

PGE2003 RETAIL STORES

2006 - 2008

1. Projected Program Budget	\$20,850,873
See Tables in Attachment III for components	
2. Projected Net Program Impacts	
MWh	125,946
MW (Summer Peak)	21.272
Therms	17,584
3. Program Cost Effectiveness	
TRC	2.57
PAC	3.36

Forecasted impacts for gas savings are incorporated in the Mass Markets; Agricultural and Food Processing; and Fabrication, Process, and Heavy Industrial Manufacturing programs.

4. Program Descriptors

The Retail program serves the diverse retail market segment including supermarkets, restaurants, big box retail and general retail. It will include statewide elements (calculated incentives and deemed savings rebates) as well as elements specifically targeted to the energy needs of these customers (commissioning, retro-commissioning and demand response). This market integrated program will directly address the energy needs of big box retail, chain supermarkets and restaurants regardless of size in terms of kW demand. It will use a team of retail and restaurant industry experts made up of internal staff and external contractors and consultants. This team will serve as the point of contact and will coordinate training and educational activities, marketing activities, audits if needed, design assistance, financial incentives, retro-commissioning and commissioning, information about distributed generation options and demand response efforts. PG&E's Mass Market program will still be the primary delivery channel for the smaller retail stores and restaurants. However, the Retail program will provide a no hassle application process and serve as a centralized source for retail and restaurant customers to go to for their energy efficiency solutions for facility design assistance, for energy savings opportunities through integrated audits, and for incentives and rebates to help defray the cost of installing the higher efficiency equipment or adopting new energy efficient technologies. The Retail program will also coordinate training and education activities for retail customers. The centralized Clearinghouse will help the customer identify the service suitable for each particular stage of the customer's process.

The program integrates the following third party offerings:

- a) Portland Energy Conservation Inc. (PECI) Air Care Plus designed for small and medium size commercial customers HVAC efficiency. The program will train eligible technicians and work closely with contractor business owners and dispatchers to incorporate energy efficient best practices into their standard business model.
- b) PECI Supermarket Controls Program will provide grocers and food-handling businesses with audits, technical assistance, and financial incentives to encourage investment in energy efficient equipment. The program will work closely with a network of grocery contractors to promote the program.
- c) PECI Energy Smart Grocer will target refrigeration, HVAC and lighting measures in the grocery industry, including grocers, convenience stores, warehouses, liquor stores and food processors. The Program's main components include:
 - Investor to Inform Process
 - Contractor Management and Relationship
 - Grocery Smart Software
 - Technical Consultation

5. Program Statement

The 2006-2008 programs are the result of a complete reevaluation of existing programs, historical successes, the needs of the market, and the Commission's energy savings targets for 2006 and beyond. The resulting programs use a new and innovative approach to markets and delivery methods to maximize savings opportunities. The programs will have the flexibility to continuously evaluate and adjust based on performance successes and customer responses.

The retail sector includes a diversity of customers with many of the same energy concerns. All have products on display in specialized settings to enhance the sale of the products. Much of the energy efficiency potential is in similar end uses with particular concern for retail lighting, heating, ventilation and air conditioning (HVAC), lighting controls, and efficient refrigeration in supermarkets, restaurants, food services and some big box stores.

6. Program Rationale

The retail sector is a mature market, is facing increased competition, and may be ready to reduce their energy use, and thus lower their operating costs through the Retail program. However, supermarket chains and big box retail require concerted and

focused efforts with central decision makers. This program will combine PG&E's offerings together with those of industry experts to provide a package of services based on each customer's needs.

Retail stores have a high peak load coincidence factor driven by lighting and cooling. In addition, population growth is occurring in high air conditioning areas of the Central Valley. Energy bills are large in comparison to profit margins in this market segment. Customers tend to focus on quick payback for investments.

Retail stores provide opportunities for expansion of integrated building and system design practices as well as various emerging technologies (e.g., ceramic metal halide and T-5 lighting, cool roofs, daylighting). Specialized audits will provide specific recommendations on opportunities for energy efficiency for expanding departments such as prepared foods or refrigeration.

PG&E has been working with these markets and has established good working links with market allies in the retail and food industry. Significant opportunities exist for expanded work to disseminate the information of the Food Service Technology Center for the expanded cooking requirements and the Pacific Energy Center for design options in lighting, HVAC, and controls.

By coordinating the various program elements (e.g., education and information, audits, design assistance, incentive and rebates, education and information, emerging technology, and demand response or distributed generation where appropriate) and offering an integrated approach to energy efficiency, this program provides an effective approach for customers. It helps resolve some of the market barriers, gaps and confusion in the market place and provides a simplified method to apply for rebates and cash incentives for common energy efficient measures as well as for more complex engineered projects. Providing expert consultation also encourages customers to do more comprehensive projects rather than single measure projects.

Customers often lack the knowledge to identify energy saving opportunities and the ability to assess its potential energy and cost savings. By providing integrated audits and design assistance performed by industry experts, the program creates a greater awareness of energy saving opportunities and provides information and education for implementation of energy efficient strategies that will help lower energy costs. Design assistance may include equipment/system design, specifications or manufacturer information, contract/vendor referrals and project design consultations. If a project can be implemented without the need for financial incentive, energy savings will be logged into the program tracking system and claimed towards the program goal. Finally, coordination of all services in the program will also help customers develop comprehensive short-, medium- and long-term energy plans for their businesses. Program administrative costs can also be reduced by combining process, system and staff functions and capturing efficiencies where feasible.

7. Program Outcomes

The Retail program will serve this targeted market segment with offerings that are market specific and, therefore, provide more effective program delivery. It offers statewide program elements that address the more common end use measures and will also offer non-statewide program elements like integrated offerings that include retrofit measures with control systems that allow for continuous commissioning and demand response control which will result in cost effective, long-term energy savings and peak demand reductions. The overarching goal of this program is to encourage both, individual or chain retail store and food service/restaurant owners, to undertake and adopt more innovative energy efficiency and demand response projects that will result in cost effective, long-term energy savings and peak demand reductions. To that end the Retail program strives to achieve the following objectives:

- Help customers save energy by increasing the efficiency and demand response efforts in their stores or facilities. PG&E will establish energy efficiency, distributed generation information where appropriate, and demand response coordination with one or two supermarket chain and one or two restaurant chains in 2006.
- Influence customers to change energy use practices by providing education, training, and information to familiarize store managers, their contractors, designers and consultants with new energy efficiency equipment and practices as they are developed.
- In addition, the program will promote all energy options that may be applicable across all of the stores in a chain or sub-market (e.g., supermarket refrigeration, big box lighting, food services technologies, HVAC and lighting controls, marketing display lighting).
- Provide a one-stop simplified clearinghouse to reduce customer confusion and frustration.
- Help offset capital investment in new energy efficient equipment and provide a quicker payback on investment.

8. Program Strategy

The highly competitive nature of the retail market segment combined with construction of new facilities and the expansion of existing facilities into new areas such as prepared foods make this market segment especially appropriate for the integrated approach of PG&E's portfolio. This program goes beyond just providing incentives for the installation of energy efficient equipment to help offset capital investment expenditures. It strives to influence, assist and educate market segment customers to adopt energy efficiency and demand response projects at their earliest inception. It offers all types of energy efficiency projects including retrofits, new construction, renovation and

expansion projects, equipment change out for higher energy efficiency, process design improvements to save energy and demand response projects.

The services available to this market segment are as varied as the customers included. For that reason, PG&E will develop a Clearinghouse which will assist customers to define services that they may need at the present stage of their projects as well as introduce them to services that will be available as they complete each stage of their long term energy plans. For instance, a customer may call with questions about distributed generation but may not have considered some of the available energy efficiency upgrades that could reduce the size of a future distributed generation project. Or, a customer interested in demand response options may not have considered HVAC controls that would allow ongoing energy efficiency options as well as demand response.

Education and Training: The program will coordinate Education and Training activities to best meet the needs of the market. The program will serve as a conduit to give direction to training options and will deliver the information to the retail customers. These activities include:

- a. **Energy Audits.** The on-site audit activities be an element of the Retail program. Integrating the audit services into the Retail program will provide several advantages. The vast majority of audit recommendations will be related to measures or process improvements covered under the Program. These recommendations may include demand response as well as energy efficiency recommendations. Facility surveys and audits will be conducted by PG&E or third-party program implementer staff to make the customer aware of opportunities that may exist to implement energy efficiency projects. These surveys and audits can be initiated through a customer or vendor request to PG&E, through PG&E's account representatives, or third party program staff. Detailed information will be recorded in a tracking system, including equipment inventories and project recommendations. Recommendations will be followed up periodically to determine implementation status and whether additional assistance will be required to cause a project to be implemented. If a project resulting from a survey or audit is implemented without design or financial assistance, energy savings will be logged into the tracking system, and claimed toward program goals.
- b. **Commissioning and Retro-Commissioning.** Design assistance and on-site activities to ensure that energy efficiency equipment functions as intended. Provide building operator certification training as needed.
- c. **Design Assistance.** Early intervention during the design stage by specialized engineers, contractors and consultants who serve this customer group in the construction and renovation of facilities is especially important. PG&E will focus efforts to align new construction and retrofit incentives and delivery

channels to capture the growth and retrofit opportunities as this market expands. Integrated energy design for building shells and energy-using systems will be promoted among corporate decision makers. If appropriate, PG&E or third-party program implementers will provide additional assistance to help a customer or vendor identify and carry out an energy saving project. Assistance may include providing equipment/system design, specifications and/or manufacturer information, contractor/vendor referrals and detailed project design consultations. If a project can be implemented at this stage without the need for financial incentives, energy savings will be logged into the program tracking system and claimed toward program goals.

Additionally, PG&E will work with the statewide utilities to develop a program component that applies incentives to offset increased design costs rather than increased construction costs. It is anticipated that this will be supported by a training/certification process that will prepare design professionals to lead and facilitate an integrated design process with the goal of enhanced energy and resource efficiency into the majority of their projects, such that no additional construction costs are necessary.

- d. **Benchmarking.** The focus of the program will be on large chains where energy savings efforts can be replicated in a number of facilities which includes integrated energy design for building shells and energy using systems. Benchmarking of a typical facility in a large chain will allow comparison among similar facilities, e.g., a supermarket, as well as identify similar retrofit options that might be applicable in a number of facilities. Lighting, HVAC and refrigeration contractors, as well as trade groups and other market experts will play a key role in coordinating not only the calculated savings options but also energy audits (including specialized audits for food services), retro-commissioning efforts, and educational seminars as well as providing distributed generation information, and demand response.
- e. **Codes and Standards.** Support the development of new codes and standards to better integrate energy efficiency into the market.
- f. **Emerging Technologies.** Identify appropriate emerging technologies needs and support research and pilot projects to develop new technologies into the market.
- g. **Energy Design Resources.** The Retail program will utilize the highly successful statewide Energy Design Resources element to develop and distribute energy efficiency information on specific technologies, design strategies and case studies, and tools with applicability to retail facilities. The information will be developed with input from stakeholders in the retail industry and will be available on-line, in printed form, and classes may be developed to roll out some of the materials. Utilizing this well established

statewide program element, provide support the development of new design briefs, case studies, design tools, and training for designers and owners of retail facilities.

Incentives: Incentives are available to customers or their consultants and contractors with the customers' approval. It is not mandatory that audits or design assistance be provided through the program prior to application for incentives. The Retail program will use the same incentive application and processing system as other market specific programs. The application process for market specific programs will reduce customer confusion and paperwork. Measures will be categorized into one of two classifications: deemed, or calculated.

Deemed Savings Rebates: The Program will work with customers to provide a direct link to PG&E's Mass Market program for prescriptive deemed savings measures. Where possible, deemed savings will be aligned with the itemized measures from the statewide programs. Design assistance services will also be offered. Deemed savings offerings will be provided by the Mass Market program.

Calculated Incentives: The calculated approach will offer design assistance for retrofit and new construction Projects. Program collaterals and offerings will be aligned with statewide programs such as Savings By Design to the extent possible. Calculated projects for more complex projects will fall into lighting, HVAC and refrigeration, gas and others.

Many measures whose energy savings are dependent on the variables of the specific project (e.g. operating hours, loading factor, building type) are listed as calculated measures. For these measures, the applicant will input characteristics of the proposed project into an algorithm model, and the model will calculate the estimated energy savings and corresponding incentive. The models use current minimum standards or existing equipment (for early replacement projects) as the baseline and calculate the energy usage utilizing the proposed project; the difference is the resultant energy savings, which provides the basis for the financial incentive. As with the deemed approach, the project proceeds to installation upon approval by PG&E, and incentive payment is made upon PG&E's verification of project completion..

In the case of retrofit projects, pre-installation inspections are conducted to verify existing equipment. Post installation inspections are conducted for new-construction and retrofit projects to verify equipment operation and application submittals. Upon verification of the energy savings calculations, the approved incentive is paid to the customer. Calculated savings will be determined using successful statewide approaches such as Savings By Design.

The Retail program will promote Whole Building Approach (integrated design) and Systems Approach to its customers with new construction or major remodel/renovation projects:

The Whole Building Approach is the preferred method of estimating energy savings because it enables a design team to consider integrated, optimized energy efficiency solutions. This approach provides and requires a high level of energy analysis and interactive feedback, which generally leads to much more efficient design decisions. The key to maximizing energy choices, using this type of collaborative effort, is intervention at the earliest phase of building design.

The Systems Approach is a simplified performance-based method utilizing a calculation tool known as CaNCCalc to optimize efficiency choices. It is straightforward and participants may find it the best available option for certain types of projects. The Systems Approach makes it easy for designers to look at the interaction of systems within their project, rather than individual equipment or fixtures. The Systems Approach is provided to address small, simple facilities where integrated opportunities are limited, as well as projects where program intervention may come late in the design phase.

The Retail program will also offer Design Team Incentives to support the extra effort for integrated energy design and to provide an incentive to reward exceptional design accomplishments within the context of integrated design. PG&E will explore opportunities and expand design assistance to identify energy savings measures through water conservation.

Additionally, where applicable, calculated savings for retrofit projects will be determined through verification of existing equipment and utilizing established engineering calculations.

Measures and processes with limited results history cannot be assigned deemed savings nor can a model to appropriately calculate savings be devised. These measures and processes are not specifically listed as deemed or calculated, and are consequently considered customized. Additional, specific information about the project will be required of the applicant, and based on the information, an engineering analysis and evaluation of the savings potential will be completed. A performance contract between PG&E and the customer will be issued; in most cases, subsequent measurement activity will be required to verify the actual savings. To the extent feasible, future incentive levels will continue to be coordinated with those provided by the other California IOU's

PG&E Program representatives and PG&E engineers work directly with customers to identify projects, provide calculations, and assist in measurements to meet the application requirements of the program. Additionally, vendors, contractors and energy service companies may be provided with materials and resources to market elements of the program and use the program as a resource in their selling process.

PG&E's Retail program will collaborate with demand response and self-generation

programs, as appropriate, to combine program offerings into a customer-friendly and easy to navigate suite of materials. Technologies, such as building-integrated photovoltaic systems and energy management systems that are flexible enough to respond to new demand response strategies, are obvious strategies that can be integrated into a whole building approach to educate designers in the benefits of their adoption in new construction.

Demand Response: The Retail program will coordinate activities with internal demand response programs to integrate DR technologies and program offerings, better serve the customer, and maximize opportunities.

Distributed Generation: The Retail program will coordinate activities with internal distributed generation programs to provide information on DG technologies and program offerings, better serve the customer, and minimize missed opportunities.

PG&E will develop opportunities for third party retail industry experts to deliver savings at a dollar per kWh, dollar per therm basis including a mechanism for peer review of third party savings claims.

PG&E will also coordinate the energy service options with other applicable demand side programs to help the customer develop a comprehensive energy plan.

Program representatives will develop relationships with building owners, facility managers and capital projects contacts. Program representatives will work with these contacts to determine their energy efficiency needs and will coordinate delivery of energy efficiency program offerings.

Budgets and goals described above account for the calculated incentives and marketing activities. Budgets and goals for deemed savings and Education and Training program are accounted for in the Mass Market and the Education and Training programs. This program also contains budget elements dedicated to education, training and marketing. Local government partnerships ("Partnerships") may be funded by this market segment. Each Partnership will focus on the markets that offer the greatest opportunity for energy savings in their jurisdiction. A market-based approach is optimal because local governments are in the best position to understand the needs of local industries, business, and institutions. This approach will blend the benefits of common programs and strategies from a statewide program strategy with the local knowledge of markets and barriers to traditional energy efficiency programs.

The program will also develop and include a full spectrum of energy use and sustainability program offerings by collaboratively working with applicable gas, water, and other industry groups. Issues such as energy savings associated with water use efficiency and the energy impacts of embodied energies in building materials and transportation will be explored and analyzed to identify potential new sources of energy savings.

9. Program Objectives

The overarching goal of this program is to encourage individual and chain retail store and food service/restaurant owners to undertake and adopt more innovative energy efficiency and demand response projects that will result in cost effective, long term energy savings and peak demand reductions. The Retail program strives to provide market segment customers with a simplified one-stop shop to satisfy their energy efficiency and demand response needs, as well as information about distributed generation. The integrated offerings will address the special needs of the market sector and will greatly enhance the delivery of the program. A dedicated team of retail and restaurant industry experts made up of internal staff and external consultants will play a pivotal role in delivering the program. In summary, the Retail program strives to do the following:

The Retail program will provide cost-effective energy savings and demand reductions as the result of installments which occur from the 2006-08 program. PG&E's energy savings and demand reduction goals are provided in the detailed tables included with this Application.

Deemed Savings Measures

The Retail program will assist customers in determining their retrofit needs and aid them in accessing deemed rebates through the Mass Market program.

Calculated Savings Projects

The program expects to meet or exceed projected kWh and kW savings goals through the implementation of a variety of high efficiency installations.

Integration Energy Audits

For large and medium customers, facility surveys and audits will be conducted by PG&E or third-party program implementer staff to make the customer aware of opportunities that may exist to implement energy efficiency projects.

Commissioning and Retro-commissioning

The program expects to increase the level of energy commissioning and retro-commissioning within the Retail segment. PG&E intends to develop a program element to offer commissioning support to customers and develop educational materials to educate customers of the benefits of commissioning and retro-commissioning. PG&E also plans to quantify kW, kWh and therm savings achieved through commissioning activities.

Integration with Demand Response and Distributed Generation

Demand response and distributed generation information and programs will be provided to customers. PG&E's integrated delivery of demand side management

services will ensure a comprehensive evaluation that can illuminate demand response opportunities and provide distributed generation information for non-critical care functions.

10. Program Implementation

The Retail Program is delivered to customers by a team of retail and restaurant industry experts. This market segment focus will allow the integration of various demand side offerings into a tailored package most suitable to meet the needs of each particular market.

PG&E currently serves its mass market customers well through telephone-based services and e-mail communications. PG&E's Web site has made much progress in organizing technical information, program offerings (descriptions of incentives) and general utility information.

At its heart, the Clearinghouse effort suggests six important improvements in mass market delivery of energy efficiency services:

- A central repository for all program information;
- One place to call or URL for all efficiency information regardless of market segment, business type or specific program interest;
- Efficiency services/products customized to customers based on selection criteria such as location, rate schedule and business type (for mass market business customers);
- An accessible customer-data infrastructure for partners and vendors participating in PG&E administered programs to make working with customers easier;
- A customer record (database) that tracks participation in programs, interests and end-use technologies (refrigerator type, furnace type) by customer site that permit pushing information to selected customers as program developments and analysis indicate rich savings potential; and
- A back-end processing function that links front-end requests to fulfillment and record-keeping.

This focused approach will enable us to deliver the program effectively and will also enable us to capture missed opportunities. Integrating the audit services into the Retail program is important to the delivery process, it will provide several advantages. The process of referring audit recommendations to the program's delivery system greatly enhances the success of the program. Since the vast majority of audit recommendations will be related to measures or process improvements covered under the Retail Program, it will be effective and efficient to gather all the recommendations and then sort and distribute them out to the appropriate delivery channels (retrofit, new construction,

mass market) to be processed.

As mentioned earlier, PG&E may also develop opportunities for third party retail industry experts as a vehicle to deliver savings at a \$ per kWh, \$ per therm basis including a mechanism for peer review of third party savings claims.

The market segment focus also enables us to capture efficiencies in administration cost by utilizing statewide program elements that includes the calculated savings approach for retrofits and new construction projects and the deemed savings Mass Market program. This eclectic mix of offerings may include:

- Working with architects, engineers, and commissioning agents to provide integrated building and systems design; provide information through seminars, case studies and classes on recent developments in equipment and practices;
- Using industry and end-use experts (e.g., in lighting and refrigeration or food services) to provide seminars or site specific information, recommendations or design;
- Providing upstream incentives for manufacturers and distributors of energy efficient food service equipment to make it more readily available;
- Exploring options for customers, especially chain customers to become demonstration sites for new or emerging technologies especially refrigeration, cooking equipment or system controls;
- Providing program offerings that may include information regarding distributed generation, information, training, audits, commissioning and retro-commissioning;
- Providing comprehensive program offering that integrates program elements to help in marketing energy efficiency and demand response measures that work in concert with each other (e.g., package a set of retrofit measures with a control system).
- Assisting customers in developing and carrying out a long-term facility energy efficiency improvement plan.
- Coordinating with equipment vendors. Vendors have historically brought eligible energy efficient products directly to customers and rely on PG&E to educate and assist customers in the purchase of energy efficient equipment.

For instance, as the result of consultation and design assistance from the program, a large, expanding chain store may decide to include energy efficient design of lighting and control systems in all new stores in California.

Information

The Retail program will coordinate Information and Education and Training activities

to best meet the needs of the market. The program will serve as a conduit to give direction to information elements and will deliver the information to the Retail customers. These activities include energy audits, commissioning and retro-commissioning, design assistance, codes and standards, emerging technologies, energy design resources. Coordination of these activities will be supported through the development of an Energy Clearinghouse.

Energy Audits

Customers often lack knowledge about identifying energy efficiency opportunities and assessing potential energy and cost savings. The offering of energy audits assists in filling this void. Over the years, the Audit Services program has shown to be an effective method for delivering energy efficiency information and awareness to customers, and leading to participation in energy efficiency projects. An analysis of participants in PG&E's 2004 Energy Audit program indicated that 20 percent to 30 percent of the energy audits performed resulted in the installation of hardware retrofits during the program year.

Integrating the Audit Services program into the Retail Program will provide several advantages. The process of referring audit recommendations to the Retail Program's delivery system greatly enhances the current process. Since the vast majority of audit recommendations will be related to measures or to process improvements covered under the Retail Program, it will be effective and efficient to congregate all the recommendations and then sort and parcel them out to the appropriate delivery channel. This process will also lead to tracking efficiencies. Linking the audit database with the Retail Program database will result in improving the tracking of the audit process through the stages of recommendation, lead generation, project implementation and results, and follow-up of non-participation.

Commissioning and Retro-Commissioning

Retail facilities have not historically utilized Commissioning to verify that systems, function as intended. The Retail Program will encourage the integration of commissioning activities and to elevate the importance of energy system commissioning in this market segment. Additionally, where appropriate, the program will provide Building Operator Training and Certification to facility managers within larger facilities or chain stores to develop the skills and knowledge needed to maintain the energy efficiency systems in their facilities.

Design Assistance

Customers often lack knowledge or resources to identify energy efficiency opportunities and assessing potential energy and cost savings in new construction or major renovation projects. The offering of energy design assistance has been shown to be an effective method for delivering energy efficiency information to customers and helps to leverage additional savings through the interactive effects

identified in integrated design.

Codes and Standards

Through the market based approach, the Retail team will be in a unique role to better identify the needs of the customer and identify potential codes and standard improvements to better integrate energy efficiency into the market.

Emerging Technologies

Through the market based approach, the Retail team will be in a unique role to better identify the needs of the customer and relay those needs to the Emerging Technologies group and Food Service Technologies Center within PG&E. Through support of pilot projects and technology assessments, the Retail team will be better able to introduce proven new technologies to the market segment.

Energy Design Resources

Customers and design teams often lack knowledge or tools to implement new successful design strategies or utilize new technologies. Through the well established statewide “Energy Design Resources”, the Retail team will support the development of new design briefs, case studies, and design tools and training for designers and owners of retail facilities.

Deemed Savings

Deemed savings rebates offer a simplified process for customers to apply for and receive a ‘per-widgit’ rebate to reduce capital investment costs of installing higher efficiency equipment or retrofitting outdated and inefficient lighting, HVAC, refrigeration, equipment making it attractive for firms to spend money in the short term in order to lower energy costs in the long term. Deemed measures make it quick and easy for customers to participate in saving energy and reducing peak demand. Although Deemed Savings measures are filed separately under the Mass Market Program, the Retail Program will coordinate marketing and customer access to these incentives for Retail customers. Deemed savings measures are expected to meet many of the needs of smaller retail stores and large facilities that are pursuing minor upgrades. Deemed savings will also be available to some small new construction projects for which calculated savings are not appropriate.

Vendors have consistently used the deemed approach to sell energy efficient equipment. In many cases, the customer’s assurance of receiving a rebate actually helps to make the sale and the rebate is often signed over to the vendor who lists the rebate amount as a credit on the customer’s invoice. This partnership with the vendor community will be further developed and fostered within the Retail Program.

Calculated Incentives

The calculated incentive element pays incentives based on calculated project performance for both new construction and retrofit projects. Offering incentives for the utilization of non-deemed energy efficient measures encourages and supports

comprehensive projects that go beyond single measures and common efficiency practices. The calculated approach for new construction projects also allows for integrated design analysis, capturing interactive savings and potentially minimizing first costs to the customer (e.g. downsizing cooling equipment due to high performance glazing specifications).

The calculated approach will build upon the success of the Savings By Design Program and the Standard Performance Contract Program. To the extent possible, program offerings will be aligned with these statewide programs.

For new construction and major renovation projects, program staff will work to provide information and design assistance as early as the conceptual design stage. Early intervention by specialized engineers, contractors and consultants who serve these industries is especially important because design changes become more costly to the owner later in the design process, and in some cases changes cannot be implemented. Consequently this program will first focus on educating the market and establishing ongoing working relationships with retail chain corporate staff or business owners in charge of capital budgeting and facility development.

Calculated incentives will be determined using building and process energy modeling based on DOE2 or other appropriate energy simulations prepared by qualified energy consultants and verified internally or through external consultants. For new construction projects, owner incentives will be paid to new construction projects that beat the baseline by 10%. Retrofit projects will be paid based on all savings beyond the baseline. Design team incentives will be available for both new construction and retrofit projects.

Market specific delivery of calculated program offerings will allow better market penetration through market specific customization and will allow better integration with market experts through partnerships with architects, engineers and energy consultants who regularly work with retail customers.

Demand Response

As first line of contact with customers, the Retail team will be in the role of assisting the customer through developing a portfolio of energy services. As a complete package, this portfolio should include assessment of demand response opportunities where applicable.

Distributed Generation

As first line of contact with customers, the Retail team will be in the role of assisting the customer through developing a portfolio of energy services. As a complete package, this portfolio should include information on distributed generation technologies where applicable.

PG&E will also coordinate state and national efforts (California Energy Commission's

Public Interest Energy Research, the Environmental Protection Agency's ENERGY STAR[®] program, the Compressed Air Challenge). Trade associations will be linked into the entire package for education, outreach, and lead generation. PG&E will work with big-box, fast-food, retail and supermarket chains, as well as the Retail Industry Leaders Association (RILA) and the Restaurant Owners Association (ROA) to standardize energy-efficient design practice, construction, and operations. Additional financing may be offered if feasible.

PG&E will also identify projects where design assistance makes an impact but the customer chooses not to apply for program incentives. For instance, by providing market segment customers with integrated audits and design assistance performed by industry experts, a greater awareness of the energy saving opportunities is created. In the audit, PG&E will provide information and education for implementation of these energy efficient strategies that will help lower energy costs. Design assistance is also available and may include equipment/system design, specifications or manufacturer information, contract/vendor referrals and project design consultations. If a project can be implemented without the need for financial incentive, the associated energy savings will be logged into the program tracking system and claimed towards the program goal.

The Retail program will be a component of an integrated marketing and outreach strategy. A variety of channels (e.g., technical and program information, case studies, seminars, advertisements, direct mail, articles, bill inserts, point of purchase materials, trade shows) will be used as appropriate to both inform the general customer audience and to appeal to niche markets. Particular emphasis will be placed on Web-enabled information and assistance.

11. Customer Description

The Retail program is open to all retail customers regardless of size and includes general retail, big box retail, supermarkets, restaurants, and food services. The program will target architects, engineers, and commissioning agents, corporate decision makers for the chain stores, retail store owners, and energy managers, consulting engineers specializing in retail stores and restaurants, energy service providers that work in this sector.

Electric use is about 12,000 GWh (2,000 MW demand) primarily for indoor lighting, refrigeration, and cooling in retail stores with high peak loads driven by lighting and cooling. Gas use is about 320 M therms annually, mostly for cooking in restaurants/food retail and water heating.

Big box retail continues to expand (Costco, Walmart, Home Depot) as these chains follow population growth into the Central Valley. Building energy efficient buildings offers numerous benefits such as lower operating costs, greater comfort, health and productivity for its occupants. These chains are highly competitive and focus on moving a great deal of products very quickly because of the low profit margin of their

products. A recent trend among the big box retail chains is to add grocery and pre-prepared foods. These require additional refrigeration as well as new cooking equipment. Since these chains tend to have more centralized decision making and standard store designs nationwide, energy efficient design and retrofit can be replicated in many locations.

Groceries and supermarkets are also expanding with population growth in the Central Valley. Here refrigeration for the display floor as well as for storage areas is very important. Again, chain supermarkets tend to have centralized decision making. Supermarket chains are now adding significant kitchen equipment as well as both hot and cold food display equipment. Significant amounts of energy efficiency have been tapped in the grocery and food store refrigeration,¹ but as supermarkets expand into prepared foods, additional refrigeration will be needed. PG&E has worked successfully with some of these supermarket chains in the past for both retrofit and new construction projects. The focus of this new program is to build on this success and introduce new program elements like commissioning, retro-commissioning and demand response measures for lighting, HVAC, and refrigeration needs thus improving the quality of installation of these equipment.

Restaurants are a combination of specialty one-of-a-kind facilities and fast food chains. Growth is stable except for areas of population growth, again in the Central Valley. The one-of-a-kind restaurants are generally individually owned and operated. In addition, new restaurants have a very high rate of failure shortly after startup. As a result, PG&E will focus initial emphasis on chain restaurants, in particular those that tend to lead the industry in energy efficiency and design trends. PG&E will also focus on upstream manufacturers and distributors of restaurant equipment in order to make this equipment more readily available to customers.

The traditional department stores are going through a shake out with relative decline in this portion of the market. Higher-end niche marketers (typically with very high demand for specialty lighting) are expanding in specific socio-economic areas of higher disposable income (Anthropologie, Urban Outfitters, Restoration Hardware) driving energy change-outs of equipment.

The total achievable energy efficiency potential over the next 10 years was identified as over 1,430 GWh (refrigeration, indoor lighting and HVAC), 212 MW (refrigeration, indoor lighting and cooling), and 15 MTherms (hot water and cooking)¹.

12. Customer Interface

The Retail program will be presented to customers by PG&E account representatives, industry consultants and contractors/vendors of energy efficient equipments. Customers will also learn of the program through PG&E marketing efforts and in trade

¹ Commercial Energy Efficiency Study, Xenergy 2003

publications and on PG&E's Web site. The integrated market DSM portfolio will provide customers easy access to energy efficiency options as well as appropriate options for demand response and distributed generation.

13. Energy Measures and Program Activities

13.1 Measures Information

Incentive levels for the targeted market programs are being developed to reflect current market conditions.

Most of the program projects will fall under the calculated savings approach (retrofit and new construction). Some of the measures may fall under the deemed savings Mass Market program (e.g., refrigerator door gaskets, walk in strip curtains, display case doors and evaporator fan motors). In general, the program projects fall into these three broad categories:

- Lighting;
- HVAC and refrigeration; and
- Other including crosscutting measures (e.g., motors, pumps, air compressors, controls)

The projects under the calculated savings approach will have to exceed Title 24 standards or industry standards where applicable in order to be eligible.

An example of a calculated project might be new construction or expansion of a refrigeration system including:

- Evaporative condenser to achieve 15 degrees F approach temperature or better;
- Variable frequency drive (VFD) on condenser fans;
- VFD on evaporator fans (where appropriate);
- Thermosyphon oil cooling;
- Computer control system;
- Floating head pressure to 60 – 65 degrees F
- Variable suction pressure
- Lighting 6 Watts/sq ft or less
- Refrigeration Engineers & Technicians (RETA) Certified Industrial Operator (CIRO) required.
- Interval meter (records energy usage)

The program will also integrate demand response options such as control equipment to meet both energy efficiency and demand response initiative objectives (e.g., controls for reducing general lighting, air conditioning and display lighting for retail chain stores).

13.2 Energy Savings and Demand Reduction Level Data

Energy savings and demand reduction information are provided in a corresponding cost effectiveness calculator and portfolio workbook.

13.3. Non-energy Activities

13.3.1. End Use Load

The electric end use load is primarily lighting, HVAC, and refrigeration. Gas end uses are hot water and cooking.

13.3.2. Targeted Sector

The targeted sector is retail store customers which includes general retail, big box retail stores, supermarkets, and restaurants.

13.3.3. Activity Description

- The program will host several training classes and seminars to educate customers and contractors on specific end-use equipment. These workshops are designed to educate participants on performance issues and energy savings opportunities through assessment and improvement of facility equipment or systems. Other training activities may include refrigeration systems, including food service refrigeration technology and large end-use storage and refrigeration facilities.
- Specialized, integrated audits with a focus on food service equipment or retail stores will be performed as appropriate.
- Education and training options for store managers, contractors, consultants on new equipment and practices will be held.
- Customers may opt to serve as pilot sites for new or emerging technologies.

13.3.4. Quantitative Activity Goals

As required in the Energy Action Plan, Decision 04-09-060, the Energy Saving Targets Decision, Decision 05-04-051, and Policy Rules II.1 and II. 2, the focus of all activities in the program will be to promote and produce energy savings.

In addition, PG&E will work closely with at least one restaurant chain.

13.3.5. Assigned attributes of the activity

Appropriate end uses for retail store customers.

13.4. Subcontractor Activities

PG&E's portfolio of programs will integrate new and existing third parties as well as partnerships into each program. The need for additional subcontractors will be determined at that time.

13.5. Quality Assurance and Evaluation Activities

PG&E will continue the level of quality assurance of the present programs including pre-inspections for larger or specialized projects and post-inspections on all large projects and a percentage of smaller projects similar to 2004-2005.

The Retail Program has quality assurance verification activities and evaluations to ensure the program's efficiency and cost-effectiveness. The project verification, review and quality assurance will be carried out by independent consultants. PG&E will review and quality-check consultants' reports and customers' applications. Independent consultants' evaluations and program tracking data will be used to assess the effectiveness of program intervention strategies in order to meet customer needs and overcome market barriers.

The program evaluation consultants will gather data during the program interventions, review and conduct quality assurance on the data. The independent consultants will also supplement the data as needed to carry out the analyses to determine the successfulness of the program.

For measurement of energy savings, a detailed EM&V plan will be developed by an independent consultant that will select methods that are consistent with the currently adopted measurement rules at the time the detailed plan is developed. Either in this evaluation or in an over-arching statewide study, the ex ante energy and demand savings estimates will be reviewed, and new ex post estimates will be developed if additional measurement is needed to assure accurate savings estimates. Savings estimates will be updated to reflect the best available information, as needed.

- **Process Evaluation:** This task will include evaluation of program delivery mechanisms, marketing and delivery channels, timelines and customer satisfaction. The research will provide ongoing feedback and guidance on program implementation through customer behavior and market actor studies. It will measure indicators of the program effectiveness. Surveys undertaken as part of the process evaluation are likely to include participating and non-participating customers and trade allies.
- **Market Assessment and Customer Behavior Analysis:** These tasks will assist in assessing customer awareness, behaviors and practices given their participation in the Retail program. The data used will be drawn from the process evaluation survey of

customers and from the verification data collected. The market saturation/market share/potential data from statewide studies currently underway will be another primary source of information for market assessment and baseline analysis

- **Interim Impact Assessment and Feedback Analyses:** These tasks will provide ongoing feedback to program managers on the impacts being achieved. The analyses will let the program managers know early what measures are capturing large savings opportunities and what are not progressing and recommend timely program changes.

13.5.1. Expected Number/Percent of Inspections (planned percent of projects)

The Retail Program will adopt an inspection plan to ensure that calculated measures are installed and operational. Of the calculated savings projects committed, about 80 percent will receive pre-installation inspections and about 95 percent of completed and installed projects will undergo post-installation inspections.

The inspection plan for deemed measures, if any, is addressed under the Mass Market Filing.

13.6. Marketing Activities

This program will be one component of an integrated marketing and outreach strategy. A variety of channels (e.g., technical and program information, case studies, fact sheets, seminars, brochures, advertisements, point-of purchase materials, trade shows, direct mail, and articles in industry publications) will be used as appropriate. Particular emphasis will be placed on Web-based information and assistance.

Customers will receive application information and program updates through Web sites, account services representatives, energy service providers (ESPs), trade organizations, industry associations, at industry trade shows, and special events.

Additionally, the program may proactively coordinate with local government, trade associations, industry groups, chambers of commerce, government agencies, and other local businesses to increase program outreach and participation levels.

14. Conclusion

This Market Integrated DSM program compliments the rest of PG&E's portfolio, contributes to the overall balance of the entire portfolio and is designed to achieve the Commission's energy savings targets.

15. Appendices

Documents shared with PG&E's Public Advisory Group and at the Public Workshops on the development of PG&E's 2006-2008 portfolio can be found on PG&E's Web site at http://www.pge.com/rebates/program_evaluation/advisory_group/.