway 1 (P1) agencies are screened to verify organizational readiness to act, and for energy savings potential over the program period.

3. Contractor Eligibility Requirements

List any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements (e.g. specific required trainings; specific contractor accreditations; and/or, specific technician certifications required).

The SOC ESS team works with any customer-selected trade professionals to ensure all incentive eligibility requirements are addressed and met and to verify the trade professional's understanding of all incentive eligibility requirements. AESC will not be hiring trade professionals of any kind. Agencies are responsible for hiring trade professionals to assist with the construction of work.

All trade professionals must attend a Program training and sign the Trade Professional Participation Agreement form prior to submitting an application. This agreement outlines the Program requirements, expectations, and escalation protocols.

A list of Pre-Qualified Trade Professionals (PQTPs) will be created and updated annually. While inclusion on this list is not a requirement for program participation, it does bring some added benefit and support. Additionally, it requires, and thus demonstrates to hiring state agencies, that a contractor meets applicable workforce standards for the type of work they perform. To be included on the PQTP list, trade professionals will need to demonstrate qualifications, including but not limited to:

- Services and project types
- Location of offices/territories
- Energy savings projects experience generally and for State buildings, if applicable.
- Relevant licenses and certifications for key personnel (per Workforce Standards section in this document)
- Contractor licenses and numbers and expiration dates
- Financial statements
- Certificates of insurances including workman's compensation insurance and proof of contractor's bond
- Service-Disabled Veteran-Owned Small Business (SDVOSB) and/or Woman Owned Small Business (WOSB) certification, if applicable
- References (from State agencies when possible)

4. Participating Contractors, Manufacturers, Retailers, Distributors, and Partners

For upstream or midstream incentives and/or buy down programs indicate, if applicable.

Not applicable to the SOC ESS Program.

5. Additional Services

Briefly describe any additional sub-program delivery and measure installation and/or marketing & outreach, training and/or other services provided, if not yet described above

No additional services beyond what is described are provided.

6. Audits

Indicate whether pre and post audits are required, if there is funding or incentive levels set for audits, eligibility requirements for audit incentives, which demand side resources will be included within the audit's scope and who will perform the audit.

To support P1 strategic planning, preliminary assessments – either remote assessments or on-site audits – will be performed for a subset of buildings across the portfolio. These studies will range from high-level review of building energy use trends to equipment-specific identification and measure recommendations and will integrate Integrated Demand Side Management (IDSM) as appropriate – including DR and DR readiness, renewable generation, storage, and energy resiliency. In select instances all buildings in the portfolio may be studied. In all instances, the Program will perform sufficient reviews to understand the buildings' equipment, performance and operations portfolio-wide. For Pathway 2 (P2) agencies, pre-installation facility reviews may be performed upon request based on available funding and can integrate IDSM per above.

Typically, large energy service companies (ESCO) projects require an in-depth ASHRAE Level 3 (investment grade audit, or IGA) audit performed by the awarded ESCO – thus for these projects a Program on-site audit may or may not be conducted. In either case, the Program will review and advise on the IGA before the Agency and ESCO finalize work scope. Smaller projects may require a Program-conducted on-site preliminary assessment to review the existing conditions of the targeted technology prior to Project Application approval – this will be determined on a case-by-case basis and will notably occur when the Program does not have access to existing information validating the existing condition claim.

All preliminary assessments are conducted in a manner that aligns with PG&E incentive eligibility requirements. Program Engineers will conduct the assessments and audits in collaboration with Agency staff.

Upon completion of project construction, post-intervention activities will be conducted based on the project type:

- For Deemed savings claims the Program will perform randomized inspections across all projects, inspecting at least a minimum percentage of all rebate project applications submitted, determined by the Program Management Plan. For newly participating trade professionals, the Program will inspect a higher percentage of their initial projects, decreasing inspection rates based on demonstrated quality.
- For Custom and Normalized Metered Energy Consumption (NMEC) saving claims, post-installation inspections are performed by project engineers with a level of scrutiny based

on the size of the savings claim and potential incentive, detailed further in the Program Management Plan.

Customers agree that by participating in the program they are allowing site inspections and audits required by the SOC ESS team to be conducted. All projects are subject to inspection at Program discretion, although not all projects will be selected.

7. Sub-Program Quality Assurance Provisions

Please list quality assurance, quality control, including accreditations/certification or other credentials

Quality assurance (QA) is embedded throughout the project process with Senior Managers and Senior Engineers overseeing and signing off on all milestone deliverables generated by team members. Acceptance criteria guide these senior level employees with quality assurance oversight. The acceptance criteria are geared towards ensuring compliance, data accuracy and customer satisfaction. As the program team does not directly install energy efficiency equipment, SOC ESS QA and quality control (QC) mechanisms for measure implementation is in the forms of project/construction management support and measurement and verification (M&V), as well as in following the Program's QC process, entailing Project Eligibility Screening, Pre-Installation Package Review, and Post-Installation Verification.

Quality Assurance

The Program team will implement comprehensive QA strategies that address each stage of the project lifecycle - from initial customer outreach through measurement and verification.

The key examples of QA efforts include the following:

- Develop program forms and documentation
- Onboard all program staff and positions
- Train Trade Allies and ESCOs on tool use and project protocols
- Standardize calculation tools, methodologies, and project forms
- Establish processes for intermittent quality control checks, including a technical review checklist

A set of technical review checklists will be developed that addresses the nuances of each measure type (NR, AOE, AR, etc.) and QC stage to ensure that calculations, methodologies and assumptions are documented, and error free. These documents drive the QC process.

Quality Control

QC stages consist of PG&E Engineering Team Engagement, Project Eligibility Screening, Pre-Installation Package Review, and Post-Installation Verification. Each stage will have a checklist that must be completed by the project's technical lead; either the Program technical review engineer or the project developer and will be routed to Program staff for both technical and policy-level QC reviews.

PG&E Engineering Team Engagement

The Program will engage PG&E's program engineering team early in project development. This will provide an opportunity for the Program to solicit input from PG&E before projects get too far into development. Such feedback may concern project specifics such as baseline selection or influence documentation, the application, regulatory compliance, or other items as deemed necessary by the Program or PG&E. This step will help the Program manage customer expectations and confirm that projects are on track to meet eligibility guidelines before substantial investment in project development occurs. This may happen in conjunction with Project Eligibility Screening or Pre-Installation Package Review.

Project Eligibility Screening
An Eligibility Screening is conducted prior to development and submission of a complete project application. It is important to conduct an eligibility screening of a project to assess project viability as well as cost effectiveness.

Pre-Installation Package Review
For the Pre-Installation Package Review, upon receiving a complete application package, the Program will conduct an internal QC review using the Pre-Installation Review Checklist, included in the Program Management Plan. Pre-Installation Package Review satisfies statewide guidelines to check specific items based on project types, such as Deemed, Custom or NMEC. For Program tracking and KPI purposes, the checklists will be used to document each type of error and number of occurrences.

Post-Installation Verification
The Post-Installation Verification QC step employs a Post-Installation Review checklist that is unique to each savings method, but shares a similar review process regardless of project type:

- **Deemed Savings**: QC for deemed savings will confirm facility eligibility, measure eligibility, and savings validation, and will review invoices and specification sheets to confirm claimed installed quantities, deemed savings values, and eligibility requirements. Information requirements for deemed applications shall include the requirements presented in the Program Management Plan.
- **Custom Savings:** QC for custom savings claims consists of reviewing the justification for any changes in project scope, measure application type, savings baselines, etc.; adherence to the pre-installation approved M&V Plan, with justification for any changes; submission of accurate calculations that follow the same approved methodology from the pre-installation package review; verification that calculations are supported with post-implementation data and normalized where necessary. And in accordance with the Statewide Custom Project Guidance Document, if changes were made to the project after Project Application approval, the energy savings and demand reduction calculations will be updated as needed.
- **NMEC Savings:** QC for NMEC savings include review of the identified NREs to ensure they are justified and NRE adjustment calculations comply with statewide custom guidance; verification of NMEC statistical fitness with post-installation data; invoices to verify support for implementation costs; documentation of customer commitment to O&M plan for BRO measures when applicable, and other post-installation verification components. In accordance with the Statewide Custom Project Guidance Document, if changes were made to the project after Project Application approval, the energy savings and demand reduction calculations will be updated as needed.

For Deemed savings claims, the Program will perform randomized inspections across all projects, inspecting at least a minimum percentage of all rebate project applications submitted, determined by the Program Management Plan. For newly participating Trade Professionals, the Program will inspect a higher percentage of their initial projects, decreasing inspection rates based on demonstrated quality. For Custom and NMEC saving claims, post-installation inspections are performed by project engineers with a level of scrutiny based on the size of the savings claim and potential incentive, detailed further in the Program Management Plan.

Documenting Program Influence
The Program will capture pertinent influence documentation, including:

- Program engagement and communications with customer
- Customer's decision-making criteria
- Project timeline
- How project was initiated, and measures identified
- Alternative viable options that meet customer needs
- Energy and non-energy benefits

Screening for Free Ridership
A free ridership screening will be conducted as detailed in the Program Management Plan. Free ridership will be minimized primarily through early and regular customer and trade professional interaction. All current and future projects will be discussed and documented during the initial customer outreach and meetings. Ongoing communication through in person meetings and phone calls will be logged to ensure no decisions or commitments have been made prior to written approval.

Documenting Measure Application Type
The most recent directives from the CPUC, in Resolution E-5115, will help weigh documentation requirements for viability and influence by using the four tiers of rigor (very low, low, medium, full) based on incentive, further detailed in the Program Management Plan.

AR measures will be documented through the collection of equipment age, SOC Agency condition assessments and maintenance records and/or invoices and RUL will be documented within the energy audit report or IGA. These records will be used to determine that either the project is replacing equipment within the RUL, or that if the equipment can be repaired indefinitely, costs are not significantly escalating, resulting in the economic need for replacement. Additionally, Program staff will assess if the primary goal of the measure is related to energy savings rather than a need to improve an unstable operation or performance of the equipment.

Documenting Baselines
All measures will require the determination of a standard practice baseline. The standard practice baseline activity or installation will meet the anticipated functional, technical, and economic needs of the customer, building, or process and provide a level of service comparable to what is being provided by the EE measure. If there is not a viable and comparable baseline solution that offers a comparable level of service as the EE measure, the energy use of the baseline solution will be adjusted to provide a level of service comparable to the EE measure.

8. Other Program Metrics

List all documentation and data used to calculate Program Metrics. This includes but is not limited to data in support of sector-level and portfolio-level metrics.

To support future reporting efforts, the metrics provided in **Table 1 – Program Metrics** are gathered for all SOC ESS projects:

Table 1 - Program Metrics

Project Metric	Metric Definition	Metric Units
Measure Energy Savings	For each measure the baseline (in-situ) conditions, standard practice baseline, and installed conditions are measured and documented. These are used as the basis for 1st and 2nd baseline energy impacts.	Energy Usage: kWh/yr Power Demand: kW Gas Usage: Therms/yr
Measure Details	For each measure, all Program inputs are provided to facilitate tracking, cost effectiveness, and third-party verification.	Measure Description Solution Code Measure Installation Type (NR, AOE, AR, BRO, NC) Estimated Useful Life Remaining Useful Life (if applicable)
Measure Costs	For each measure, appropriate installation costs, standard measure costs (if applicable), incremental measure cost (if applicable), and accelerated replacement cost (if applicable) are provided. All costs are in accordance with Statewide Custom Program requirements.	Installation Cost Standard Measure Cost (if applicable) Incremental Measure Cost (if applicable) Accelerated Replacement Cost (if applicable)
Program Costs	All SOC ESS program costs.	Monthly Invoice
Supporting Documentation	Justification for all of the above metrics are provided in sufficient detail to facilitate Program or third-party verification.	Examples include, but are not limited to: Raw Measurement Data Open Source Calculation Files Remote and/or On-Site Assessment Installation Report Project Correspondence Specification Sheets Invoices Cost References Process and Instrumentation Diagrams Accelerated Replacement Justification (if applicable)

APPENDIX A: LIST OF EXAMPLE CUSTOM ELIGIBLE MEASURES

- Exterior Pole Mounted LED Lighting
- Exterior Wall-Mounted LEDs
- Interior Highbay LED Lighting
- Interior LED Linear LED Dimmable Retrofit Kits
- Comprehensive Interior Lighting Controls
- Water-Cooled Variable Speed Chiller
- Chiller Staging
- Variable Speed Cooling Tower
- HVAC Retrocommissioning (e.g., airflow balance/adjustment, setpoint change, schedule change, etc.)
- HVAC Controls
- Variable Flow Chilled Water Pumps
- Condensing Air Handling Unit Furnaces
- Condensing Domestic Hot Water Heaters
- Boiler Burner Upgrade
- Hydronic Boiler System
- Condensing Boiler Economizer
- Refrigeration System Upgrade
- Refrigeration Controls
- Variable Frequency Drives
- Aeration Blower Replacement