

PG&E's

Nonresidential New Construction (NRNC)



2009 PARTICIPANT HANDBOOK

POLICIES AND PROCEDURES

www.savingsbydesign.com

This offering is funded by California utility customers and administered by Pacific Gas and Electric Company, San Diego Gas and Electric, Southern California Edison, and the Southern California Gas Company under the auspices of the California Public Utilities Commission.

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What’s New for 2009?

- Increased incentives for non-lighting Systems Approach measures by \$0.01 per kWh
- Increased Whole Building Approach incentives, where the maximum rate is raised to \$0.30 per kWh at 30% better than T24
- Increased Systems and Whole Building Approach gas measures to \$1.00 per Therm
- An additional \$100 per kW saved across all Systems and Whole Building measures
- A lowered Design Team participation threshold to 10% better than T24 and increased incentive rates due to the increases in the Owner’s incentive rates

1 OFFERING OVERVIEW AND POLICIES

1.1 Introduction

California's Nonresidential New Construction (NRNC) offering, also known as Savings By Design, is a new construction and renovation/remodel energy efficiency offering. It is administered statewide and funded by utility customers through the Public Purpose Programs surcharge applied to gas and electric services. Five utilities offer the program in their respective service areas: Pacific Gas and Electric Company (PG&E), San Diego Gas and Electric (SDG&E), Southern California Edison (SCE), Southern California Gas Company (SoCalGas) and Sacramento Municipal Utility District (SMUD). This statewide approach offers the nonresidential building industry a multi-faceted program designed to consistently serve the needs of the building community throughout California. NRNC encourages energy-efficient building design and construction practices, promoting the efficient use of energy by offering up-front design assistance supported by financial incentives based on project performance.

Benefits of Participation. Projects participating in NRNC receive services including design assistance, energy analysis, and financial incentives. Services begin in the project design phase and continue through construction completion. Design assistance can range from simple plan review and efficiency upgrade recommendations to comparisons of efficient systems, technical specifications, and even complete computer simulation analysis comparing a number of alternative systems and integrated building design options. Financial incentives are available for projects that exceed established thresholds. The incentives help to offset potential increases in costs associated with energy efficient buildings. Incentives are also offered to design teams to move design practices toward a greater consideration of energy efficiency options early in the design process, when the potential for energy savings is the greatest and most cost-effective.

Designs for Nonresidential New Construction and Renovation/Remodel Projects.

NRNC targets the primary decision-makers for new construction and renovation/remodel projects such as: building owners, architects, engineers, designers, contractors, builders, developers, and energy consultants. NRNC analyses provide detailed technical and financial assistance data that allows owners and design teams to make informed decisions regarding energy efficiency features. The NRNC offerings serve commercial, industrial, and agricultural customers and utilize California State Building Energy Efficiency Standards (Title 24, Part 6) as a reference baseline for comparison. The offering requires projects to perform better than mandated by Title 24, generally ten percent (10%). Other industry standards may be used, where appropriate, to determine reference baselines for comparisons.

1.2 Definitions

Alternative Calculation Method (ACM)	Official method for demonstrating performance compliance with California's Energy Efficiency Standards. The 2005 ACM Approval Manual (P400-01-011) is available from the California Energy Commission.
Alternative Delivery Method (ADM)	The ADM delivers the same services available to all customers through NRNC. The purpose of the flexible model is to provide a short term, focused offering of NRNC services to promote the use of a new energy efficient technology or to cultivate participation from a particular market segment or customer type that may not have participated in the program previously.
Design Team	The group responsible for the design and implementation of the systems in the building that use energy or affect the building's overall energy consumption. The Design Team will generally include the building owner, project architect, mechanical and electrical engineers, lighting designer, energy consultant, contractor, and possibly others.
Design Team Application	A form submitted by the Design Team Leader to PG&E indicating interest in participating in the Design Team Incentives component of the NRNC offering.
Design Team Leader	The person who, for purposes of this offering, takes the lead in examining and implementing energy efficiency options; specifically, the person who signs the Incentive Agreement and represents the Design Team to PG&E. Generally, this will be the project architect, mechanical engineer, or energy consultant.
Gas Surcharge	An unbundled rate component included on gas customer bills to fund public purpose programs including energy efficiency, low-income services, and research and development.
Incentive Agreement	An agreement executed between the participant and PG&E that documents the estimated electric and gas savings and the estimated incentive amount for the project. Funds are reserved for a period of 48 months upon execution of this agreement.
Integrated Design	Design practices that consider energy use and financial impacts throughout the design process, involving all design team members, to make appropriate decisions.
Integrated Design Analysis	A comprehensive analysis that includes energy simulation and financial analysis to quantify the benefits associated with multiple energy efficient options and strategies.

New Construction	Defined as: (1) new building projects wherein no structure or site footprint presently exist; (2) addition or expansion of an existing building or site footprint; or (3) addition of new load, as in the example of an existing site adding a new process.
Owner	The building owner and/or developer of a project participating in the NRNC offering.
Project	The scope of work contained in one set of construction documents as submitted for permits. In the case of schools, includes all buildings per campus.
Public Goods Charge (PGC)	A universal charge applied to each electric and gas customer's bill to support the provision of public goods. Public goods covered by California's Public Purpose Program include energy efficiency programs, low-income services, renewables and energy-related research and development.
Public Purpose Programs	NRNC is a Public Purpose Program, which is managed under the auspices of the California Public Utilities Commission and administered by the Investor-Owned Utilities. These funds are directed toward a variety of efforts including low-income ratepayer assistance and energy efficiency.
Reference Baseline	NRNC uses the California state energy standard (Title 24 and Title 20) as a reference baseline, a benchmark from which energy savings are determined. Where energy standards are not applicable, but substantial energy savings are feasible, a standard practice baseline will be used. An experienced PG&E engineer will determine the appropriate baseline to be applied to such a building project and or process.
Renovation/Remodel	Defined as: (1) construction that involves complete removal, redesign and replacement of the energy consuming systems of a building or process; (2) projects that require design and selection of new systems based upon the needs of new or modified space function(s); and (3) major tenant improvements that add new load.
NRNC Representative	The PG&E representative responsible for establishing, facilitating, and maintaining the relationship between PG&E, the Owner, and the Design Team for the purpose of achieving the benefits of the program.
Title 20	California Code of Regulations relating to appliance efficiency. It is also known as the Appliance Energy Efficiency Standards. Title 20 sets minimum efficiency requirements for appliances in the state of California.

Title 24	California Code of Regulations relating to building design and construction. Part 6 of Title 24 is the Energy Efficiency Standards for Nonresidential Buildings. Title 24 sets minimum efficiency requirements for building construction materials and energy-consuming equipment in the state of California.
Utility	The Investor-Owned Utilities: Pacific Gas and Electric (PG&E), San Diego Gas and Electric (SDG&E), Southern California Edison (SCE), and Southern California Gas (SoCalGas).

1.3 General Requirements and Eligibility

To participate in the 2009 NRNC offering, applicants must meet certain minimum requirements. An NRNC Representative will meet initially with the building Owner and Design Team to determine the appropriate program path and scope of services for the project. Specific design assistance services will depend on the path selected.

To be eligible for NRNC, projects must be:

- At a point where design changes are feasible, preferably in the programming or schematic design phase.
- Located in PG&E's service territory and subject to payment of the Public Goods Charge (PGC) for electric service and/or the Gas Surcharge for gas service administered by the California Public Utilities Commission (CPUC)—this charge appears on your bill as Public Purpose Programs.
- A project in the commercial, industrial, or agricultural market segment, and either
 - A new construction, addition, or expansion project, or
 - A major renovation/remodel project which involves building system redesign, or change of occupancy.
- Meet minimum NRNC requirements.

NRNC participants must:

- Complete and return an Application to indicate the Owner's interest in the program.
- For eligible Whole Building projects, the participants must complete a "Design Team Incentive Application" to indicate a Design Team's interest to participate and to establish a Design Team Leader. Application acceptance must be acknowledged by PG&E prior to the initiation of any analysis.
- Be willing to consider energy efficiency recommendations, which will improve building or system performance significantly beyond Title 24 (or other Reference Baseline) requirements.

- Provide required documentation, including selected construction documents, Title-24 documentation, integrated design analysis reports, manufacturer specifications, equipment cut sheets, and incremental cost verification, as requested.
- Sign the appropriate completed "NRNC Incentive Agreement(s)" prior to ordering, purchasing, and/or installing the selected energy efficient options.
- Agree that they will not apply for or receive any other incentive offered by local or state entities or utilities for measures covered under NRNC.
- Agree to allow access to the completed facility for on-site verification and, if selected, participate in measurement and evaluation studies.

Term. PG&E will execute a NRNC Incentive Agreement for eligible projects until December 31, 2009, or until the 2009 program funding has been depleted.

Availability. Funding is limited and available on a first-come, first-served basis. PG&E reserves the right to modify or discontinue this program without prior notice at its discretion, or by order of the California Public Utilities Commission (CPUC).

Project Completion. Construction must be substantially complete and participants must submit all required documentation to PG&E within 48 months from the date of PG&E's execution of the Incentive Agreement. If the project's completion is delayed beyond the final date, the Agreement is voided, but the project may be eligible under the offering guidelines in effect at that time. Subsequent eligibility will be considered on a case-by-case basis and will require PG&E's approval and the execution of a new Incentive Agreement.

1.4 The Basic Process

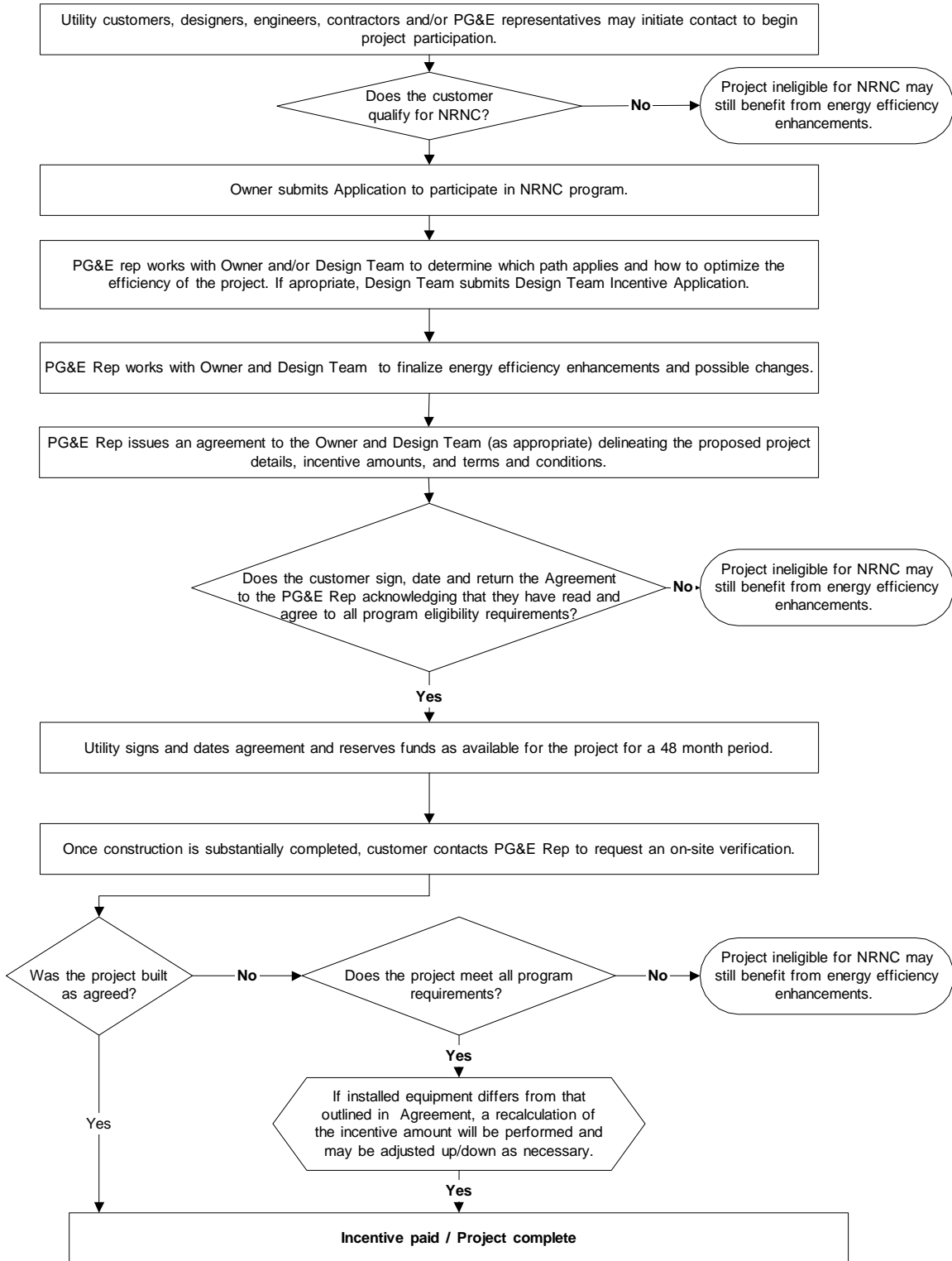
To participate in NRNC:

1. Owners, architects, designers, engineers, or contractors may initiate contact to begin project participation.
2. The Owner then submits a completed Application using the appropriate form(s) provided by PG&E. When applicable, the Design Team must completed Design Team Application during the preliminary or schematic design phase. This will be reviewed and approved by PG&E.
3. An NRNC Representative will work with the participants to determine which path applies and how to optimize the energy efficiency of the project.
4. After the selection and design of the energy efficiency enhancements are finalized, the NRNC Representative issues an Incentive Agreement to the Owner/Design Team delineating the proposed project details, estimated incentive amounts and terms and conditions.
5. The Owner/Design Team signs, dates, and returns the Agreement to the NRNC Representative. By signing the Agreement, the Owner/Design Team acknowledges that they have read and agree to all eligibility requirements. PG&E's counter-

signature and date indicate that funds have been reserved for the project for a period of 48 months. Funding is "first-come, first-served."

6. Once construction is substantially complete, the Owner contacts the NRNC Representative to request an on-site verification.
7. If the project is built as agreed and the project meets all of the requirements, the incentive will be paid. If the completed design differs from that outlined in the Incentive Agreement, a recalculation of the incentive amount will be performed and may be adjusted up or down to reflect the revised, estimated building performance.

Chart 1: NRNC Process



2 TWO APPROACHES TO ENERGY EFFICIENT BUILDINGS

Two performance-based design approaches, the Whole Building Approach and the Systems Approach, are available to identify and quantify energy-efficient design improvements. Jointly, the approaches provide the flexibility required to serve a large range of nonresidential projects and, whichever approach is taken, all services are available. After discussing project specifics, the NRNC Representative will help select the most advantageous approach based on the goals of the building Owner and Design Team as well as the nature of the project.

2.1 Whole Building Approach

NRNC promotes the use of integrated design analyses through the Whole Building Approach for large, complex projects or for projects containing innovative energy design features. Analyzing the performance of the building as a whole improves the design team's ability to optimize interactive efficiency effects of the various building systems.

Participation requires a minimal commitment from the building Owner: that they are willing to consider the analysis recommendations and attend a meeting with the Design Team to discuss the viability of implementing various energy efficiency strategies.

Whole Building Approach analysis requires the use of a comprehensive energy simulation tool capable of hourly calculations of multiple thermal zones. The tool must be capable of modeling Title 24/ACM requirements as well as the requirements of the proposed design where they differ significantly from Title 24, and must be approved by PG&E. Additionally, valuable parametric and economic analyses can be included in Whole Building Approach studies.

Customers using Prototypical Designs: Customers with multiple locations throughout the state who use a standard design prototype for multiple projects may be eligible for all services offered through the Whole Building Approach for the initial project in California. All subsequent projects constructed using that design will be eligible for the Systems Approach incentives and will not be eligible for Design Team Incentives. If there are significant revisions to the standard design, the new design effort may be eligible for all services.

2.2 Systems Approach

The Systems Approach encourages designers to optimize the energy efficiency of the systems within a building. The System Approach is most appropriate for less complex projects, those whose systems are designed at different times, and for projects where consideration for energy efficiency occurs late in the design phase.

For common building types and system features, NRNC provides this straightforward approach to identify potential energy efficiency options and impacts. For the Systems Approach, the NRNC Representative utilizes a proprietary performance-based modeling tool to quickly estimate typical energy savings associated with recommended measures in a typical building, and to calculate corresponding incentives.

3 OFFERING COMPONENTS

NRNC provides a variety of offerings to encourage the design of energy efficient buildings in California. It offers design assistance on a project-appropriate level as well as financial incentives to both the building Owner and the Design Team. Additionally, professional training opportunities, state-of-the-art energy design information and tools, industry recognition of exemplary projects are available through NRNC.

3.1 Design Assistance

Design assistance and consulting is offered at no charge to the Owner or the Design Team. The level of assistance provided for a project varies based on the program approach—Whole Building or Systems. Assistance may be as simple as providing plan review and recommendations or may be as involved as full energy modeling and financial analysis on multiple options for energy efficient systems. Receiving design assistance does not obligate the Owner to implement the design recommendations.

3.2 Financial Incentives

NRNC offers financial assistance to help offset the increased costs associated with energy efficient buildings. Incentives are based upon the project's estimated annual energy savings (kWh, kW and therms) and are calculated according to the rates and program entry levels shown in Table 1. Incentives are limited to 75% of the incremental cost of the efficiency upgrades.

NRNC offers two types of financial incentives:

Owner incentives - Incentives paid to Owners for efficient buildings that reduce energy use by approximately ten (10%) when compared to the reference baseline on an annualized basis. Owner incentives are available for Whole Building or Systems Approach projects as detailed in the attached table (Table 1).

Incentive payments are issued after construction completion is verified by an on-site inspection and when all other required documentation has been received. The final incentive amount is calculated based on the installed features. Final incentive payments may vary from agreed upon (committed) estimates as a result of changes in the design or installation of energy efficiency measures.

Design Team Incentives - Incentives paid to design teams to encourage them to integrate building systems to reduce energy use by at least ten percent (10%) when compared to the reference baseline on an annualized basis. Design Team Incentives are only available for Whole Building Approach projects, subject to an Owner Incentive Agreement being signed, and are paid to the Design Team Leader. NOTE: If PG&E provides the energy design analysis, the Design Team does not qualify for Design Team Incentives.

There are two opportunities for Design Team Incentives, based on the level of effort the Design Team elects to pursue:

- **Track A** – After developing an efficient design using energy simulation analysis, the Design Team Leader submits a summary report delineating the energy efficient features included in the proposed design. Supporting documentation must include computer

simulation electronic files and construction documents, and may include other information such as incremental cost estimates, specifications, and so forth. Track A Design Team Incentives will be paid upon construction completion and verification that all program requirements are met.

- Track B** – After exploring multiple energy efficiency design strategies through parametric and life-cycle cost analysis, the Design Team Leader submits a detailed report to the building owner and PG&E summarizing the integrated design analysis results and the proposed energy efficient design. Supporting documentation must include computer simulation electronic files, construction documents, and incremental cost estimates. Track B design team incentives are paid in two stages. Upon acceptance of a qualifying Whole Building Analysis Report and receipt of a signed Owner Agreement, fifty percent (50%) of the overall Design Team Incentive will be paid. The remaining fifty percent (50%) of the Design Team Incentive will be paid upon construction completion and verification that all NRNC requirements are met.

PG&E will process Design Team Incentive payments in accordance with the selected Track. Final Design Team Incentives are dependent on the energy savings level attained in the final construction and may vary from agreed upon (committed) estimates as a result of changes in the design or installation of energy efficiency measures.

Table 1: Incentive Rates and Entry Levels

Approach and System Categories	Entry Levels (% Beyond T24)	Incentive Rate Per Annualized Energy Savings	Peak kW Incentive Rate	Maximum Incentive Per Project*
Whole Building Approach				
Owner Incentive	10%	\$.10 - \$.30/kWh \$1.00/therm	\$100/ Peak kW	\$500,000
Design Team Incentive	10%	\$.033 - \$.10/kWh \$.33/therm	\$33/ Peak kW	\$50,000
Systems Approach				
Daylighting System	See NRNC brochure for specific thresholds and requirements	\$.05/kWh	\$100/ Peak kW	\$500,000
Lighting System (Interior & Outdoor)		\$.05/kWh		
HVAC System		\$.15/kWh \$1.00/therm		
Service Hot Water System		\$1.00/therm		
Process System**		\$.09/kWh \$1.00/therm		
* Incentives are limited to 75% of the incremental costs associated with efficiency upgrades.				
** Unique building types and/or processes may receive a package of services and incentives that may differ from the Handbook guidelines when PG&E elects to use an alternative delivery method (ADM).				