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Final Report

Process Evaluation of Pacific Gas & Electric Company's 2006-2008 Medical Efficiency Program

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We would like to acknowledge the contribution of Laurie Lago, of Business Service Bureau, who produced the report.

TABLE OF CONTENTS

APPENDICES

ES EXECUTIVE SUMMARY

This report presents the findings of a process evaluation of Pacific Gas & Electric Company's (PG&E) 2006-2008 Medical Efficiency Program conducted by Research Into Action, Inc. (RIA). PG&E requested and managed this study; funding for the study came through the public goods charge (PGC) for energy efficiency.[1]

The 2006-2008 Medical Efficiency Program consists of the Medical Facilities program (PGE2006), a core effort delivered by PG&E staff, and the Hospital Pilot Program (PGE2072), a third-party effort delivered by Quantum Energy Services & Technologies, Inc. (QuEST).

PROGRAM DESCRIPTION

The core Medical Facilities program seeks to provide medical-sector customers with a centralized point-of-contact to pursue energy efficiency projects. The program services comprise a full spectrum of energy efficiency support to building owners and include energy audits, design assistance, project implementation consulting, customized financial incentives, retrocommissioning services, and measurement and verification assistance. The program also assists medical facilities customers to develop long-term energy efficiency plans and to access appropriate energy efficiency and management resources available through PG&E.

PG&E's Medical Facilities program staff work directly with medical customers. Program staff also work with: medical-sector trade allies (architects, engineers, and equipment contractors); medical regulators (specifically, the Office of Statewide Health Planning and Development); PG&E's medical-sector Strategic Account Manager (SAM), a member of the Sales and Service (S&S) department; and, perhaps most importantly, with PG&E's Field S&S staff that have individual relationships with the utility's large medical customers. The Field S&S staff comprise the main marketing and delivery arms of the program; they work with all of their assigned accounts to provide appropriate services across the spectrum of PG&E's gas, electric, energy efficiency, demand response, and renewable activities.

To provide consistency with statewide energy efficiency programs, PG&E's target market programs (such as the Medical Efficiency Program) make use of established data and methods for prescriptive projects with deemed savings, and custom projects with calculated savings. In 2006-2008, PG&E handled prescriptive projects through its Mass Markets program, and custom

[1] The study is available for download at *www.calmac.org*.

projects through its Nonresidential Retrofit (NRR) and Nonresidential New Construction (NRNC) processes. Medical customers received both types of rebates.

The third-party Hospital Pilot Program, delivered by QuEST, provides retrocommissioning services. The program targets large hospital chains, with program marketing directed at hospital executives who make financial decisions about projects and at facilities staff who are instrumental in project management. For customers that agree to participate, a QuEST engineering team conducts an analysis of the hospital's electric and gas use. The engineering team also inspects the building system's configurations and controls, and identifies a preliminary list of energy efficiency measures and deferred maintenance items to be corrected before proceeding. The energy efficiency measures in this phase are generally low-cost, simple, and easy-to-fix. If the customer implements these recommended Phase I measures and elects to proceed, the program inspects the measures and pays the incentives.

The engineering team's report also identifies systems and measures to investigate further during Phase II. The engineers prepare an energy efficiency plan that describes the scope of the Phase II work, and a schedule and budget for that work. In Phase II, the engineering team collects extensive data, investigating and testing the building's systems and equipment (including an operational assessment of the building's control system), and lists potential improvements. The engineering team also drafts a detailed energy efficiency measure list, with savings and cost estimates for all measures, and a list of potential demand-response activities. The assigned engineering team is responsible for overseeing all aspects of the project, including: identifying roles and responsibilities; scheduling engineering activities; specifying pre-functional and functional tests; and monitoring and trending system data.

EVALUATION OBJECTIVE AND METHODS

This process evaluation seeks to provide PG&E with feedback to improve the ability of the Medical Efficiency Program to provide energy savings and comprehensive energy solutions. To reach this goal, the study has four primary areas of inquiry and associated objectives:

1. **Program Structure:** to explore the current program delivery structure and its strategy for delivering services to the healthcare segment, including issues related to the program's goal of encouraging comprehensive energy efficiency activity

2. **Participation Processes:** to understand the program participation processes from the perspective of participants and program staff

3. **Market Actors:** to understand the program experiences of medical-facility retrofit and construction market actors, and explore opportunities for increasing their program involvement

4. **Lessons Learned:** to identify applicable lessons learned from other comprehensive energy efficiency programs implemented by various program administrators in the U.S. and Canada

To accomplish these objectives, we conducted in-depth interviews with six PG&E and third-party program implementation staff, with five PG&E Field S&S staff, and with the one medical-sector SAM. We conducted telephone surveys with 55 medical-sector customers that participated in the Mass Markets program and in-depth interviews with 10 medical-sector customers that received NRR incentives. We conducted in-depth interviews with eight participating architects, engineers, and contractors, as well as with nine program managers from U.S. and Canadian efficiency program administrators that offer comprehensive programs, some of which target medical customers.

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

- **The Medical Efficiency Program appears to be effective in stimulating customers' awareness of and interest in comprehensive energy management**. Medical NRR participants appear to have undertaken many of the opportunities that PG&E and program staff present to them. Opportunities exist for more participants to undertake projects that bundle several measures together. The medical program team should work with Field S&S staff to identify and encourage customers to undertake such projects.

- **PG&E's design and implementation of its Medical Efficiency Program appears consistent with insights and lessons learned from managers of other programs in the U.S. and Canada that seek to encourage customers to take a comprehensive approach to energy efficiency**. We have no recommendation associated with this conclusion other than to encourage the medical program team to continue in the course it has set.

- **Through the efforts of Field S&S, SAM, and medical program staff, PG&E appears to be successfully establishing and maintaining the type of long-term relationships necessary to encourage a comprehensive approach to energy management**. To ensure that Field S&S staff continue to maintain these strong relationships, the medical program team should provide Field S&S staff with further training and resources to engage customers in identifying and pursuing energy efficiency opportunities.

- **As a corollary of long-term relationships providing the foundation for customers' comprehensive efficiency approaches, program and Field S&S staff should continually assess the willingness and ability of medical customers to progress toward a comprehensive approach to energy management and adjust program resources accordingly**.

- **The Medical Efficiency Program includes a third-party program for retrocommissioning, which operates under a performance contract with PG&E**.

PG&E and the CPUC need to recognize in their development and oversight of program plans, strategies, and methods that performance contracts with third-party providers result in more stringent resource constraints for the third party than for PG&E; thus, third-party providers are circumscribed in their ability to be full partners in PG&E's efforts to encourage customers to adopt a comprehensive approach to energy efficiency.

- **The Medical Efficiency Program appears to have generally succeeded in being responsive to customers and providing them with a well-coordinated effort and a centralized point-of-contact for energy management**. However, opportunities remain to further coordinate efforts and provide timely, consistent services. We recommend that the medical team staff work to further coordinate and streamline PG&E's contact with customers that have active projects or potential projects under active consideration. We offer specific suggestions, such as ensuring separate Field S&S staff serving facilities owned by a single organization, but located in different regions, provide the organizations with consistent advice with respect to energy management.

- **PG&E has an opportunity to increase its promotion of a comprehensive approach to energy efficiency to medical participants in the Mass Markets program, especially to hospitals and other large facilities**.

- **Processes underlying the targeted Medical Efficiency Program, such as PG&E's NRR and NRNC components, were in flux during the 2006-2008 period; yet PG&E appears to be identifying and addressing many of the problems the evaluation team identified**. PG&E's organization of its efficiency activities in 2006-2008 resulted in medical-sector energy savings being attributed to efforts other than the Medical Efficiency Program; yet the 2010-2012 commercial sector plan appears to simplify the attribution of savings to programmatic efforts. We were unable to address the adequacy of process and program changes initiated toward the end of the 2006-2008 cycle or in 2009, yet we encourage PG&E to continue its efforts to resolve these problems. We encourage the medical program team to actively bring to the attention of PG&E's Customer Energy Efficiency management any ongoing issues affecting medical program participants.

- **PG&E's MDSS tracking system appears to have discrepancies in fields associated with program status**. PG&E might develop an algorithm that populates the *Status* field with *Paid* when the fields associated with paid incentives are populated. Finally, PG&E's information management group appeared at the time of this research to have insufficient resources to provide tracking-data extracts to the program evaluators in a timely manner. PG&E might investigate whether other program evaluators also experienced delayed responses to their data requests and, if so, develop a solution commensurate with the significance of the problem.

1 INTRODUCTION

This report presents the findings of a process evaluation of Pacific Gas & Electric Company's (PG&E) 2006-2008 Medical Efficiency Program conducted by Research Into Action, Inc. (RIA). PG&E requested and managed this study; funding for the study came through the public goods charge (PGC) for energy efficiency.[2]

The 2006-2008 Medical Efficiency Program consists of the Medical Facilities program (PGE2006), a core effort delivered by PG&E staff, and the Hospital Pilot Program (PGE2072), a third-party effort delivered by Quantum Energy Services & Technologies, Inc. (QuEST).

PROGRAM DESCRIPTION

Medical facility energy consumption is large and is a significant contributor to system peak demand. PG&E has determined that this market segment has unique needs and constraints, and so targets program efforts to meet the needs of medical facilities, as well as the design, construction, and energy service professionals who support this segment.

The Medical Facilities and Hospital Pilot programs – collectively referred to as the Medical Efficiency Program – address multiple barriers to hospital energy efficiency efforts, including:

- The urgency to bring facilities on-line to meet the needs of a rapidly aging population
- Physician and other medical staff requirements for state-of-the-art, competitive medical facilities
- Lengthy design and review processes for capital investments (i.e., in new construction and retrofit) subject to approval by the Office of Statewide Health Planning and Development (OSHPD)
- Diverse and complex facilities and equipment, requiring varied ambient conditions
- Regulation, inspections, licensing, and certification by a number of public and private agencies at the state and federal levels
- Perceptions that energy costs are insignificant

The program addresses additional barriers as well, such as:

[2] The study is available for download at *www.calmac.org*.

- Incomplete understanding of energy efficiency benefits and related resource efforts (e.g., demand reduction, renewable energy sources, water efficiency)
- Lack of technical and design expertise
- Lack of capital
- Confusion regarding technological and programmatic option
- Complexity in navigating the multiple energy efficiency program options that are available to PG&E customers

Medical Facilities Program (Core)

According to its program implementation plan (PIP), the goal of the core Medical Facilities program is to provide a centralized point-of-contact for medical facilities customers to pursue energy efficiency projects. The program targets new and existing medical facilities – including hospitals, medical office buildings, and assisted living facilities – to help identify energy-saving opportunities. Through both PG&E staff and its connection to QuEST's Hospital Pilot Program, the Medical Facilities program delivers a portfolio of energy efficiency, demand response, and distributed generation services. These services comprise a full spectrum of energy efficiency support to building owners, including: energy audits, design assistance, project implementation consulting, customized financial incentives, retrocommissioning (RCx) services, and measurement and verification (M&V) assistance. The program also assists medical facilities customers to develop long-term energy efficiency plans and to access appropriate energy efficiency and management resources available through PG&E.

PG&E's Medical Facilities program staff work directly with medical customers. Program staff also work with: medical-sector trade allies (architects, engineers, and equipment contractors); medical regulators (specifically, the Office of Statewide Health Planning and Development); PG&E's medical-sector Strategic Account Manager (SAM), a member of the Sales and Service (S&S) department; and, perhaps most importantly, with PG&E's Field S&S staff that have individual relationships with the utility's large medical customers.

The Field S&S staff comprise the main marketing and delivery arms of the program; they work with all of their assigned accounts to provide appropriate services across the spectrum of PG&E's gas, electric, energy efficiency, demand response, and renewable activities.

To provide consistency with statewide energy efficiency programs, PG&E's target market programs (such as the Medical Efficiency Program) make use of established data and methods for prescriptive projects with deemed savings, and custom projects with calculated savings. In 2006-2008, PG&E handled prescriptive projects through its Mass Markets program, and custom projects through its Nonresidential Retrofit (NRR) and Nonresidential New Construction (NRNC) processes. Medical customers received both types of rebates.

Hospital Pilot Program (Third-Party)

The Hospital Pilot Program, delivered by QuEST, provides retrocommissioning services. It targets large hospital chains with program marketing directed at executives who make financial decisions about projects and at facilities staff who are instrumental in project management.

Interested customers must sign a participation and site access agreement, as well as provide utility data, and building drawings and documentation. For such customers, a QuEST engineering team conducts an analysis of the hospital's electric and gas use. The engineering team also inspects the building system's configurations and controls, and identifies a preliminary list of energy efficiency measures and deferred maintenance items to be corrected before proceeding. The energy efficiency measures in this phase are generally low-cost, simple, and easy-to-fix. If the customer implements these recommended Phase I measures and elects to proceed, the program inspects the measures and pays the incentives.[3]

The engineering team's report also identifies systems and measures to investigate further during Phase II. The engineers prepare an energy efficiency plan that describes the scope of the Phase II work, and a schedule and budget for that work. In Phase II, the engineering team collects extensive data, investigating and testing the building's systems and equipment (including an operational assessment of the building's control system), and lists potential improvements. The engineering team also drafts a detailed energy efficiency measure list, with savings and cost estimates for all measures, and a list of potential demand-response activities. The assigned engineering team is responsible for overseeing all aspects of the project, including: identifying roles and responsibilities; scheduling engineering activities; specifying pre-functional and functional tests; and monitoring and trending system data.

Program Theory and Logic Model

Figure 1.1 provides a logic model RIA developed for the Medical Efficiency Program, including both the core Medical Facilities program and the third-party Hospital Pilot Program.

The Medical Efficiency Program theory, succinctly stated, is as follows. By providing a full spectrum of energy efficiency support to building owners through a market-based approach and a centralized point-of-contact for all energy efficiency projects in medical facilities, previously existing gaps and overlaps in efficiency programs can be eliminated, resulting in greater market penetration, and more effective and efficient program delivery and participation. These benefits will, in turn, reduce or eliminate the particular barriers to energy efficiency projects faced by medical facilities.

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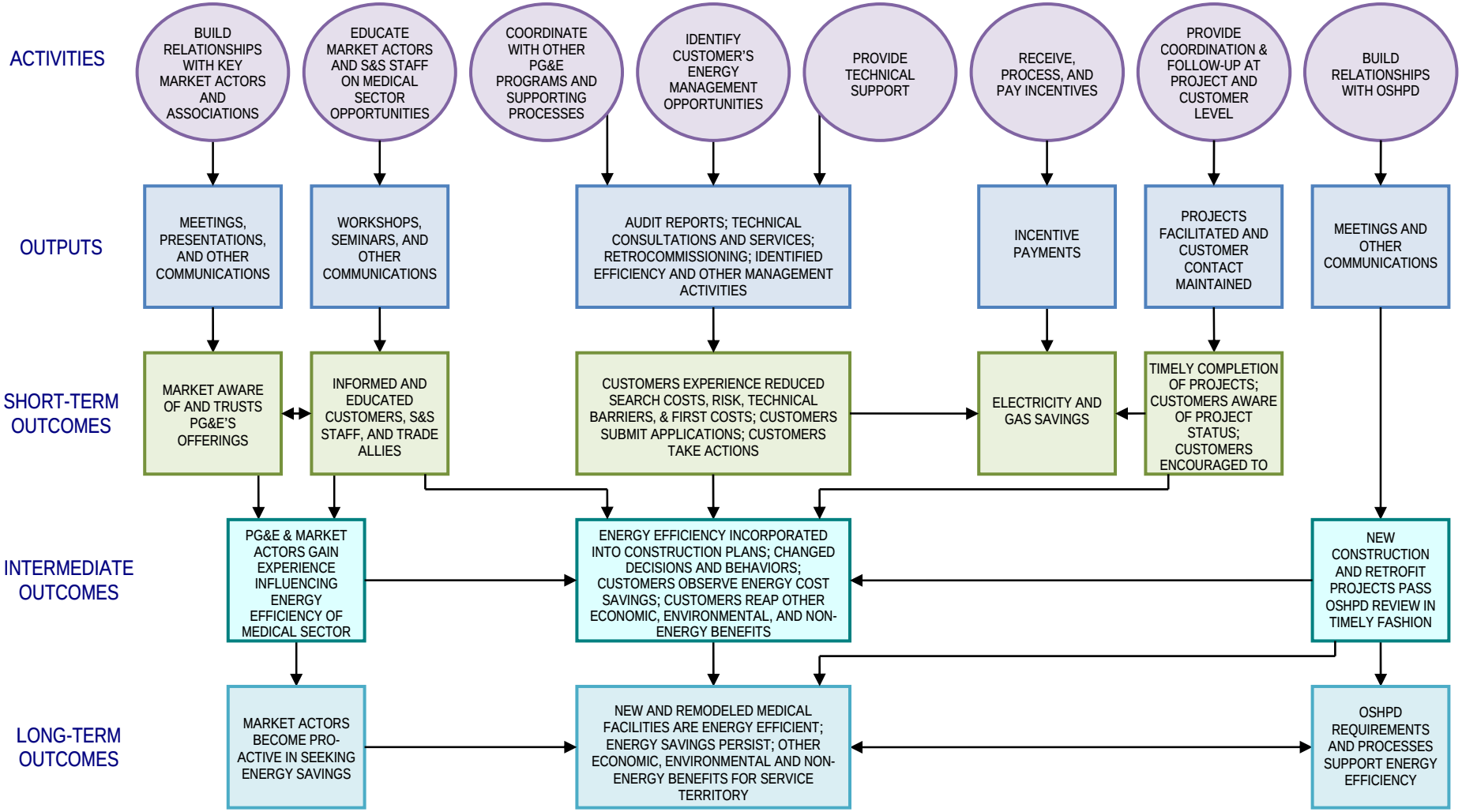
[3] According to the program description, this portion of the process is designed as a "test of the customer's commitment." These are low-cost measures and receive an incentive only if the customer decides to continue in the program.

Figure 1.1: PG&E Medical Efficiency Program Logic Model



Expected program outcomes include: minimization of lost opportunities; improvement of current net-to-gross ratios; increased numbers of comprehensive, energy efficiency retrofit projects in this market sector; and increased penetration of energy efficiency measures in new construction projects.

The relationships between medical customers, medical trade allies, and PG&E staff (Medical Efficiency Program, Field S&S, and the SAM) provide the foundation the Medical Efficiency Program employs for assisting customers through the cycle of identifying, initiating, and completing appropriate energy efficiency and management activities in a timely fashion. Ideally, this cycle repeats itself as customers commit themselves to comprehensively addressing their energy use over a period of years.

EVALUATION OBJECTIVES AND METHODS

Objectives

This process evaluation seeks to provide PG&E with feedback to improve the ability of the Medical Efficiency Program to provide energy savings and comprehensive energy solutions. To reach this goal, the study has four primary areas of inquiry and associated objectives:

1. **Program Structure:** to explore the current program delivery structure and its strategy for delivering services to the healthcare segment, including issues related to the program's goal of encouraging comprehensive energy efficiency activity
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Methods

To address the research objectives, we interviewed or surveyed contacts in six groups, as well as collected data from secondary sources, as summarized in Table 1.1. Subsequent sections provide more detail. (Appendix C provides the interview guides and survey instruments.)

Table 1.1: 2006-2008 Medical Efficiency Program Process Evaluation Data Sources

INFORMATION SOURCE	DATA COLLECTION METHOD	PERIOD OF COLLECTION	NUMBER CONTACTED
PG&E Program and Third-Party Implementation Staff	In-Depth Interview	Initial: July and August 2008 Follow-up: September 2009	6
PG&E Sales & Service (S&S) Staff (Field S&S and the SAM)	In-Depth Interview	April 2009 (Field S&S) August 2008 (SAM)	6
Mass Markets Program Participants	Survey	December 2008 and January 2009	55
Nonresidential Retrofit (NRR) and Nonresidential New Construction (NRNC) Participants	In-Depth Interview	March and April 2009	10
Architects / Engineers / Contractors	In-Depth Interview	August 2009	8
Program Managers from Administrators of Other Comprehensive Programs	In-Depth Interview	August and September 2009	9
Program Materials and Records; the Internet; Other Published Information	Secondary Research	July 2008 through September 2009	N/A
TOTAL			**94**

PG&E Staff and Contractors, and S&S Staff

We conducted in-depth interviews with four PG&E Medical Efficiency Program staff (the supervisor, program manager, and project managers), and managers of the Hospital Pilot Program (implemented by QuEST) and the Retrocommissioning Program (implemented by Portland Energy Conservation, Inc. – PECI). The QuEST manager reported retrocommissioning activities at five hospitals and the PECI manager reported retrocommissioning activities at three hospitals. We conducted these interviews in July and August 2008, and had a follow-up interview with the PG&E medical program manager in September 2009.

We conducted in-depth interviews with the SAM responsible for medical customers and with five Field S&S staff with assigned medical accounts. We interviewed the SAM in August 2008 and the Field S&S staff in April 2009.

The interviews explored the program's delivery structure and processes, including: interactions between Field S&S staff and customers; the steps involved in program participation; and the typical time frames required. The team also explored issues related to the program's relationship to and interaction with other PG&E programs and groups, and the coordination between PG&E and its program contractors (implementation and third-party). The interviews with program staff

lasted about one hour; those with the SAM, Field S&S staff, and third-party managers took approximately 30 minutes to complete.

The interviewer took detailed notes throughout the interview and augmented the notes with information from recordings of the interviews. Upon completion of the interviews, we coded and analyzed the notes using *NVivo* qualitative software.

Mass Markets Program Participants

We surveyed a random sample of PG&E medical customers who received prescriptive rebates from the Mass Markets program. The PG&E evaluation manager provided a list of 502 Mass Markets projects of any status during 2006-2008. Of these, 437 records indicated paid incentives. From this set, we identified 326 unique participants.

For a population of 326, a sample of 55 provides 90% confidence of estimates, with 10% precision. To minimize non-response bias, we called each person on the list up to five times or until a final disposition was recorded. We completed 55 surveys out of 203 total contacts, as shown in Table 1.2. The surveys required about 15 minutes to complete and were conducted between December 2008 and January 2009. We collected the data using *Vovici* survey software and conducted statistical analyses of the data in *SPSS* and *Excel*.

Table 1.2: Disposition of Mass Markets Medical Participant Contacts

DISPOSITION OF CONTACTS	NUMBER OF CONTACTS
Complete	55
Contact No Longer at Firm	29
Disconnected, Wrong Number, Fax	8
Other Circumstance Precluding Survey (i.e., Non-English Speaking)	5
Refused	3
Remaining Live Sample	102
TOTAL	**203**

Nonresidential Retrofit and Nonresidential New Construction Participants

We surveyed a random sample of participants with custom projects, which PG&E handles through its Nonresidential Retrofit and Nonresidential New Construction processes. PG&E staff provided us with records for 184 NRR or NRNC projects in 2006-2008. Discrepancies in these records between the project status field and the fields associated with *Committed* and *Paid* energy savings and incentives make the exact number of projects with paid incentives unclear. The database lists 56 projects with paid incentives, although only 45 projects were listed under

the status code of *Paid*. Of the 56 projects listed with paid incentives, 46 were NRR and 10 were NRNC.

We initially planned to complete in-depth interviews with a sufficient number of participants to achieve a 90/10 confidence/precision. However, within the first ten interviews we completed, two respondents reported having been interviewed in the previous week about the same project. We inferred, but could not confirm, that the two interviews occurred in support of an impact evaluation directed by the California Public Utilities Commission (CPUC). The PG&E evaluation manager then directed the evaluation team to discontinue surveying.

Therefore, we completed ten interviews with NRR participants in March and April 2009, each taking approximately 30 minutes. We used the same note-taking, coding, and analysis procedures for these interviews as for those with PG&E staff and contractors.

It is important to note that we had difficulty obtaining from PG&E an extract of NRR and NRNC participants from its MDSS tracking system. Roughly two months after our initial request, we obtained lists that we understand included all the medical-sector NRR and NRNC projects. However, the NRR list lacked telephone numbers for the listed customer contacts and the data in the *Project Description* field often did not clearly describe the project. For example, while the fields in some records said "chiller replacement," the same fields in other records just listed the facility name. The NRNC file we obtained had neither customer contact names nor phone numbers, and had similarly weak project descriptions.

We requested more complete NRR and NRNC data, and waited four months without receiving it. Finally, we launched the survey in the absence of more complete data, researching organization phone numbers on the Internet and calling into the organization to be connected to the listed customer contact. For NRNC participants, we planned (through cold-calling into the organization) to identify an individual customer contact associated with the project as described in the data extract; however, as the survey was prematurely terminated, we did not need to employ this approach.

Architects / Engineers / Contractors

Medical program staff had identified three architects and four engineers for us to interview. In our interviews with NRR participants, we had asked for contact information for their project contractors; four respondents provided us with that information, of which, two contractors agreed to be interviewed. We completed interviews with three architects, three engineers, and two contractors in August 2009; each interview lasted approximately 35 minutes. We used the same note-taking, coding, and analysis procedures for these as for the other in-depth interviews.

Program Managers from Administrators of Other Comprehensive Efficiency Programs

In scoping the research plan that guided this study, the Medical Efficiency Program team expressed interest in learning from other programs conducted elsewhere by program administrators. We determined the medical team might best learn from programs that target the medical sector and/or that encourage customers to adopt a comprehensive approach to energy efficiency.

To identify candidate programs, we reviewed the efficiency literature as represented by conference papers compiled over the past five years by the American Council for an Energy-Efficient Economy (ACEEE), the Association of Energy Services Professionals (AESP), and the International Energy Program Evaluation Conference (IEPEC). From this review, we identified eight programs that encourage customers to address their energy use in a comprehensive manner; these are listed in Table 1.3. Two of the programs target the medical sector, another two address the medical sector explicitly (such as through dedicated staff), one program targets the commercial real estate market, and the remaining programs address the commercial sector broadly, including medical facilities. We conducted interviews with program managers for all eight of these programs.

Table 1.3: Comprehensive Energy Efficiency Programs with Healthcare Components

PROGRAM AGENCY / ADMINISTRATOR	TERRITORY	PROGRAM NAME
Hydro-Québec	Quebec	Empower Program
New York State Energy Research and Development Authority (NYSERDA)	New York	**New York Energy $mart**[SM] Focus on Healthcare
Efficiency Vermont	Vermont	Efficiency Vermont (includes a healthcare sector emphasis)
MidAmerican Energy Company	Western and Central Iowa	EfficiencyPartners®
National Grid	Massachusetts	Whole Building Assessment Initiative
Xcel Energy®	Central and Northwestern Colorado	Commercial Real Estate Efficiency Program
Wisconsin Focus on Energy	Wisconsin	Focus on Energy (includes a healthcare sector emphasis)
Northwest Energy Efficiency Alliance	Oregon, Washington, Idaho and Western Montana	BetterBricks Hospitals and Healthcare Initiative

It is worth noting that our review did not identify any programs that target the medical sector, yet lack a comprehensive focus. Further, the last question we posed to contacts in these interviews

asked if they knew of other comprehensive programs we should look at. This question elicited no additional programs.

In August and September 2009, we completed interviews (lasting approximately 20 minutes each) with the program managers. We used the same data collection and analysis methods as described for the other in-depth interviews we conducted.

Business Types of Medical Facilities Program Participants and Samples

Table 1.4 summarizes the populations of medical customers undertaking NRR, NRNC, and Mass Markets projects, and provides details about the samples surveyed for this evaluation.

Table 1.4: Business Types of Medical Facilities Program Participants and Samples (Multiple Responses Allowed)

BUSINESS TYPE	NRR		NRNC	MASS MARKETS	
	POPULATION	SAMPLE		POPULATION	SAMPLE
Child Care	0 (0%)	0 (0%)	0 (0%)	19 (6%)	4 (7%)
Dentist Offices	0 (0%)	0 (0%)	0 (0%)	27 (8%)	2 (4%)
General Medical and/or Surgical Hospital	45 (48%)	8 (80%)	14 (25%)	41 (13%)	11 (20%)
Group Residence or Facility With Beds Other than Hospitals and Skilled Nursing	2 (2%)	0 (0%)	0 (0%)	22 (7%)	13 (24%)
Outpatient Hospital or Clinic	25 (27%)	0 (0%)	3 (5%)	68 (21%)	4 (7%)
Primary Care Medical Offices	15 (16%)	0 (0%)	35 (63%)	15 (5%)	4 (7%)
Psychiatric and Substance Care	3 (3%)	0 (0%)	0 (0%)	4 (1%)	0 (0%)
Skilled Nursing Facility with Beds	1 (1%)	1 (10%)	2 (4%)	107 (33%)	11 (20%)
Other / Could Not Classify	3 (3%)	1 (10%)	2 (4%)	23 (7%)	11 (20%)
TOTAL	94 (100%)	10 (100%)	56 (100%)	326 (100%)	55[1]

[1] Percentages do not sum to 100% because respondents could select more than one facility type.

The PG&E evaluation manager provided us with files showing the populations of NRR, NRNC, and Mass Markets participants drawn from PG&E's MDSS tracking system on October 21, 2008, just ten weeks prior to the end of the 2006-2008 program cycle. The participant population

files include a field for the North American Industry Classification System (NAICs) codes and labels. We worked from these codes to assign participants to the nine categories shown in Table 1.4. For the completed samples, interviewed contacts identified their organization's business-type categories. Thus, it is possible for an interviewed participant to report a different business type than PG&E shows in its tracking system; further, we allowed interviewed contacts to report more than one business type. Finally, recall that the NRR/NRNC interviews were terminated after ten completes, all with NRR participants.

2 INSIGHTS FROM COMPREHENSIVE PROGRAMS

This chapter presents findings from interviews with program managers across the United States and Canada who oversee energy efficiency programs that seek to encourage customers to take a comprehensive approach to managing their energy use. The experiences derived from these eight programs provide context for the evaluation of PG&E's Medical Facilities Program, illustrate some of the challenges that inclusive programs face, and offer insights into effective approaches for encouraging program participants to act comprehensively.

As discussed in Chapter 1, the program managers we spoke with could not identify any comprehensive programs other than PG&E's and the programs in our sample. Thus, we assume that these eight programs constitute the leading edge of program design and implementation to achieve comprehensive energy efficiency.

SERVICES OFFERED BY COMPREHENSIVE PROGRAMS

Utilities may view comprehensiveness from one of two perspectives. The first considers it from the viewpoint of the utility's program offerings or the utility's portfolio of efficiency services.[4] In the second – the view relevant to our examination of PG&E's Medical Facilities Program – the utility seeks to influence customers to take on comprehensive energy efficiency measures in their facilities.

Managers of programs that take this second view of comprehensiveness stated that, rather than simply offering a customer a full spectrum of measures and services, the comprehensive approaches they promote seek to influence the way businesses implement energy efficiency. One program manager elaborated on this, saying, "I think that true comprehensiveness is embodied in the idea that energy management is woven into the business of the organization in the same way as are safety, patient care, staff retention and community support." Another program manager said that her program sought to encourage customers to "incorporate energy efficiency in their decision-making."

To achieve these objectives, program managers reported that they pursue energy savings throughout the customer's facility, looking at multiple systems and all fuels. The comprehensive programs examine, provide, or facilitate access to a variety of energy efficiency services.

[4] Program administrators are increasingly offering a comprehensive range of products, services, and incentives to their customers.

Assessment of Energy Efficiency Opportunities and Development of Action Plans

Five of the interviewed program managers stated that comprehensive audits or engineering assessments to identify energy efficiency opportunities constitute a key part of their program. Three of these managers reported providing incentives to cover approximately half of the $4,000 to $8,000 cost of these assessments. One program manager stated that his program also uses EnVINTA's *One-2-Five® Energy* system to evaluate a customer's management practices and identify opportunities for energy savings through administrative changes.

Once audits or other assessments have identified energy efficiency opportunities, the comprehensive programs often work with the customer to develop a long-term energy efficiency plan. According to contacts, these plans prioritize the efficiency measures identified, define payback periods for each measure, and set out a timeline for implementing the range of recommended measures. The program managers interviewed reported that the action plans that their programs work with customers to produce allow the customer to plan and budget for energy efficiency improvements, and prevent customers from feeling overwhelmed by the multitude of measures that an audit may identify. In addition, action plans may encourage customers to begin with low-cost or no-cost measures and relatively simple projects with short payback periods so that the savings, which begin accruing immediately, can be invested in subsequent measures.

While the program managers interviewed described the benefits of long-term action plans, they also stated that these plans may not be appropriate for every customer or may need to be adapted to meet the individual customer's needs. Contacts reported that detailed, long-term plans typically are most useful to large customers or those whose corporate headquarters may be separate from their business locations. According to contacts, smaller customers may be more receptive to a short list of the highest-priority measures and an outline of the steps required to implement each measure.

One program manager also emphasized that, even for large customers, the plan should take into account the needs of executives in the customer's organization. This contact said that the plan should be brief, should state which staff will be accountable for the measures, and should outline a business case for undertaking energy efficiency measures – this may also include non-energy benefits and benefits related to the organization's mission statement. The mission statements of large hospital organizations often include the intent to provide leadership toward a healthier community, which increasingly includes environmental sustainability.

Incentives Offered

The comprehensive programs offer customers incentives for both prescriptive and custom measures. The program managers reported that, while some customers (especially smaller ones) may be drawn to prescriptive incentives that are easier to understand and can be received more quickly, the holistic perspective of comprehensive programs is more compatible with custom incentives. One program manager elaborated on this issue, saying, "We are trying to frame our

incentives within the context of the economic benefits to the customer; they are making an investment that will have a return associated with it."

New Construction and Design Incentives

The program managers reported that their programs seek to involve architects and engineers through outreach and educational activities, and offer incentives and support for energy-efficient design. Some programs provide architects and engineers with technical information and analytical tools, such as a simplified method for calculating energy savings in new construction.

Contacts emphasized the importance of becoming involved in new construction projects as early as possible, ideally during or before the design phase – such as during the conceptual design, or even the point of the RFP and proposal. Hospital construction is complex and typically takes a minimum of five years from initial planning to a completed facility. A total project, including facility design and construction, can span much longer than five years, depending on such factors as the size and complexity of the project, whether the project needs to proceed in phases,[5] and the economic conditions faced by the hospital.

Education and Training

The program managers described the education and training activities their programs provide to customers and trade allies. These activities cover topics ranging from energy management for commercial customers, to technical training on systems like HVAC or lighting, to training related to LEED certification. Contacts reported that sessions typically last one full day, although this can be shortened to meet customer and trade ally needs. If a customer is unlikely to attend a training, one program manager reported that program staff will seek to inform the customer about the topic through their day-to-day interactions.

OUTREACH TO CUSTOMERS

The comprehensive programs seek to build customer awareness of their offerings and support participants in a variety of ways. Program managers discussed the importance of person-to-person interactions between customers and program staff, account representatives, or other utility staff to foster an understanding of the benefits of a comprehensive approach to energy efficiency. One program manager also described using mass media to inform customers of program offerings. Subsequent sections discuss the barriers to customers undertaking a comprehensive approach to energy efficiency and the role of personal interactions in encouraging customers to adopt such an approach.

[5] An example of this would be the need to construct a new facility tower, then moving from an old facility to the new tower, and finally, renovating the old facility.

In addition to fostering understanding of the comprehensive approach, program or utility staff support participants through follow-up, problem-solving, and providing technical expertise.

Role of Account Representatives

All of the utility program managers reported that account representatives play a role in informing customers about program offerings, follow up on efficiency recommendations and plans, and support customers as they participate in the program.[6] Typically, program staff are available to accompany account representatives as they meet with customers. According to contacts, the program must ensure that account representatives are aware of the opportunities the program offers, but account representatives do not need in-depth knowledge of the program. "Representatives need to be familiar with the program, but they don't need to be an expert or have the final answer," one contact said. "They can look to us to be a tool in their toolbox."

Account representatives serve utilities' larger customers. The comprehensive programs themselves, typically, but not exclusively, serve large customers. One program manager stated that, while his program focuses on large customers, program staff members are assigned to take on the role of an account representative in supporting smaller customers as they also participate in the program.

Importance of Developing Corporate-Level Relationships

While program staff generally work most closely with facilities directors once project implementation has begun, all of the program managers stated that gaining support at the organization's executive level plays an important role in motivating program participation. One contact stated that facilities directors may not value efficiency programs in the same way or for the same reasons as company executives. Another contact said that support at the executive level "provides some pressure for the facilities director," motivating the director to participate in the program.

The program managers described a variety of strategies for reaching out to executives in the customer's organization. One contact stated that peer relationships between utility executives and executives in the customer's organization have the potential to give program staff access to customer executives. If these relationships are not available, this contact said, program staff must develop a succinct presentation demonstrating concrete benefits the program will provide and connecting those benefits to the business objectives that the executives seek to meet. Other program managers described making contacts at the executive level of the customer's

[6] Two of the nine respondents came from non-utility program administrators. These administrators do not have account representatives; in these organizations, program staff maintain the relationships with energy end-users and trade allies.

organization by building on their relationships with facilities directors. Program managers may be better able to gain access to executives than may account representatives.

Segmentation by Industry Sector

In addition to the relationships that account representatives have developed with customers, five of the managers reported that they conduct outreach to customers through individuals and associations with sector-specific expertise. Drawing on sector-specific expertise enables program staff to better identify comprehensive energy efficiency opportunities for the customer and to better communicate with those in that sector. Two contacts stated that sector-specific expertise allowed them to "speak the same language" as the customer.

OUTREACH TO TRADE ALLIES AND OTHER STAKEHOLDERS

Roles of Trade Allies in Comprehensive Programs

The program managers interviewed described three key roles that trade allies – including architects and engineers, and equipment vendors and suppliers – can play in support of comprehensive energy efficiency programs. First, trade allies provide the technical knowledge necessary to predict the energy savings that may result from complex measures. One program manager stated that his program is working to compile a list of professionals qualified to conduct these analyses, ensuring that the professionals included did not have conflicts of interest stemming from the other products or services that they offer. However, this contact emphasized that the program would not require customers to work with a contractor from the qualified list, as many large customers have established relationships with contractors they wish to use for their efficiency projects.

In addition to providing the information and analysis necessary for customers to participate in the program, the second function that trade allies play in support of comprehensive programs involves their role in bringing customers to the program. Contacts stated that it is important for program staff to work with trade allies to ensure that they understand the program and are able to explain program participation to customers who may have approached the trade ally for assistance on a project. However, one manager stated that trade allies with little experience with the program may not understand elements of a comprehensive program. According to this contact, "Trade allies don't necessarily understand the customized incentives or the long-term plan. Many contractors, especially those that work in multiple states and not just our service territory, think '[prescriptive] rebates.'"

The third role that trade allies play in support of comprehensive efficiency programs involves their influence on the availability of energy-efficient equipment. Program managers described efforts to work with equipment vendors, suppliers, and installers to ensure that energy-efficient equipment would be available for customer projects. One program manager described a lack of

equipment availability and the project delays that can result as a barrier that customers may face in taking on energy efficiency projects.

Strategies for Trade Ally Outreach

The program managers interviewed described two primary strategies for making trade allies aware of program offerings. First, program managers cited efforts to reach out to trade allies, as well as customers, through professional organizations such as: the American Society for Healthcare Engineering (ASHE); the Building Owners and Managers Association (BOMA); and NAIOP, the Commercial Real Estate Development Organization.[7] Program managers described attending meetings of these organizations, seeking membership for program staff members, and contributing to the organizations' newsletters.

The second strategy that program managers described for informing trade allies of program processes and offerings involved providing trade allies with information and training. One contact described an online tool that his program had developed to familiarize trade allies with software to calculate energy savings. Another contact reported that trade allies who signed up with his program would receive training on program processes and would have contact information posted on the program's website for customers seeking the trade ally's services.

BARRIERS TO COMPREHENSIVE PROJECTS

The program managers interviewed identified three key barriers that limit customers' willingness to take on comprehensive energy efficiency projects. First, one program manager described difficulties resulting from the need to gain approval from a wide range of stakeholders within the customer's organization before a project can be implemented. According to this contact, while some of the stakeholders in the customer's organization may support the project, program staff, the customer's account manager, and any consultants involved must work together to gain support from any stakeholders that are reluctant to participate.

The second barrier that program managers identified involved the planning requirements necessary to pursue comprehensive projects within large organizations. According to contacts, comprehensive programs must identify and present energy efficiency opportunities to an organization's decision-makers with enough time for the organization to authorize the measures and incorporate them into their budget cycle. One program manager stated that if a program misses its opportunity to incorporate a project into a customer's current budget cycle, it might be necessary to wait until the next budget cycle – as much as a year later – to implement the project.

[7] Note that two of the eight comprehensive programs exclusively address the medical sector, one exclusively addresses office real estate, and five address the commercial sector generally.

The final barrier that program managers identified comes from reluctance on the part of customers to commit to the upfront costs of efficiency projects or to take on more complex projects after completing an initial project with a short payback period. According to one program manager, "If folks acted economically rationally, we wouldn't need to exist. Energy efficiency is in their self interest; it saves money and has non-energy benefits. But there is something that blocks that." Another program manager said, "We can show customers that energy savings will help, but they don't believe it." A third contact stated, "No company has a budget to do comprehensive energy efficiency."

THE IMPORTANCE OF RELATIONSHIPS

To overcome customers' reluctance to commit to the money and effort of a comprehensive approach to energy efficiency, the program managers interviewed described a gradual, relationship-based approach to comprehensiveness. Contacts stated that customers may initially see less risk in investing in energy efficiency through relatively simple projects (like lighting retrofits). Once these projects are completed and have been successful, the program managers interviewed reported that there may be opportunities to leverage that success to encourage the customer to take on additional measures. One contact said that customers might be willing to take on additional projects if program staff "bring them a success that is tangible."

In order to influence customers to take a comprehensive approach to energy efficiency in this gradual way, program managers stated that they must build and maintain relationships with customers. As part of their effort to build these relationships, the interviewed program managers reported following up with customers on energy audit or engineering assessment recommendations, holding periodic meetings with customers, and providing customers with an account manager who is available to answer their questions. One program manager described the success of these relationship-building efforts, saying, "Over time, we've achieved comprehensiveness. We've built relationships with customers that over time have touched each item."

Although the program managers interviewed reported that a gradual approach to comprehensiveness – based on building relationships with the customer and gaining the customer's trust – had been effective, this approach requires a great deal of resources and effort on the part of program staff. Contacts stated that in deciding the amount of resources to devote to each relationship, they had to determine whether the customer had the motivation to carry out comprehensive efficiency upgrades. While the program managers interviewed stated that they seek to motivate customers to internalize the goals of their long-term energy efficiency plans, program managers have reduced the amount of resources that they devote to projects that are not promising. Even in these cases, however, one program manager stated that she seeks to maintain the program's relationship with the customer through periodic contact in order to identify additional barriers that the customer may face.

3 PROGRAM STRUCTURE

This chapter examines the structure of the Medical Efficiency Program and its strategy for delivering services to the healthcare segment. As part of this examination, we consider: the history of the program; the range of services offered; the roles that program staff, Field S&S staff, and other actors play in delivering program services; and program staff members' assessment of the medical segment.

PROGRAM ORGANIZATION AND EVOLUTION

PG&E launched the Medical Facilities program in 2006 as part of its efficiency portfolio reorganization that focused efforts by market segment. Previously, healthcare facilities had been served through the programs of the Standard Performance Contract (SPC, which corresponds to the NRR component of all nonresidential target programs), Savings by Design (which corresponds to the NRNC component of target programs), Express Efficiency (which corresponds in 2006-2008 to the Mass Markets program), and Nonresidential Audits.

The Medical Facilities program launched with ongoing projects that medical customers had initiated through the previous nonresidential programs. In the first portion of its 2006-2008 cycle, the program was understaffed. In 2008, a supervisor (with responsibility for three sectors – Medical, High Tech, and BioTech), a program manager, and two project managers served the program, with assistance from a SAM dedicated to large medical customers, the Field S&S staff, and the staff supporting the NRR and NRNC components, as well as the Mass Markets program.

Among their many responsibilities, the Medical Facilities program and project managers are responsible for encouraging customers to complete initiated projects in a timely fashion. Program staff members reported that in mid-2008, they were managing between 30 and 45 projects of various types and various stages of completion, with some having recently submitted incentive applications, while others were in the post-inspection phase.

Program marketing occurs primarily through the customer service efforts of Field S&S staff, which provide account management. The SAM also promotes the Medical Facilities offerings, as well as providing large customer management, working with customer executives at their headquarters. The SAM works with the three largest healthcare providers in PG&E's service territory: Kaiser Permanente, Catholic Healthcare West (CHW), and Sutter Health. The medical program staff also market the program directly to individuals at all levels within the customer's organization, meeting with them in conjunction with Field S&S staff or SAM visits, or independently of such visits, according to the preferences of the Field S&S staff and SAM.

In addition to providing project follow-up, problem solving, and program marketing, the medical staff support the Field S&S staff and the SAM behind-the-scenes by keeping them abreast of

medical-sector efficiency opportunities and new technologies, as well as developments in the healthcare market and regulations affecting this segment.

Program staff developed a factsheet entitled *Health Care Energy Management Overview*, which succinctly describes the energy management services offered to healthcare organizations. Program staff also developed a brochure entitled *Quick Savings Guide* for the medical office building (MOB) sector of the healthcare market. This brochure describes equipment suitable for medical offices and the associated PG&E incentives; these are prescriptive measures offered through the Mass Markets program.

Program staff also promote energy efficiency to the architects, engineers, and trade allies that serve the medical sector, as subsequent sections elaborate.

According to contacts, the growth in program activities over the 2006-2008 cycle has resulted both from changes in the healthcare sector and in PG&E's approach to healthcare customers. Contacts credit changes in the healthcare market, the seismic upgrades that California's Senate Bill 1953 requires, and an increasing desire for energy efficiency among healthcare customers as factors in increasing the demand for program services.[8] At the same time, contacts said, increasing knowledge of the market among program staff and a growing focus on medical facilities as targets for energy efficiency programs have increased PG&E's ability to reach healthcare facilities.

PROGRAM SERVICES

In order to provide comprehensive energy efficiency services to customers, the program draws on a range of efficiency programs and opportunities that PG&E offers. According to program staff, they are most frequently involved with nonresidential retrofit, new construction, and retrocommissioning projects. In addition, although the savings are attributed to the Mass Markets program, program staff inform healthcare customers about deemed savings measures and assist healthcare customers to participate in these programs.

Program staff seek to present each customer with a range of services that will meet the customer's needs most effectively. The Medical Facilities program is comprehensive in both senses of the word, as defined in Chapter 2. One, it offers customers comprehensive energy management services – meaning, in this context, a large and diverse portfolio of measures for which PG&E offers technical, financial, or managerial assistance. Two, as described in the

[8] California passed SB 1953 in 1994 in response to damage that hospitals sustained in the Northridge earthquake. Under the bill, all acute-care inpatient buildings that the Office of State Health Planning and Development judged were at risk of collapse during an earthquake were required to be rebuilt, retrofitted, or closed by January 1, 2008. However, facilities that met certain criteria were eligible to extend the deadline for up to five years, to January 1, 2013. More stringent SB 1953 requirements are set to take effect on January 1, 2030.

program PIP, the Medical Facilities program intends to encourage and support customers in addressing their energy use in a comprehensive manner – including planning, benchmarking, equipment and facility investments, and energy-use and savings tracking.

Table 3.1 reproduces a portion of a table from the *Health Care Energy Management Overview* factsheet describing available services; the factsheet table also describes the benefits the services yield.

Table 3.1: Energy Management Services for Healthcare

SERVICES	DESCRIPTION
Pricing Plans	Pricing analysis for selecting the plans that are optimized to match your energy usage patterns
Retrocommissioning	Incentives for optimizing existing equipment and systems to achieve greater energy efficiency
Energy Audits	Assessments conducted by a technical specialist to determine your optimal energy savings plan
Energy Efficiency Rebates	Rebates paid to customers for installing qualifying energy-efficient products
New Construction	Resources and incentives for energy efficiency design
Retrofit	Incentives for replacing equipment and systems to achieve greater energy efficiency
Load Management (Demand Response)	Incentives for voluntary, temporary load reduction during peak demand periods
Self Generation	Rebates for the installation of photovoltaic, wind, fuel cell, and other generation systems
Automated Benchmarking Service (ABS)	Online tool to monitoring your monthly energy usage data using *ENERGY STAR® Portfolio Manager*
ClimateSmart™ Program	Balances out greenhouse gas emissions from energy use through a voluntary, tax deductible contribution to environmental projects

Until the 2006-2008 program cycle, each energy efficiency opportunity had been managed separately, within what contacts describe as a *silo*. Contacts report that providing such a wide range of services has been an administrative challenge for the program. One contact said, "We have to invent how we can deal with this internally. We have to find a way to get recognition for good work, regardless of the silo." Another contact described the process of reorganizing PG&E's energy management services into a comprehensive approach to the medical sector as "like trying to push a locomotive to get it going."

The following are the PG&E products and programmatic services available to medical customers:

➡ **Within the Customer Energy Efficiency (CEE) Group**

- **Nonresidential Retrofit (NRR)** – retrofit custom incentives
- **Nonresidential New Construction (NRNC)** – design and construction custom incentives
- **Retrocommissioning (RCx)** – retrocommissioning incentives
- **Mass Markets Program** – prescriptive incentives
- **Hospital Pilot Program** – third-party retrocommissioning program
- **Large Commercial and Institutional Program** – targets large buildings where capital expansion, capital renewal, and/or operations and maintenance products and services are procured through contracts with manufacturers and/or distributors
- **Food Service Equipment Program** – primarily prescriptive incentives for ice machines

➡ **Outside of the Customer Energy Efficiency Group**

- **Demand Response (DR)**
- **Distributed Generation (DG)**
- **California Solar Initiative (CSI)**

As noted above, program staff are most frequently involved with nonresidential new construction, retrofit, and retrocommissioning projects. The following sections draw on data from the program-tracking database, as well as interviews with Field S&S and program staffs, to examine these program services in greater detail. In addition, we will examine the services that PG&E provides to medical customers through the Mass Markets program and the retrocommissioning services available through QuEST's third-party Hospital Pilot Program.

New Construction

As of October 2008, the Medical Facilities program database included 56 nonresidential new construction projects, excluding 10 projects that had been withdrawn. As noted in Chapter 1, the majority (63%) of medical participants in the NRNC program were primary-care medical offices, with general medical and/or surgical hospitals making up an additional 25% of medical NRNC participants. Table 3.2 lists characteristics of medical participants in the NRNC program. Additional details are presented in Appendix A.

Table 3.2: Nonresidential New Construction (NRNC) Medical Participant Characteristics

CHARACTERISTIC	PARTICIPANT VALUES
Total Number of Participants	56
Number of Projects with Paid Rebate	10
Average Paid Rebate Amount	$22,944
Average Size of Participating Facilities	129,247 sq. ft.

New construction projects in the healthcare sector can have very long lead times. Contacts report that, while many new healthcare facilities are currently being completed, few of the new construction projects in which the program has been involved are finished. The program database lists paid incentive amounts for 10 medical NRNC projects during the 2006-2008 program cycle, although the database lists only two projects with the status of *paid*. Contacts stated that when the medical facilities that are currently opening were being planned, there was little effort on the part of PG&E to pursue efficiency in healthcare new construction.

Program staff report that new construction projects require them to keep very detailed files and to maintain contact with the customer and their architects and engineers. These records allow program staff to demonstrate PG&E's influence on the measures installed, despite changes in the scope of the project and the individuals involved that may occur over the course of a medical facility's six- to eight-year design and construction period. Under the program's current structure, program staff receive credit for energy savings resulting from new construction projects only after the project has been inspected and the incentive has been paid.

Retrofits

According to the program database, the Medical Facilities program included 94 nonresidential retrofit projects as of October 2008, excluding 24 projects that had been withdrawn. Likely as a result of the shorter time frames involved in retrofit projects than in those for new construction, the program database lists paid incentives for half (49%) of the NRR projects undertaken under the program during the 2006-2008 program cycle (in contrast, 46% of projects were listed under the status code of *paid*), compared with 18% of NRNC projects. A plurality of the medical participants taking on NRR projects (48%) were general medical and/or surgical hospitals, with outpatient hospitals or clinics (27%) and primary-care medical offices (16%) taking on the next largest proportions of projects. Table 3.3 gives details of medical participants with NRR projects; additional details are listed in Appendix A.

Table 3.3: Nonresidential Retrofit (NRR) Medical Participant Characteristics

CHARACTERISTIC	PARTICIPANT VALUES
Total Number of Participants	94
Number of Projects with Paid Rebate	46
Average Paid Rebate Amount	$25,446
Average Size of Participating Facilities	313,595 sq. ft.

As Table 3.3 shows, medical facilities taking on NRR projects were generally larger than the facilities involved in the NRNC program, consistent with the higher proportion of hospitals with NRR projects.

Field S&S staff members suggested that the program may be able to motivate medical customers to pursue comprehensive energy efficiency solutions by presenting retrofit opportunities that incorporate emerging technologies. One Field S&S contact said, "We need to engage customers not on the basis of bringing more paperwork to them. We need to bring them examples of high-tech solutions, examples of innovations – that would get them motivated."

Consistent with this contact's desire to engage medical customers in energy efficiency through new technologies, the PIP states that the program will facilitate "the introduction of new technologies into the medical market segment via pilot projects, technology assessments and the inclusion of calculated incentives."[9] The PIP additionally cites the statewide Emerging Technologies (ET) program[10] as a mechanism to integrate emerging technologies into the segment.

Despite these mechanisms, one Field S&S contact described PG&E as "two-to-three steps behind regarding innovation." According to this contact, "To stay on the cutting edge – *that's* the real challenge that PG&E has." This contact suggested that PG&E would increase its ability to identify new, high-tech solutions for medical customers by increasing R&D funding for emerging technologies. As an example of this process, the contact referenced PG&E's research on LED lights, which led to their subsequent installation in surgical suites. This contact also suggested that PG&E stay abreast of energy-efficient healthcare technologies in development.[11]

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9 According to the PIP: "[Customized] measures will undergo a comprehensive engineering analysis to determine energy savings and the appropriate incentive amount. This process permits emerging technologies and new entrants in the marketplace the opportunity to make their way into the marketplace."

10 ET is "an information-only program that seeks to accelerate the introduction of innovative energy efficient technologies, applications, and analytical tools that are not widely adopted in California."

11 GE is an example of a company active in developing energy-efficient technologies for the healthcare field. In 2009, GE announced it will spend $3 billion over the next six years researching healthcare innovations that

continued…

Retrocommissioning

Program staff report that there is often a great deal of potential to achieve energy savings through retrocommissioning in hospitals. According to contacts, hospitals often have old and malfunctioning equipment, which can function much more efficiently when properly tuned. Program staff state that a significant part of their work around retrocommissioning goes into educating medical facility directors about its benefits.

Program staff state that, unlike many other efficiency measures in the healthcare segment, retrocommissioning projects are not subject to OSHPD approval. This allows retrocommissioning projects to take place much more quickly than new construction or retrofits. These projects also often have shorter payback periods for the customer, with PG&E's incentives designed to create a payback period of one year.

Mass Markets

According to the program database, 326 medical customers undertook a total of 492 projects through the Mass Markets program as of October 2008, excluding 10 projects that were withdrawn. As noted in Chapter 1, the majority of the medical facilities participating in the Mass Markets program were skilled nursing facilities with beds (33%), or outpatient hospitals or clinics (21%). Table 3.4 gives details of medical participants in the Mass Markets program. Appendix A gives additional information about these projects.

Table 3.4: Mass Markets Medical Participant Characteristics

CHARACTERISTIC	PARTICIPANT VALUES
Number of Unique Participants	326
Total Number of Projects	492
Number of Projects with Paid Rebate	450
Average Paid Rebate Amount	$972
Median Paid Rebate Amount	$330
Average Length of Time Between Application Received and Rebate Paid	16 days

Consistent with the smaller scale of the prescriptive measures covered under the Mass Markets program, the rebates that medical participants received were generally smaller than those of medical facilities undertaking NRR or NRNC projects. However, the rebates that medical

reduce costs, increase individual access, and improve quality and efficiency. (*http://www.healthymagination.com/*)

participants received through the Mass Markets program varied widely, ranging from $4.25 to $17,300.

The program codes included in the database of medical Mass Markets participants indicate that the majority of the projects that medical participants undertook through the Mass Markets program fell under the categories of lighting (33%) or appliance general improvements (29%). Table 3.5 summarizes the types of projects that medical participants in the Mass Markets program carried out.

Table 3.5: Mass Markets Medical Participant Project Type by Program Code

DESCRIPTION	CODE	PROJECTS	PERCENT
Lighting	AKSF6	164	33%
Appliance General Improvements	AKQR6	141	29%
CFL Promotion	AKSP6	56	11%
Food Services	AKRL6	46	9%
Heating & Cooling	AKRV6	37	8%
Refrigeration	AKSZ6	30	6%
Boiler & Water Heating	AKRB6	14	3%
Boilers and Water Heating	LAKC6	2	0%
Lighting	LALI6	1	0%
Application Splitting Stub Nonresidential	MLX	1	0%
TOTAL		**492**	**100%**

Survey data of medical participants in the Mass Markets program indicates that the majority (64%) carried out projects to replace existing equipment. A plurality of the participants who replaced existing equipment through the program (46%) reported that the equipment being replaced had problems, but was still working, and slightly more than a third of the participants who replaced existing equipment (34%) reported that the equipment they replaced was in working order with no problems. Only 20% of the participants who replaced existing equipment reported that the equipment they replaced through the program had failed or burned out.

While the vast majority of respondents replaced equipment before it had reached the end of its useful life, close to half of the medical participants in the Mass Markets program that were interviewed (46%) reported that the installed equipment gave them benefits beyond energy savings. The non-energy benefits that participants listed include reduced maintenance and labor costs, longer equipment lifecycles, increased capacity, better performance, lighting that is more appropriate to the space, and ease of use. Participants also identified these non-energy benefits in open-ended responses identifying program strengths.

Hospital Pilot Program (Third-Party)

The Hospital Pilot Program, implemented by QuEST, provides retrocommissioning services to large hospitals. QuEST reports that it has worked in the hospital sector for over 20 years. An engineer with expertise in hospital commissioning supports the pilot program manager.

QuEST entered into a contract with PG&E in the third quarter of 2006. At the time of our evaluation interviews in August 2008, the acting program manager reported that QuEST had completed or was in the implementation phase of all of its medical sector retrocommissioning projects. According to a project list provided to the evaluators by QuEST, two Kaiser Permanente hospitals had already completed their projects, and five Kaiser hospitals, one Sutter Health hospital, and one large independent hospital in Chico had commissioning projects underway. The interviewed contact also reported having marketed to Catholic Healthcare West (CHW). We note that Kaiser, Sutter, and CHW are the three largest hospital systems in PG&E's territory, and are systems with which PG&E's SAM is engaged.

The pilot manager reported that PG&E's medical program supervisor and two Field S&S staff worked as a team with QuEST to introduce the firm and its retrocommissioning services to two organizations. A third contact came through a vendor.

The pilot manager reported his firm has relationships at multiple levels in hospital organizations. According to this contact, the firm had initially and "naively" assumed that it could sell the concept of retrocommissioning to hospitals' central administrators who, if they accepted the idea, would arrange for individual facilities to be retrocommissioned. Instead, the firm has learned that each facility within a hospital system typically has considerable autonomy and makes its own decisions regarding facility management and operations.

At the time of the interview, QuEST was no longer promoting its pilot services to new customers for two reasons. First, the previous program manager had left the third-party provider to take the position of SAM for the medical sector at PG&E. QuEST was seeking to hire a replacement manager. Second, hospital retrocommissioning projects commonly take between 18 months and two years; as of August, it was too late to cultivate new projects for the 2006-2008 cycle. However, the acting manager reported being engaged with PG&E in planning retrocommissioning activities for the next program cycle.

The contact elaborated that QuEST has a time-and-materials budget for marketing and administration. Activities under this budget include QuEST's marketing process, in which staff meet with hospital contacts, deliver a one-page information sheet on their services, and conduct a *PowerPoint* presentation. In contrast, reimbursement for the retrocommissioning services and management is performance-based.

QuEST submits its commissioning audit calculations to PG&E, including estimated project savings; when PG&E accepts the audit, it pays for 20% of the estimated project savings. The pilot manager estimates that complete commissioning studies cost in the range of $40,000 to $50,000. PG&E makes a second payment when the hospital authorizes the equipment

optimization and a final payment at the end of the project, based on savings achieved. Increasingly, QuEST has served as the installation general contractor for the equipment optimization activities in order to more quickly move the projects to completion.

The pilot program manager also described a program-induced barrier to customer action: the incentives that PG&E offers directly differ from those offered by the Hospital Pilot Program. The pilot manager reported his experience that some savvy customers are aware of these differences and delay taking action in an attempt to play PG&E and QuEST off against each other and get the best deal.

Planned Program Changes

Many of the upcoming changes to the program that staff mentioned center on better integrating the range of opportunities offered to customers. To do this, program staff seek to overcome difficulties arising from the administrative structures that remain from the energy efficiency services' division into silos. According to one program staff member:

- *"New construction, retrofit, retrocommissioning – the notion of a stand-alone activity is decreasing…. The trend is to address the customer with his own issues, technologies, etcetera, and integrate the different offers in a way the customer can understand, a way that is not bound by our own silos."*

Specifically, program staff cited efforts to better coordinate retrofit opportunities with those available for new construction, and to more closely align audits and retrocommissioning. As part of this effort, program staff contacts reported that PG&E had developed a single application process for new construction and retrofit projects, and that a single application will cover multiple types of demand response projects. One program staff member stated that, while this type of closer coordination will require more of his time, it will simplify the participation process for customers. In order to further simplify processes, contacts report that the program, working with Newcomb Anderson McCormick, Inc., recently reviewed the participation processes for retrofit projects. Following this review, participants are no longer required to sign an installation report, eliminating one step in the application process.

In addition to the streamlining of processes for customers, program staff stated that the program was working to increase staff's ability to ensure that projects move quickly through PG&E's approval processes. According to one program staff respondent, while facilitating participation in this way is their responsibility, program staff members have had little authority to advance projects through the process.

ROLES AND RESPONSIBILITIES

Under PG&E's efforts to focus energy efficiency activities by market segment, program staff within each segment are responsible for identifying and managing efficiency measures designed to meet the unique needs of that market segment. Program staff contacts stated that dividing

efficiency efforts in this way allows them to develop expertise related to the healthcare industry and to "talk the same language as the customer."

Comments by participants in the NRR component of the program illustrate a need for this type of expertise on the part of program staff. While the majority of respondents gave high ratings to the program's success in providing expertise about energy efficiency and medical facilities, one participant stated that the PG&E staff that had visited that respondent's facility had demonstrated knowledge of commercial facilities in general, but little understanding of the unique needs of medical facilities.

While program staff expressed satisfaction with the opportunities to develop expertise that segmentation by market type provides them, contacts also expressed frustration regarding overlap between the Medical Facilities program and the Large Commercial and Institutional program in the area of medical office buildings. According to one program contact, the large commercial office buildings group "has a lock on" medical office buildings, while all projects requiring OSHPD approval fall to the Medical Facilities program. This is a source of frustration for medical program staff, since medical office buildings generally are able to complete projects faster than other types of medical facilities. As is discussed further below, the savings goals the medical program staff are expected to meet favor this type of fast project turnaround.

Program staff contacts report that beginning in 2009, the customer's industry segment, rather than the group that initiated the project, determines which program within PG&E receives credit for energy savings. Program staff stated that this change has made it easier for the Medical Facilities program to receive credit for savings in medical office buildings and eased pressure on Medical Facilities program staff to meet yearly savings goals, despite the long turnaround times involved in hospital construction projects.

Program Staff

Contacts identified three primary functions that program staff carry out. First, they work to conduct outreach to the healthcare sector as a whole, building awareness of energy efficiency and PG&E's programs. Second, program staff work with specific customers to identify solutions and develop projects that meet the customer's individual needs. In that function, program staff may engage members of a customer's executive team in discussions about the financial and non-financial benefits of energy management. Finally, once the customer has designed a project and applied for incentives from PG&E, program staff manage the project through the incentive process, assisting the customer in calculating the potential savings, overseeing equipment sales and installation, and reviewing calculations and validating savings so that the incentive can be paid. Program staff carry out this project management role only for projects with custom savings. Program staff reported that they do not manage deemed savings measures or projects involving third-party providers, although they may become involved if the customer encounters problems with the program.

Interview data suggest that program staff divide labor along a variety of lines. According to contacts, program staff are involved in program planning and outreach activities throughout PG&E's service territory. Program staff also take on project management responsibilities within a specific geographic area. Finally, program staff members have divided primary responsibilities for managing relationships with program stakeholders, with one acting as the primary contact with OSHPD and another managing relationships with professional associations of architects and engineers.

S&S Staff

PG&E Field S&S staff are the primary conduit for outreach to the medical segment. Thus, contacts report that most projects are initiated at the facilities level, with the facilities director. Field S&S staff also are the primary implementation arm of the program. They assist customers as necessary to complete project applications, initiate the delivery of program services, and facilitate project completion. The medical program team supports the Field S&S staff in these activities.

The S&S department is divided into three geographic regions. Typically, each region is serviced by senior account managers (accounts larger than 800 kW), account managers (accounts between 200 and 800 kW), account representatives (assigned accounts under 200 kW), and field representatives (all unassigned accounts). These Field S&S staff members typically work with facilities directors or other staff within individual healthcare operations.

In addition, the S&S department includes a SAM who serves as the primary contact at the executive level of healthcare organizations. The SAM works with PG&E's three largest medical customers – Kaiser Permanente, Catholic Healthcare West, and Sutter Health. The smallest healthcare customers may primarily come into contact with PG&E's Mass Markets program.

Contacts report that the primary service that medical facilities staff demand from PG&E's Field S&S staff is to facilitate PG&E's delivery of reliable and high quality power – services that are essential to ensure the safety and comfort of medical patients. According to one Field S&S contact, "When dealing with the medical segment you have to consider the patient first. Then you are in line with how medical facilities staff view their organizations." Field S&S contacts report that their effective management of power quality and reliability, as well as other "everyday utility business" helps them build relationships of trust with medical facilities staff, providing an effective platform for what contacts describe as a "consultative approach" to program marketing.

Interaction between PG&E Actors

Program Staff

Program staff work closely with a variety of other PG&E staff and contractors. A key part of this cooperation occurs through the support that program staff provide to the Field S&S staff. To

support Field S&S staff in their role of primary contact between PG&E and medical customers, program staff work to serve as an information resource. Program staff inform Field S&S staff about new technologies and energy efficiency opportunities, and offer to accompany Field S&S staff to meetings with medical customers (such as presenting energy audit findings to customers).

While program staff report that some Field S&S staff members are actively engaged in the program's work and are motivated to cooperate, others are less open to the program. Program staff report that Field S&S staff members discuss a wide range of topics with customers and that energy efficiency may not be a high priority in those discussions. However, contacts said that there are standards specifying the extent to which Field S&S staff must be involved in certain aspects of energy efficiency efforts, like energy audits.

Field S&S staff primarily work with directors for individual medical facilities. According to contacts, individual hospitals are very independent within their organizations (hospital systems comprising many facilities), and generally motivate the integration of energy-efficient products and services that occurs at their facility. However, contacts stated that facilities directors may not have the authority to implement certain energy efficiency projects and, in many cases, the facility director must present the project to executives within the healthcare organization. Program staff are available to attend these meetings, but the Field S&S staff remain the customer's primary contacts. Program staff may also work with the customer's design team to provide the information architects and engineers need to plan energy efficiency projects.

Program staff also work with PG&E's medical SAM, who maintains contact with large customers at the executive level. According to program staff, the large healthcare systems that the SAM works with make up approximately one-third of the healthcare segment in PG&E's territory. The SAM works with executives in charge of a company's energy use, corporate real estate, and procurement, as well as those executives involved with corporate sustainability initiatives. According to contacts, the SAM assists Field S&S staff in dealing with issues that have been escalated from individual facilities to higher levels in the corporate organization. In addition, the SAM works with the Field S&S staff to gather and synthesize information about energy efficiency projects and opportunities at each of a large healthcare organization's facilities, which they then can present to the organization's executives in support of PG&E's efforts to develop a comprehensive approach to energy efficiency projects with large customers.

Program staff reported that support for energy efficiency initiatives from the corporate level of a healthcare organization can make a considerable contribution to the willingness of facilities directors to take on energy efficiency projects. Contacts described healthcare facility directors as "very risk averse" and potentially reluctant to install technologies that they are not familiar with, unless there is clear corporate support.

In addition to the work program staff carry out in collaboration with Field S&S staff and the SAM, the medical program receives support from a team of consultants that generates savings estimates for customer projects. While the medical program directly negotiates the contracts with

these consultants, a separate department within PG&E manages and executes the contracts to ensure quality control. One program staff member expressed support for this arrangement, saying that it eliminated the need for program staff to spend time negotiating with engineering firms.

S&S Staff

Field S&S staff contacts echoed program staff members' statements that executive-level support is important in motivating energy efficiency projects in individual healthcare facilities. Field S&S staff report that the SAM's generation of support for energy efficiency at an organization's corporate level reinforces the program marketing they conduct with facilities staff within that organization. Two Field S&S contacts emphasized the importance of ongoing communications between Field S&S staff and the SAM so that each can continually update the other. The medical SAM also noted the value of this communication in his efforts to provide company-wide summaries of energy efficiency activities to corporate staff.

Comments by a participant from a major medical corporation who took on a retrofit project through the program emphasized the benefits that participants receive from this type of company-wide information. This respondent reported that the comprehensive summaries of his organization's total energy efficiency activities that PG&E staff provide had made it easier for his company to "track recommended projects" and "link projects to savings." However, this participant stated that, since PG&E began focusing its efficiency efforts on market segments, this type of comprehensive, company-wide summary had not been as readily available.

While contacts recognized the importance of maintaining frequent contact between Field S&S staff and the SAM, Field S&S staff report disparate levels of communication with the SAM. One Field S&S contact reported communicating with the SAM whenever working with medical facilities that are part of larger corporate accounts. However, two Field S&S staff reported no direct communication with the SAM. One of these contacts reported that the SAM can track the activities of individual facilities via a PG&E database that displays information on all submitted project applications.

According to the medical SAM, the process of building a communication network with the Field S&S staff is in the developmental stage. This contact stated that "SAMs are working to build their credibility with Field S&S staff so that Field S&S staff believe there is value in calling them." According to this contact, building this communication network "is fluid and relationship-building. There is no set process." This contact further noted that SAMs in charge of geographically large territories tend to be in contact with individual Field S&S staff less frequently than are managers responsible for smaller territories.

Third-Party Implementation Contractors

Program staff may help customers to identify third-party programs and determine whether those programs best meet the customer's needs; however, program staff play a limited role once a customer enters a third-party program. One program staff contact said, "If the customer decides to bring in a third-party, my job would end." However, another program staff member reported that the program continues to monitor third-party projects to address any problems that arise and to ensure that all customers have access to energy efficiency services.

As noted previously, Field S&S and program staffs refer deemed savings projects to the Mass Markets program, which integrates third-party offerings that address specific technologies (such as refrigeration, lighting, or HVAC). Additionally, QuEST provides a third-party offering – the Hospital Pilot Program – that supplies benchmarking and retrocommissioning services for large hospital facilities.

Interviews with program staff and Field S&S staff members revealed three sources of friction between the program's structure and the role of third-party implementers: the structure of the energy savings goals that program and Field S&S staff members must meet; the role of Field S&S staff members as the customer's primary contact; and the conflicting incentives that third-party implementers and Field S&S and program staff members face.

Energy Savings Goals

The first source of friction is a result of the structure of the energy savings goals that both S&S staff members and program staff must meet. Contacts report that program staff must meet collective program goals for energy savings, while Field S&S staff must meet individual energy savings goals, as well as goals set for their departments. The SAM also must meet energy savings and demand reduction goals, but contacts report that SAMs must meet additional performance requirements designed to measure the comprehensiveness of the services they provide. Program staff members can only claim savings from custom measures; they do not receive credit for savings achieved through deemed measures or through third-party programs.

Both program staff and Field S&S staff acknowledged that, while they ultimately seek to provide services that best meet the customer's needs, their inability to count savings achieved through third-party programs toward their savings goals creates a disincentive for them to recommend third-party programs to customers.

Customer's Primary Contact

The second source of friction between the program's structure and the role of third-party implementers relates to the program goal of providing a centralized point-of-contact for customers. Interview data suggests that PG&E core and third-party program staff often interact independently with medical customers, with little to no interaction with the Field S&S staff member who serves as the customers' primary contact.

Incentives that Third-Party Implementers Face

In an interview, the program manager for QuEST's Hospital Pilot Program revealed a third source of friction between the roles of Field S&S and program staffs, and third-party implementers. This stems from incompatibilities between the incentive structure created by the performance-based contract under which QuEST conducts the majority of its work and Field S&S and program staffs' need to build and maintain relationships with customers. Because payments based on energy savings constitute the bulk of QuEST's payments from PG&E, QuEST needs to limit the time it spends with customers that ultimately decline to undertake energy savings activities or that require a great deal of support and staff time before deciding to act on the commissioning opportunities.

In contrast, PG&E staff do not have the same limitations. Although, like QuEST, Field S&S and program staffs must meet energy savings goals and target their activities to achieve those goals, Field S&S and program staffs also gain by developing and maintaining relationships with customers. Field S&S staff are continually engaged in support and interaction with their customers; they are able to participate in the customer's decision process, even if that process moves slowly. Further, drawing on their relationships with Field S&S and program staff members, customers may take on other energy management opportunities, even if they decline to act on commissioning opportunities. As a result, Field S&S staff do not depend on customers taking on retrocommissioning projects to meet their savings goals. However, under the terms of its contract, QuEST does not benefit from building and maintaining relationships with customers unless those relationships lead directly to retrocommissioning projects.

Field S&S and program staff contacts also expressed frustration in their interactions with third-party implementers, although it was not clear whether they recognized this incompatibility between their own objectives and those of the third-party implementers. One Field S&S contact reported that, "Third-party implementers impede the healthcare segment, because they are so busy." This contact further noted that because third-party implementers have access to "limited manpower," they are often unavailable to perform services when Field S&S staff have identified those services as the most appropriate fit for customers. Additionally, a program staff member stated that, "QuEST thinks we slow down the process." While it is beyond the scope of this evaluation to investigate whether third-party implementers have adequate staffing levels or whether program staff involvement slows the participation process, these comments demonstrate a conflict between the objectives of Field S&S and program staffs and those of third-party implementers.

STAFF ASSESSMENT OF THE MEDICAL SEGMENT

Segment Characteristics and Participant Motivation

Program staff contacts described a variety of characteristics that set healthcare facilities, and especially hospitals, apart from other types of facilities. The differences program staff cited between healthcare facilities and other types of buildings center around the unique energy use

characteristics of medical facilities, the regulatory and legislative requirements governing the facilities, and the characteristics of the healthcare industry.

Unlike commercial buildings, in which activity levels may drop for several hours each day, hospitals operate constantly. In addition, program staff pointed out, hospitals are complex facilities and energy use varies widely in different parts of the facility. In some parts of a hospital – such as operating rooms, MRI rooms, and data centers – large plug loads drive cooling requirements. At the same time, other parts of the hospital – such as offices and patient rooms – have energy requirements closer to those of standard commercial buildings. Program staff stated that balancing these divergent energy requirements creates opportunities for energy efficiency in hospitals.

Program staff contacts stated that the healthcare industry is highly regulated. Healthcare facilities must meet requirements set by OSHPD, which is concerned with patient health and safety. In addition, hospitals must complete the seismic upgrades required by SB 1953. These requirements have driven a great deal of construction, retrofits, and remodeling in the healthcare sector. One contact stated that hospitals would rather construct new facilities than retrofit or remodel existing buildings. Contacts said that this type of new construction offers the greatest opportunity for energy efficiency measures, since health and safety regulations may make remodeling or retrofits of existing buildings difficult.

In addition to hospitals, both program staff and members of PG&E's Field S&S staff cited medical office buildings as facilities offering opportunities for energy efficiency. Field S&S staff stated that, because of changes in insurance, medical practice, and equipment, the demand for hospital services and rooms is declining. Instead, medicine is increasingly practiced in physician's offices located within medical office buildings. According to program documents, 85% of the medical industry electrical accounts located in PG&E's service area are currently MOBs.[12]

According to program staff and Field S&S contacts, MOBs are less energy-intensive than hospitals, although large plug loads for certain types of diagnostic and treatment equipment may give these facilities very high energy-use-per-square-foot of space. One program staff member estimated that there were 300 MOBs in PG&E's service territory that use more than 500,000 kWh of electricity per year. While MOBs may also operate on extended hours, MOBs' energy consumption profiles are more like commercial office facilities than hospitals.

Most MOBs are leased, which presents challenges in motivating customers to commit to energy efficiency projects. However, program staff stated that energy savings may be easier to achieve in MOBs than in hospitals, because MOBs face fewer regulatory requirements.

[12] According to the PIP, MOBs represent less than one-quarter of the total medical industry GWh consumption and slightly more than 26% of peak demand.

Barriers to Energy Efficiency in the Healthcare Segment

Program staff listed three primary barriers that limit the extent to which healthcare facilities implement energy efficiency upgrades. First, contacts reported that healthcare facilities generally had less understanding of energy efficiency than other types of facilities and stated that participants may not be aware of the program. Second, program staff said that, even when a facilities staff person is aware of program opportunities, such a large number of stakeholders are involved in the planning process for medical facilities that other concerns may take precedence over efficiency measures.

Finally, program staff reported that, given the medical industry's highly regulated nature, medical facilities managers may be reluctant to use new technologies or equipment with which they are not familiar. Program staff emphasized the importance of building strong relationships with healthcare customers, presenting energy efficiency in a way that demonstrates an understanding of healthcare customers' unique needs and working to gain support for energy efficiency at the corporate level in overcoming this reluctance. These strategies parallel the practices that program managers identified for motivating customers to take on comprehensive efficiency projects, as noted in Chapter 2. Program staff also stated that environmental concerns and demand for energy efficiency are growing in healthcare organizations.

Project Timelines and Regulatory Approval

According to program staff, new construction offers the greatest opportunity to promote energy efficiency in the healthcare sector; and to fully take advantage of that opportunity, the program must be involved in the earliest stages of planning. However, contacts report that hospital new construction projects may take between six and eight years to complete, and during that time the scope of the projects and the individuals involved may change. In addition, contacts stated that, with program structures built around yearly savings goals and three-year program cycles, there is little incentive for program staff to pursue such long-term projects. One contact illustrated this point, explaining that one of the facilities he works with "plans for a 2014 open date – possibly our next, next, next program cycle. Should I spend my time on that?"

One reason that construction and remodeling projects in medical facilities take so long to complete has to do with the regulatory requirements that medical facilities face. In California, medical facilities are subject to regulation by OSHPD. According to the program description, the time required for projects to receive OSHPD approval has increased as state budget constraints have put pressure on OSHPD and as OSHPD's workload has grown as a result of the seismic upgrades that Senate Bill 1953 requires hospitals to undertake. One architect who has worked on energy efficiency projects with medical customers stated that the OSHPD approval process may take 18 to 24 months. According to this contact, the OSHPD approval process can follow one to two years of work to design a healthcare facility and, once the project has been approved, construction could take three years or more.

Program staff have established relationships with OSHPD and report that OSHPD is sensitive to the criticism it receives for delaying healthcare facility construction projects. According to program staff, OSHPD has established fast approval processes for projects under $50,000 in construction costs. In addition, program staff and Field S&S staff have developed ways to expedite the OSHPD approval process for energy efficiency projects. One Field S&S staff member said that some customers have established a template for their applications to OSHPD. According to this contact, "Once you create a template that has already been approved by OSHPD, you can use that template to get projects approved more quickly."

PROGRAM MARKETING STRATEGIES AND ACTIVITIES

Program marketing and outreach primarily occurs through person-to-person contacts between program staff or Field S&S staff and customers, vendors, or professional organizations with the potential to influence healthcare facilities.

Program Outreach to Field S&S Staff

Because the contact that program staff have with customers generally occurs through Field S&S staff, program staff market their services to Field S&S staff members in an effort to build knowledge of the medical segment among Field S&S staff and to motivate Field S&S staff to pursue efficiency efforts within the medical segment. One contact reported that this type of marketing is necessary because Field S&S staff may focus their efficiency efforts on sectors where they can attain savings more easily than they can in hospitals. According to this contact, there is a need to educate Field S&S staff about energy efficiency opportunities available in the medical sector and the advantages of pursuing efficiency projects with medical customers.

In order to reach out to Field S&S staff members working with medical customers in their area, program staff reported that they regularly send emails providing information about the healthcare industry and requesting information from Field S&S staff about facilities that may benefit from the program. One program staff member also reported distributing shirts with a "healthcare team" logo to Field S&S staff members in order to increase their awareness of the segment and build a sense of teamwork in their efforts to serve healthcare customers.

In addition, program staff held a training in the summer of 2008, called the *Healthcare Summit*, to educate Field S&S staff with healthcare accounts about the program and the healthcare segment. Program staff presented information on services and incentives for new construction and energy efficiency retrofits available for healthcare facilities, and on issues related to OSHPD and working with the healthcare segment. A SAM who works with large healthcare systems also spoke at the meeting to explain his role and the support he could offer. Since the *Healthcare Summit*, the program has also taken part in meetings, along with other segment-focused programs to educate and train Field S&S staff.

Three of the five Field S&S contacts interviewed reported that they attended the *Healthcare Summit*, and all three found the training useful. Contacts requested additional training on the retrocommissioning program, medical pilot programs, and OSHPD – including the impact of the OSHPD review process on project timelines and instructions regarding how to help customers navigate OSHPD approval processes.

Other Program Marketing Activities

Beyond their marketing to account managers, program staff also work with vendors – such as architects, engineers, and design firms – that are active in the healthcare segment. Program staff work to educate vendors about PG&E's energy efficiency programs and to build relationships that will help inform PG&E about projects in the healthcare sector and opportunities for energy efficiency. Program staff reported attending American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) meetings, American Society of Mechanical Engineers (ASME) seminars, and other vendor events in order to build these relationships. In addition, program staff reported that some large healthcare organizations require all contractors to pursue relevant energy efficiency incentives, which builds further contact between contractors and program staff.

Despite these efforts, Field S&S contacts report that a shortage of qualified trade allies has resulted in delays in customer projects. In addition, program staff reported of their efforts to recruit additional trade allies and called success in this area late in the program cycle "a major achievement." The architects and engineers interviewed suggested a variety of ways that program staff could more effectively reach out to trade allies, including assigning a PG&E staff person as the primary contact for each firm, and providing a website with clear and current information. The architects and engineers interviewed also suggested that program staff should make presentations to professional organizations, including the Bay Area Leaders of Sustainable Architecture (BALSA) and the California Society of Healthcare Engineers, as well as hosting information sessions to present information on efficiency opportunities to architects and engineers active in the healthcare segment.

While the majority of the program's marketing involves interpersonal relationships, the program has also produced a website and a catalog listing all of the measures available to hospitals and medical centers through the Mass Markets program. However, one Field S&S staff member, who stated that a catalog would be a useful tool, was unaware that one had been created.

4 MOTIVATING A COMPREHENSIVE APPROACH TO ENERGY MANAGEMENT

In order to evaluate the extent to which the program has succeeded in motivating medical customers to take a comprehensive approach to energy efficiency, this chapter begins with an examination of the relationships that PG&E staff maintain with medical customers. As the interviews with program managers presented in Chapter 2 revealed, building and maintaining ongoing relationships with customers is an important part of the progressive approach to comprehensiveness that these program managers have found successful.

Following an examination of program relationships, this chapter presents findings on the level of interest medical facilities with NRR projects and medical participants in the Mass Markets program expressed in taking a comprehensive approach to energy efficiency, and the extent to which medical customers have implemented comprehensive measures.

RELATIONSHIPS

Role of PG&E Field S&S Staff

The Medical Facilities program seeks to provide customers with a single point-of-contact who will assist the customer in identifying energy efficiency opportunities, taking advantage of PG&E's efficiency programs and services, and developing long-term energy management plans. Most often, the Field S&S staff member assigned to a medical customer becomes that customer's central point-of-contact with PG&E's efficiency services. As a result, Field S&S staff members play a key role in building relationships between PG&E and medical customers.

Program Marketing

Like many of the programs examined in Chapter 2, the Medical Facilities program largely relies on a consultative marketing process, based on the relationships that Field S&S staff maintain with medical customers. Through this process, when Field S&S staff members feel a program is in the customer's best interest, it is introduced to them. Field S&S contacts report that they continually reassess customer goals and constraints, while updating customers about the portfolio of energy efficiency, demand response, and distributed generation opportunities that are available. Most commonly, contacts stated, Field S&S staff recommend efficiency projects to hospital facility directors as opportunities arise through their collaboration on other issues. In some cases, however, a representative of a healthcare firm may directly seek information about an energy efficiency project to include in a planned renovation or other investment. These initial efficiency opportunities provide an opening for developing additional projects.

Field S&S staff begin the consultative process, which they refer to as *product development*, by determining a customer's energy efficiency goals and constraints – referred to as *preliminary screening*. According to one Field S&S contact, this preliminary screening process is subjective, with its efficacy dependent "on the questioning abilities of each individual Field S&S staff member." This contact suggested that the preliminary screening process would improve if PG&E were to provide a list of specific questions for Field S&S staff to ask customers.

This contact also suggested providing additional training for Field S&S staff as to how to gauge customer interest in projects and their ability to complete them, so that staff can determine the appropriate amount of resources to expend with each customer. As noted in Chapter 2, the program's relationship-based consultative marketing process can be very time- and resource-intensive for Field S&S and program staffs, and it may become necessary to reduce the amount of resources devoted to maintaining relationships with a customer that is unlikely to take a comprehensive approach to energy efficiency. Additionally, Field S&S staff expressed a desire for further marketing and customer education efforts to increase awareness of PG&E's program offerings.

Audits and Project Development

Depending upon the results of the preliminary screening, Field S&S staff typically recommend either *on-site* or *integrated* audits of facilities. Field S&S staff recommend on-site audits to identify projects that conform to specific, limited criteria, such as a quick return on investment. For instance, Field S&S staff recommend retrocommissioning audits (a type of on-site audit) to identify opportunities for low-cost operational improvements. On-site audits are offered at no cost to customers and are accomplished quickly.

Field S&S staff recommend integrated audits to identify comprehensive lists of programs and services available for customers, including energy efficiency opportunities, energy time-of-use management, demand-response opportunities, and self-generation and renewable energy information. Integrated audits, which are typically offered to customers whose electric demand exceeds 200 kW, require a financial investment on the part of the customer and several weeks or months to complete.

However, customers are not required to receive an audit through the program prior to making an application for incentives. According to one program staff member, "If the customer knows exactly what they want and need, the program jumps over product development and goes directly to project management."

According to one Field S&S contact, customers are most likely to commit to proceed with identified projects when a team consisting of both PG&E staff and external consultants present customers with program offerings. According to this contact, this team of PG&E staff and contractors should address any potential impact to patient safety and comfort that might result from the installed measures, demonstrate quick project timelines, and demonstrate the capacity of the installed measures to meet with the customer's return-on-investment goals.

Project Support

As discussed in Chapter 3, once a customer has committed to proceed with an energy efficiency project and submitted an application, PG&E may require a technical review, completed either by PG&E technical personnel or by PG&E's contractors. Some interaction with customers may also be necessary to clarify the application and the estimates of savings. Once PG&E approves the application, the customer receives an agreement and PG&E commits funds for the project.

Field S&S contacts report varying amounts of follow-up contact with customers once a project has begun. Two contacts reported monthly contact via phone, email, and in-person meetings. A third contact stated that, "Once the project is initiated, I communicate with customers on a weekly basis at planned project program meetings, with prepared meeting notes, action items, and a master planning spreadsheet."

Four of the five Field S&S contacts interviewed reported that the current PG&E technical resources available are adequate. However, one contact expressed a desire for increased access to regulatory expertise to help customers navigate the OSHPD approval process.

One Field S&S contact reported that by focusing energy efficiency efforts on specific sectors, PG&E has increased access to technical and program support from program managers. According to one contact, "By focusing on targeted markets, program management staff have built their expertise." This contact reported that, since segmentation, "I can go to managers for support and analysis, and I can turn over some of the paperwork to them and have them do some of the follow-up with customers."

One Field S&S contact reported selecting the appropriate staff members to provide technical support in advance of project implementation and briefing them on their role(s) in advance. This contact suggested standardizing this approach for Field S&S staff.

Once the project is complete, the customer or the customer's vendor organizes the invoices and other documents, and submits them to the processing center at PG&E. Custom projects are inspected and monitoring data may be examined. The initial savings calculations may be adjusted to reflect what measures were installed and how they operate. Once these inspections have been approved, PG&E issues a check to the customer or the vendor.

Influence of Field S&S Staff in Program Awareness

Medical Participants with NRR Projects

The survey of ten medical participants with NRR projects illustrates the importance of relationships in program marketing and the central role that Field S&S staff play in managing those relationships.

Nine of the ten respondents could recall how they heard about the program and the majority those (six) reported their source of program awareness was PG&E Field S&S staff (Table 4.1).

Table 4.1: Source(s) of Program Awareness for NRR Medical Participants (Multiple Responses Allowed)

SOURCE(S) OF PROGRAM AWARENESS	RESPONSES (N=9)
PG&E Field S&S Staff	6
Vendor, Contractor, or Consultant	2
PG&E Website	1
Previous Experience with PG&E programs	1

Half of the interviewed participants stated that, in addition to simply providing information about incentive programs, PG&E staff were influential in the participant's decision to take part in the program. Participants were asked whether people within their organization, PG&E, or someone else was most influential in their decision to pursue an energy efficiency project. Among these three sources of influence, four of ten respondents reported that PG&E was most influential, four reported that individuals within their own organization were most influential, and one reported that a contractor was most influential. Additionally, one participant reported that PG&E, people internal to their organization, and the contractor each had an equal influence.

The survey of medical participants with NRR projects also found that, in many cases, Field S&S staff had provided participants with information leading to multiple energy efficiency projects. Eight of the ten respondents reported that, in addition to the measure identified on the contact list, at least one other measure had been installed at their facilities during the 2006-2008 program cycle. As shown in Table 4.2, each of these eight participants reported that at least one source of information leading to their installation of the additional measure(s) was PG&E Field S&S staff (five participants), previous experience with PG&E programs (three participants), or PG&E's website (one participant).

Table 4.2: Source(s) of Information Leading to Installation of Additional Measure(s) by NRR Medical Participants (Multiple Responses Allowed)

SOURCE(S) OF PROGRAM AWARENESS	RESPONSES (n=8)
PG&E Field S&S staff	5
Previous Experience with PG&E programs	3
Vendor, Contractor, or Consultant	1
PG&E Website	1

Medical Participants in the Mass Markets Program

As with medical participants in the NRR program, PG&E's Field S&S staff played a role in informing medical participants in the Mass Markets program about available energy efficiency opportunities.

As shown in Table 4.3, of the participants who could recall how they heard about PG&E's incentive programs (52), a plurality reported their source of information was PG&E Field S&S staff (40%). A vendor, contractor, or consultant was the next most common source of information (35%). The PG&E website was the third most frequently reported source, identified by 10% of participants.

Table 4.3: Sources of Program Information for Mass Markets Medical Participants (Multiple Responses Allowed)

SOURCE OF INFORMATION	RESPONSES	PERCENT (N=52)
PG&E Account Representative	21	40%
Vendor, Contractor, or Consultant	18	35%
PG&E Website	5	10%
Other PG&E Staff	5	10%
Colleague	2	4%
Respondents Managerial Staff	2	4%
Printed Brochure or Information	1	2%
Contractor Hired by PG&E (QuEST)	1	2%

Three respondents could not recall how they learned about PG&E's incentive programs, and three respondents listed more than one source of information about the program. All of the latter three named either a PG&E representative or the website as their most important source of information, consistent with the overall frequency with which these options were mentioned.

Architects and Engineers

Architects and engineers who work with medical customers have much more experience with PG&E's program offerings than do the customers themselves. As a result, these trade allies differ from medical participants in both the NRR and Mass Markets programs in their source of knowledge about the program.

The architects and engineers interviewed reported long-term awareness of and involvement in PG&E's incentive programs, including those relevant to the medical sector. Three of the six professionals interviewed stated that they had known about PG&E's incentive programs for more than 15 years. According to one engineer, "I have participated in the program for years and

I stay in touch with PG&E. It is hard to say where I first heard of the program." These respondents described watching PG&E's programs develop and evolve since they first became involved.

All of the architects and engineers interviewed were familiar with a variety of the incentive programs that PG&E offers, including customer incentives, incentives available for energy modeling, and available design team assistance. One architect reported that each of the projects his firm had worked on for hospitals over the last four years had received PG&E incentives. In addition to their familiarity with the medical program, the architects and engineers interviewed were knowledgeable about programs targeting other sectors, such as higher education and large office buildings. One interview subject reported working with PG&E to design and develop programs and another had been involved in program management as a PG&E employee.

Contractors

Similar to architects and engineers, contractors – including lighting and mechanical systems installers – have known about PG&E efficiency programs for a long time. One representative of an industrial equipment sales and service firm estimated that, over the last four years, the regional office he is a part of has worked on six projects for medical clients that involved PG&E programs. Statewide, this contact estimated that, in the same period, his company has done 25 projects for medical clients that involved PG&E efficiency programs. According to this contact, his company participated in PG&E incentive programs prior to 2006, and worked closely with PG&E through programs targeting food processing and manufacturing, as well as the medical sector. Similarly, a lighting installer with a client that manages multiple medical facilities in California reported carrying out lighting projects in the majority of the client's facilities and stated that each of those lighting projects involved PG&E incentives to some extent.

Reasons for Program Participation

While relationships with PG&E staff helped to build awareness of efficiency programs among medical customers, interview and survey data suggest that medical customers most often chose to take on energy efficiency projects for financial reasons.

Field S&S Staff Views

According to Field S&S staff contacts, facilities directors in the medical sector tend to be most receptive to marketing messages that emphasize the energy cost savings associated with energy efficiency measures. In contrast, contacts report that corporate staff tend to be most receptive to marketing messages that emphasize the role of energy efficiency as an environmental sustainability initiative. The appeal of the environmental benefits of energy efficiency to corporate staff in the medical sector likely comes from the long-term commitments to environmental sustainability goals that an increasing number of medical corporations have made.

Medical Participants in the Mass Markets Program

Consistent with the views of Field S&S staff, more than 90% of Mass Markets respondents listed financial incentives or cost savings as reasons for their program participation. As Table 4.4 demonstrates, the two most common reasons that medical participants in the Mass Markets program listed for taking part were to save on utility bills (58%) and to obtain the rebate or program incentive (33%). Participants further emphasized the role of financial incentives in open-ended responses regarding what they considered to be the best part of the program.

Table 4.4: Reason for Participation of Medical Facilities in Mass Markets Program (Coded from Open-Ended Responses / Multiple Responses Allowed)

REASON FOR PARTICIPATION	RESPONSES	PERCENT (N=55)
Save on Utility Bills	32	58%
Obtain Rebate/Program Incentive	18	33%
Save Energy	8	15%
Replace Old Equipment	5	9%
To Be Green / Protect the Environment	3	6%
Reduce Maintenance Costs	2	4%
Program was Recommended by Vendor/Contractor	1	2%

Medical Participants with NRR Projects

We did not ask participants with NRR projects their reasons for participating. Although we designed the Mass Markets and NRR surveys to have parallel questions to the extent possible, we sought information from the NRR participants on their interactions with PG&E staff, which we did not seek from Mass Markets participants. To keep the length of the NRR survey to about 20 minutes, one of the questions from the Mass Markets survey that we omitted from that for the NRR concerned their reasons for participating.

Architects and Engineers

The architects and engineers interviewed also indicated that incentives and short-term cost savings were a primary motivator for their clients' decisions to participate in the program. According to these contacts, long-term savings on operating costs and the opportunity to promote energy efficiency were secondary motivators. Comments by one engineer interviewed illustrate the priority that customers place on short-term savings over what are longer-term benefits in the eyes of architects and engineers. This contact described one large healthcare client that requires any efficiency investment to recover its costs through savings in three years or less,

a time period that this contact described as "crazy short." This contact reported that, to motivate this type of customer to undertake energy efficiency projects, his firm offers to finance energy efficiency investments. According to this contact, "For some, energy efficiency is a hard sell."

Contractors

While contractors – like Field S&S staff, and architects and engineers – indicated that their healthcare clients are motivated to participate in PG&E programs because the programs reduce their costs, contacts reported that energy efficiency was often not the primary reason that a healthcare client would hire an industrial systems contractor. According to the contractors interviewed, healthcare clients doing building retrofit work are often motivated by the need to comply with OSHPD regulations. However, contacts stated that energy efficiency opportunities may exist within projects designed to bring a facility into compliance with OSHPD regulations. According to one of the contractors interviewed, "When medical customers have to meet new OSHPD regulations, such as air exchange regulations, they call us. At that time, we have the potential to upgrade their system to something that meets new regulations and is energy efficient as well." However, a lighting contractor reiterated the importance of cost in customer decisions to pursue energy efficiency projects. This contact stated, "If the cost is low enough with the rebate, people will participate."

Communication and Support Provided by Field S&S and Other PG&E Staff

Medical Participants with NRR Projects

All ten contacts reported regular interaction with Field S&S staff. Overall, respondents provided high ratings regarding Field S&S staff's degree of helpfulness with their projects. On a *zero-to-ten* scale, where *zero* represents "not at all helpful" and *ten* represents "extremely helpful," 9 out of 10 respondents provided a rating of nine or higher. Regarding these ratings, respondents reported that Field S&S staff were "accessible," "responsive," and "accountable" during project implementation. Conversely, one respondent expressed frustration with the lack of authority of Field S&S staff, noting that Field S&S staff frequently had to get permission from PG&E's central office before resolving customers' questions and concerns.

Generally, respondents also gave high ratings to the degree of helpfulness of "other PG&E staff" with projects. Using the same scale, 5 of the 10 respondents provided a rating of eight or higher. One of the 10 respondents rated the degree of helpfulness of "other PG&E staff" with projects to be a zero. According to this respondent, the PG&E staff person was not able to provide information regarding the status of the customer's incentive check (Table 4.5).

Table 4.5: NRR Medical Participant Responses Regarding the Degree of Helpfulness of "Other PG&E Staff" with Projects

DEGREE OF HELPFULNESS OF "OTHER PG&E STAFF" (ZERO-TO-TEN SCALE)	RESPONSES (n=10)
Extremely Helpful ("10")	2
"8"	3
"7"	3
Not At All Helpful ("0")	1
Don't Know	1

Respondents who rated the degree of helpfulness of "other PG&E staff" to be a seven or less provided the following explanations for their ratings:

- *"The process was a little frustrating. They are not passing the baton very well."*
- *"As you get further away from the account representative, you get more involved in the PG&E bureaucracy. The scope of other PG&E staff is larger and in some cases it is more difficult to communicate with them."*
- *"It takes PG&E a long time to get things through the process. So with more or differently aligned resources, the process could move faster."*

Medical Participants in the Mass Markets Program

Field S&S staff and other PG&E staff members provided some assistance to medical participants undertaking energy efficiency projects through the Mass Markets program, although third-party program implementation contractors also played a role in providing support to this segment.

The vast majority of the medical participants in the Mass Markets program surveyed (87%) demonstrated familiarity with program support structures, responding that they had a clear idea of who they could ask for help with their incentives or other program participation issues. In addition, respondents most commonly stated that they would ask Field S&S staff (31%) or other PG&E staff members (24%) for help with program issues. Table 4.6 illustrates these responses.

Table 4.6: Whom Mass Markets Medical Participants Would Ask for Program Support

SOURCE OF HELP	RESPONSES	PERCENT (N=55)
PG&E Field S&S Staff	17	31%
Other PG&E Staff	13	24%
Contractor Specializing in PG&E Programs	12	22%
Equipment Supplier or Installation Contractor	5	9%
Other	1	2%
Don't Know / Unsure	7	13%
TOTAL	**55**	**101%***

* Note: Total percent does not equal 100% due to rounding.

Although respondents most frequently stated that they would contact PG&E Field S&S staff for help with program participation, as might be expected for Mass Markets program participants, fewer than half (42%) of participants reported having had any contact with Field S&S staff during the course of their program participation. More often, participants came into contact with contractors that specialize in working with PG&E incentive programs.[13] Table 4.7 displays the percentage and number of respondents who said they had had contact with the various types of PG&E staff and contractors at any point during the program. Of those respondents that did come into contact with PG&E staff, more than 80% felt that the PG&E staff they had come into contact with coordinated and worked well together.

[13] The survey question asked participants to indicate with a "yes," "no," or "don't know" whether they worked with: (1) an account representative; (2) other PG&E staff; (3) a contractor that specializes in working with PG&E incentive programs; and (4) an equipment supplier or installation contractor. While we had in mind that *account representative* refers to S&S staff and that the *specializing contractor* refers to third-party program staff, we intentionally avoided the latter terms with the expectation that customers may not recognize them. Further, in other studies we have found that participants often cannot correctly distinguish among different parties delivering program services. For example, in our evaluation surveys, although we clearly state we are an independent research firm, many respondents talk to us about "our" program. Although we chose the terms used in the survey with deliberation, the reader should bear in mind that respondents relied on their own interpretation of these phrases when answering the question.

Table 4.7: Program Actors Contacted for Support by Mass Markets Medical Participants (Multiple Responses Allowed)

PROGRAM ACTORS	RESPONSES	PERCENT (N=55)
Contractor Who Specializes in Working with PG&E Incentives	33	60%
Account Representative	23	42%
Equipment Supplier / Installation Contractor	21	38%
Other PG&E Staff	13	24%
ESCO	5	9%
Demand Response Aggregator	2	4%

Other Program Contact with Participants

In addition to the marketing and support that PG&E's Field S&S staff provide, the program also reaches out to participants through mass media, including a website and brochures. The program's website is directed at all participants and potential participants in the healthcare sector, while the program's printed brochure focuses on Mass Markets measures.

Program Website and Brochure

Brochure

Thirteen (24%) of the 55 interviewed medical participants in the Mass Markets program could remember having seen a printed brochure or other program outreach materials. The majority of the respondents who remembered seeing a brochure gave mediocre ratings when asked how informative the materials had been. On a *zero-to-ten* scale, with *zero* indicating "not at all informative" and *ten* representing "extremely informative," 7 of the 13 respondents who remembered seeing a brochure (54%) rated the materials they had seen between five and seven. Four respondents (31%) rated the materials at eight or above. Two respondents did not provide ratings, although they could recall seeing printed materials. Respondents who rated the written materials lower than eight on the satisfaction scale generally agreed that the written materials did not provide them with enough information or that the information that was presented did not help them understand how all elements of the program function together.

Website

Eight of the ten respondents who participated in the NRR component of the program reported that they visited the PG&E website while participating in the program. Of these eight, four reported finding all of the information they were looking for, three reported finding some of the

information they were looking for, and one reported finding none. One of the respondents who did not find all of the information he sought reported that the website provides only a "thumbnail sketch" of PG&E's programs and services, and suggested that the site include more detailed information. Another respondent who had not found the information he sought said, "It takes more time to learn the website than I have time for." A third respondent reported having been unable to download and fill out a PDF program application form from the website. [14]

Only one of the four respondents who did not find all of the information they sought on the website followed up with the Business Customer Service Center contact that the site provided. This contact reported that the Business Customer Service Center representative successfully addressed the contacts' remaining questions. Another respondent reported receiving answers to remaining questions via a follow-up with Field S&S staff.

DELIVERY OF COMPREHENSIVE SERVICES

While the relationships that PG&E maintains with medical customers create the potential to build on each project the customer undertakes in order to promote a comprehensive approach to energy efficiency, the surveys of medical customers undertaking NRR projects and medical participants in the Mass Markets program sought to determine the extent to which customers are interested in pursuing energy efficiency in a comprehensive way, and the level of support that PG&E has provided in customers' efforts to do so.

In order to examine the extent to which the program succeeded in encouraging a comprehensive approach to energy efficiency, the evaluation team distilled a list of services to which the medical program facilitates access, as described in the PIP.[15] We then sought to determine the level of interest in each program service among medical participants in both NRR and Mass Markets, and the extent to which PG&E staff had discussed each program service with customers.

In addition, we asked participants in the NRR component of the program to rate the extent to which the program met a variety of objectives, many of which relate to the delivery of comprehensive services.

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[14] Previous versions of *Adobe Acrobat* did not allow customers using free *Adobe Reader* software to fill in and save PDF forms. According to the product website "With *Acrobat 9* you can allow virtually anyone to fill in and save PDF forms using free *Adobe Reader* software." *http://www.adobe.com/products/acrobatstd/pdfs/acrobatstd_datasheet.pdf*

[15] The list of services we distilled from the RFP is similar, yet more detailed, than the services described by PG&E in its *Health Care Energy Management Overview* fact sheet and delineated in Table 3.1.

Program Services

NRR Participants

As mentioned above, eight of the ten NRR participants interviewed had installed more than one energy efficiency measure during the 2006-2008 program cycle. Consistent with this finding, survey data suggests that NRR participants understand that PG&E offers support to optimize their facilities' energy use in a comprehensive way.

On average, participants reported that they had discussed with PG&E staff between 8 and 9 of the 12 program services distilled from the PIP. In addition, according to participant reports, PG&E staff discussed 9 or more of the 12 services distilled from the PIP with seven of the ten participants who responded to the survey. Table 4.8 shows the number of customers who discussed each program service with PG&E staff, how many of those customers took on projects related to the program services they discussed, and the number of customers interested in discussing each program service in the future.

All of the customers interviewed reported discussing energy audits with Field S&S staff, and all but one customer interviewed reported discussing retrofit and remodeling assistance, as would be expected of those participating in NRR programs. Of all the program services listed, the fewest respondents (4 of 10) reported that PG&E provided connections to water conservation programs.

Of the seven participants that reported having either completed recent expansions or said they had expansions currently underway, five reported discussions with PG&E regarding new construction incentives. Four of the seven mentioned PG&E's incentives to offset increased design team costs for energy efficiency. These should be considered relatively high ratings, because the preliminary screening process that Field S&S staff conducts may have precluded such discussions with the participants who did not report having expansions completed or underway.[16] However, two respondents who did not have expansions completed or underway reported discussing new construction incentives with Field S&S staff and one respondent reported discussing incentives to offset increased design team costs.

[16] As noted in the subsection entitled *Program Marketing*, above, S&S staff begin the consultative process (referred to as *product development*) by first determining a customers' energy efficiency goals and constraints (referred to as *preliminary screening*).

Table 4.8: Frequency of NRR Participants' Discussion, Implementation, and Interest in Medical Efficiency Programs

MEDICAL EFFICIENCY PROGRAM OPPORTUNITY	DISCUSSED (N=10)	CUSTOMER PROGRAM UPTAKE RELATIVE TO THE FREQUENCY WITH WHICH OPPORTUNITY WAS DISCUSSED	PROPORTION OF CUSTOMERS WHO DID NOT IMPLEMENT MEASURE AND ARE INTERESTED IN FURTHER DISCUSSIONS ON THIS TOPIC
New Construction Incentives	7	5 of 7	1 of 5
Energy Audit to Identify Cost-Effective Energy Efficiency Opportunities	10	6 of 10	1 of 4
Commissioning or Tune-Ups of Facilities or Equipment for Energy-Efficient Performance	5	3 of 5	4 of 7
Assistance Taking Action on Energy Audit Recommendations	7	4 of 7	1 of 6
Coordination With ENERGY STAR® Ratings	7	4 of 7	2 of 6
Assistance for Self-Generation or Renewable Generation of Electricity	7	4 of 7	3 of 6
Retrofit and Remodel Assistance	9	4 of 9	2 of 6
Incentives to Offset Increased Design Team Costs for Energy Efficiency	5	2 of 5	3 of 8
Assistance to Develop Long-Term Energy Efficiency Plans For Your Organization	7	2 of 7	4 of 8
Information on Efficient Technologies and Design Strategies	8	2 of 8	2 of 8
Efficient Technologies and Design Strategies	8	2 of 8	3 of 8
Connections to Water Conservation Programs	4	1 of 4	6 of 9

Field S&S staff discussions with customers regarding "new construction incentives," "energy audits to identify cost-effective energy efficiency opportunities," and "commissioning or tune-ups of facilities or equipment for energy-efficient performance" were frequently associated with project implementation (14 of 22 cases). Conversely, discussions with customers regarding "assistance to develop long-term energy efficiency plans," "information on efficient technologies and design strategies," and "connections to water conservation programs" were associated rather infrequently with projects completed, although some of these services may not lend themselves to specific projects as naturally as do other services (5 of 19 cases).

For the most part, relatively few respondents who did not implement projects related to specific program services were interested in discussing the service with PG&E staff. This indicates that PG&E's Field S&S staff has largely been successful in tailoring the program services they discuss to the needs of program participants. Notably, however, of the nine customers whose reported projects did not include water conservation, six reported interest in discussing this topic with PG&E in the future.

In one case, a contact who facilitates energy efficiency improvements for a large number of hospitals reported that, while he or she had discussed the program's service of coordinating ENERGY STAR® ratings with Field S&S staff, the participant's company had ultimately partnered with a third-party service provider in this area. According to this contact, the third-party contractor exceeded PG&E's capacity in this regard. The contact said, "My corporation's program is bigger than that afforded by coordination with ENERGY STAR® facilitated by PG&E."

Medical Participants in the Mass Markets Program

Both PG&E staff and third-party contractors provide information on program services to medical participants in the Mass Markets program. Survey data of Mass Markets participants showed both a relatively low level of interest in most program services on the part of respondents and relatively infrequent discussion of program services between interested respondents and PG&E staff or third-party contractors.

Thirteen respondents (24%) stated that they were not interested in any of the 14 program services about which they were asked. However, 17 (30%) of the respondents stated that they were interested in eight or more of the 14 services described in the PIP. In general, facilities with beds (hospitals, skilled nursing facilities, and group residence facilities) expressed interest in the largest number of program services, while dental offices and childcare facilities expressed interest in the fewest program services.

Hospitals, skilled nursing facilities, and group residences with beds also generally reported discussing the largest number of program services with PG&E staff and with third-party contractors. While survey data do not suggest an explanation for this greater interest in program services by facilities with beds, these facilities may be larger and more likely to own their own buildings than other types of medical facilities, and therefore may find a wider range of program services relevant to their needs than facilities that rent their space. Table 4.9 shows the number of respondents representing each facility type who expressed interest in none of the program services, between one and four program services, between five and nine program services, and more than ten of the fourteen program services distilled from the PIP.

Table 4.9: Interest of Mass Markets Medical Participants in Program Services and Frequency of Discussion by Facility Type

FACILITY TYPE	NUMBER & PERCENT OF RESPONDENTS WHO EXPRESSED INTEREST IN PROGRAM SERVICES				NUMBER & PERCENT OF INTERESTED RESPONDENTS WHO DISCUSSED PROGRAM SERVICES WITH PG&E STAFF			NUMBER & PERCENT OF INTERESTED RESPONDENTS WHO DISCUSSED PROGRAM SERVICES WITH A THIRD-PARTY		
	0	1 TO 4	5 TO 9	10 TO 14	0	1 TO 4	5 TO 9[1]	0	1 TO 4	5 TO 9[l]
Skilled Nursing Facility With Beds	3 (27%)	4 (36%)	2 (18%)	2 (18%)	2 (25%)	5 (63%)	1 (13%)	5 (63%)	2 (25%)	1 (13%)
General Medical and/or Surgical Hospital	3 (27%)	2 (18%)	2 (18%)	4 (36%)	4 (50%)	3 (38%)	1 (13%)	4 (50%)	4 (50%)	0 (0%)
Group Residence or Facility with Beds Other than Hospital or Skilled Nursing	1 (8%)	3 (23%)	4 (31%)	5 (38%)	6 (50%)	5 (42%)	1 (8%)	6 (50%)	6 (50%)	0 (0%)
Outpatient Hospital or Clinic	1 (25%)	0 (0%)	3 (75%)	0 (0%)	1 (33%)	2 (67%)	0 (0%)	1 (33%)	2 (66%)	0 (0%)
Primary Care Medical Offices	0 (0%)	2 (50%)	2 (50%)	0 (0%)	1 (25%)	3 (75%)	0 (0%)	2 (50%)	2 (50%)	0 (0%)
Dentist Offices	1 (50%)	1 (50%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)
Child Care	2 (50%)	2 (50%)	0 (0%)	0 (0%)	1 (50%)	1 (50%)	0 (0%)	1 (50%)	1 (50%)	0 (0%)
Other	3 (27%)	2 (18%)	4 (36%)	2 (18%)	4 (50%)	3 (38%)	1 (13%)	4 (50%)	3 (38%)	1 (13%)
Total Unique Respondents[2]	13 (24%)	15 (27%)	16 (29%)	11 (20%)	19 (45%)	21 (50%)	2 (5%)	22 (52%)	18 (43%)	2 (5%)

[1] No respondents reported speaking to either PG&E staff or a third-party about more than 9 of the 14 program services listed in the PIP.

[2] Respondents could list more than one facility type. Total reflects number of unique respondents.

As shown in Table 4.10, participants were most interested in the program service of energy audits to identify cost-effective energy efficiency opportunities and, of the respondents who were interested in this service, the proportion who discussed this opportunity with either PG&E staff or a third-party contractor was the highest of all the opportunities listed.

Table 4.10: Mass Markets Medical Participants' Interest in Program Opportunities and Frequency of Discussion

MEDICAL EFFICIENCY PROGRAM OPPORTUNITY	INTERESTED PARTICIPANTS	DISCUSSED WITH PG&E STAFF	DISCUSSED WITH PG&E STAFF OR THIRD-PARTY
Energy Audit to Identify Cost-Effective Energy Efficiency Opportunities	30 (55%)	14 (47%)	14 (47%)
Assistance to Develop Long-Term Energy Efficiency Plans for Your Organization	26 (47%)	1 (4%)	4 (15%)
Assistance Taking Action on Energy Audit Recommendations	24 (44%)	8 (33%)	8 (33%)
Assistance for Reducing Demand and Participating in Demand Response Efforts	22 (40%)	7 (32%)	7 (32%)
Assistance for Self-Generation or Renewable Generation of Electricity	22 (40%)	4 (18%)	5 (23%)
Commissioning or Tune-Ups of Facilities or Equipment for Energy-Efficient Performance	21 (38%)	4 (19%)	5 (24%)
Connections to Water Conservation Programs	20 (37%)	2 (10%)	4 (20%)
Assistance in Designing Energy Efficiency Projects	20 (36%)	4 (20%)	6 (30%)
Providing Education and Training Opportunities for Your Facilities Staff	20 (36%)	2 (10%)	4 (20%)
Information Generally Applicable to Medical Facilities on Efficient Technologies and Design Strategies	19 (35%)	1 (5%)	2 (11%)
Coordination with ENERGY STAR® Ratings	17 (32%)	2 (12%)	3 (18%)
New Construction Incentives or Savings By Design	17 (31%)	4 (24%)	5 (29%)
Benchmarking Assistance	12 (22%)	0 (0%)	1 (8%)
Incentives To Offset Increased Design Team Costs For Energy Efficiency	10 (18%)	1 (10%)	1 (10%)

Note: Percentages of participants who discussed each opportunity with PG&E staff and with PG&E staff or a third-party are based on the number of participants interested in each program opportunity.

Even so, less than half (47%) of the participants who expressed interest in this service had discussed it with either PG&E staff or a third-party contractor. Notably, only 15% of respondents reported discussing the program service in which participants expressed the next highest level of interest – assistance to develop long-term energy efficiency plans for their organization.

Program Objectives

In addition to the 12 program services that the evaluation team distilled, the PIP also lists seven program objectives. Ratings by medical participants with NRR projects of the extent to which PG&E had succeeded in meeting each program objective suggest that the program is largely succeeding in delivering comprehensive services and building relationships with participants (Table 4.11).

Table 4.11: NRR Medical Participant Responses Regarding the Degree to Which PG&E Met Program Objectives

PG&E PROGRAM OBJECTIVE	DID PG&E MET PROGRAM OBJECTIVE? (N=10)			
	GENERALLY / YES	SOMEWHAT	NOT REALLY	NO OPINION
Did PG&E encourage a whole-facility assessment of your opportunities?	8	0	2	0
Did PG&E meet regularly with you or other staff to ensure you are receiving the energy efficiency support you require?	7	1	2	0
Did PG&E encourage long-term planning to reduce energy costs?	7	1	2	0
Did PG&E encourage integration of energy efficiency into your standard design processes for new buildings and systems?	7	0	1	2
Did PG&E offer expertise about energy efficiency and medical facilities?	7	0	3	0
Did PG&E educate you or your staff about efficient building operations?	5	0	5	0
Did PG&E encourage grouping several measures into one project?	4	1	4	1

Four of the seven objectives relate to providing comprehensive services to participants. Eight of the ten interviewed participants agreed that PG&E succeeded in meeting the program objective to encourage a whole facility assessment of energy efficiency opportunities, a finding of critical importance to the program's emphasis on comprehensive retrofits. As noted in Chapter 2, this type of comprehensive assessment of energy efficiency opportunities is a common feature of programs seeking to promote comprehensive approaches to energy use. Additionally, eight of the

ten respondents reported that PG&E met the objective to "encourage long-term planning to reduce energy costs."

Seven of ten respondents reported that PG&E encouraged integration of energy efficiency into their standard design processes for new buildings and systems. Each of these seven respondents reported having facilities expansions either completed or underway. This should be considered a very high rating, because PG&E's preliminary screening process would have likely precluded engaging in such discussions with the three participants who did not report having expansions completed or underway.

Respondents stated that PG&E had been less successful in meeting its final objective related to delivering comprehensive services, to "encourage grouping several measures into one project." Five of the ten respondents reported that PG&E addressed this objective. This finding is also consistent with the experiences of other programs promoting comprehensive approaches discussed in Chapter 2. Program managers stated that customers were reluctant to take on multiple measures and that a gradual approach building on the success of individual measures was more effective.

The three remaining objectives outlined in the PIP relate to building strong relationships between program staff and participants. Eight of the ten respondents reported that PG&E at least partially addressed the first of these objectives, to "meet regularly with participants to provide necessary energy efficiency support."

Seven respondents reported that PG&E met the program objective to "offer expertise about energy efficiency and medical facilities." One of the three respondents who reported that PG&E did not meet this objective explained:

- *"I think that the team sent over here wasn't familiar with dealing with the intricacies of a hospital. Their expertise was more data centers, commercial buildings, etc. They didn't make recommendations that are relevant to a twenty-four hour facility such as a hospital."*

A second participant among these three reported:

- *"We are a long way from San Francisco and PG&E staff don't want to come down here."*

Five of the ten respondents reported that PG&E addressed the program objective to "educate staff about efficient building operations."

5 PROGRAM PROCESSES

This chapter draws on interviews with Medical Efficiency Program and Field S&S staff to present an overview of the program participation process. It then examines participant experiences regarding the application process, project implementation, and the incentive process.

Many of the program processes underlying the Medical Efficiency Program are outside the purview and control of the medical program staff. PG&E groups other than the medical team implement the processes associated with NRR, NRNC, and Mass Markets projects, in accordance with the applicable statewide efficiency program procedures for resource acquisition. Organizational processes unique to PG&E and not governed by statewide requirements were in flux at the time of the evaluation. The Customer Energy Efficiency department was working with a management consultant to improve the program processes associated with NRR. Thus, this evaluation does not address these supporting program processes, but rather focuses on processes and experiences related to the Medical Efficiency Program itself.

OVERVIEW OF THE PROGRAM PARTICIPATION PROCESS

While program processes may vary based on the specific services that PG&E provides to each customer, program staff and Field S&S contacts described the process as it would apply to a typical project in the medical segment.

Customers may identify projects in a variety of ways. PG&E staff may facilitate an audit or another type of engineering review of medical facilities to identify savings. Program staff then review the resulting engineering report and present it to the customer in collaboration with Field S&S staff. In addition, in new construction projects, during the design and planning process, program staff may meet with the customer and their design team to discuss the project and provide information on the program and any incentives that are available. Alternately, customers may identify qualifying projects without PG&E's assistance. Based on the interview data presented in Chapter 2, these methods of identifying projects are typical of most programs seeking to encourage customers to take a comprehensive approach to energy efficiency.

According to contacts, on their application forms, customers must include calculations of the energy savings a project will achieve. The customer or their design team may generate these calculations; however, if the calculations are too complex for the customer or their design team to complete, program staff may provide calculation assistance through a preferred contractor with specialized knowledge of healthcare facilities.

Project applications may consist of multiple parts – the first part collects general information on the customer's business, while the rest goes into greater detail on the proposed project. In addition, customers may have to submit multiple applications if they would like to receive the

incentives for measures when each is completed, rather than in a single payment. Contacts report that once PG&E receives a customer's application, the utility may conduct a field inspection to verify the equipment to be replaced. According to program staff, this verification may take several weeks, creating delays that customers find problematic.

Once PG&E has processed the customer's application and verified the existing equipment, it provides the customer with a formal offer letter giving details of the incentives that the customer will receive for achieving specified levels of energy savings. Customers had been required to sign this letter of approval, but in July 2008, the program stopped requiring this signature in an effort to streamline the program participation process. Contacts report that, as a result of the large number of legal documents (designed to limit PG&E's liability) that program participants must sign, some participants become concerned for their own liability and are reluctant to sign additional documents.

According to program staff, PG&E does not specify which contractor participants are to use to complete the project. As discussed in *Project Support* in Chapter 4, Field S&S staff maintain regular contact with participants throughout the course of the project. Program staff may also maintain contact with participants or their design team throughout the project, especially in the case of new construction projects, for which program staff must maintain records over a period of several years.

When the project is complete, the customer, or their contractor or vendor, organizes project invoices and other documents, and submits them to PG&E. PG&E then sends a technical reviewer who was not involved in the project's design to verify the project implementation and take any measurements necessary to validate the project's energy savings. Once this process is complete, the customer receives the incentive.

PARTICIPANT EXPERIENCE WITH THE APPLICATION PROCESS

Field S&S and Program Staffs' Observations

Field S&S contacts report that some customers consider the program application processes to be lengthy and cumbersome. One Field S&S contact reported that the perceived difficulty of the application process deters many would-be participants from enrolling in energy efficiency programs. A program staff contact echoed this opinion, stating that customers may feel that program participation is not worthwhile because of program documentation requirements, especially in the case of new construction projects and Savings by Design. To reduce the burden on customers, Field S&S contacts report that they often fill out the majority of application paperwork before presenting it to customers.

Field S&S staff report that incorrect or incomplete customer applications frequently lengthen the application process. Interviewed program staff drew attention to one potential cause for customer confusion regarding application forms. Application processes differ between new construction, retrofit, and retrocommissioning projects, and one program staff member pointed out that

customers may not be able to tell the difference between various types of projects, or that a single project may shift from one type to another as it moves through the design and implementation phases. Program staff are working to create a single application process for new construction and retrofits; they report that a single application has been developed that covers a variety of demand response activities.

In addition to confusion or errors on the customer's part, one Field S&S contact reported that PG&E's paper-only filing of customer applications frequently results in missing documentation, further increasing the prevalence of incomplete application forms. To improve program tracking and reduce missing documentation, this contact suggested that PG&E generate electronic backup copies of customer applications. Program staff contacts reported that in an effort to address the issue of missing documentation, in its 2009-2011 cycle, the program allows customers to submit faxed copies of documents rather than the original.

Contacts report that incomplete applications can result in project delays when the participant's Field S&S contact is not aware of the problem and therefore does not know to contact the participant to provide assistance. One Field S&S contact stated that Field S&S staff must call PG&E's corporate offices in order to track project status. While one program staff member reported that the program maintains project information in a central location, this database "is only as good as what's put in." This contact stated that there had been a great deal of improvement in the program's project tracking capabilities over the 2006-2008 cycle. To improve project tracking, one Field S&S respondent suggested that PG&E create an online project-tracking database, accessible to Field S&S staff.

Observations by Medical Participants with NRR Projects

Overall, medical participants with NRR projects reported experiencing relatively few problems with program participation processes. However, the difficulties these participants reported parallel the problems with the program application process that Field S&S and program staffs discussed. Table 5.1 shows participant responses to questions regarding various program difficulties.

In general, the interviewed NRR participants reported little difficulty understanding or completing the application itself. Nine of the ten interviewed participants reported that the application was not difficult to complete, although one of these stated that a contractor had filled out the application for them. Eight of the ten participants interviewed reported that the application was easy to understand and a ninth reported that it was moderately difficult. In addition, one respondent stated that, while the application was easy to understand, it was difficult to gather the information that it required.

Table 5.1: NRR Medical Participant Experience of Application Processes

CHARACTERISTIC OF APPLICATION PROCESS	RESPONSES (N=10)	
	YES	NO
POSITIVE CHARACTERISTICS OF THE APPLICATION PROCESS		
Was the program staff responsive and well coordinated?	7	3
Was the application easy to understand?	8	2
Were you able to get information on the status of the application?	6	4
Did the whole process take an appropriate amount of time?	6	4
Did PG&E inform you that your application was incomplete and request additional information?	5	5
NEGATIVE CHARACTERISTICS OF THE APPLICATION PROCESS		
Was the application difficult to complete?	1	9
Was the whole process too complex?	4	6

Although participants gave relatively high ratings for the ease and understandability of the application, half of the NRR participants interviewed (5 of 10) reported that PG&E had requested additional information because their applications were incomplete. All of these respondents reported that PG&E informed them that their application could not move forward without the requested information.

In addition, four of the ten respondents reported that the whole program participation process was too complex and four respondents did not think the process took an appropriate amount of time.

Most medical participants with an NRR project reported receiving support from PG&E staff in navigating the application and other program processes. Six of the ten respondents reported that they were able to get information on the status of their applications, and seven reported that program staff were responsive and well coordinated.

Despite these generally positive ratings, one respondent stated that he felt that his project did not receive the priority it deserved from PG&E divisions other than Field S&S staff, which delayed the program process. Another respondent stated that it is difficult to determine "who at PG&E has responsibility, who can answer questions, and who has authority." This respondent also stated that communication with PG&E staff was difficult because staff members did not provide direct phone lines, although program staff stated that Field S&S staff provide their customers with direct contact information.

A third contact elaborated on their experience of a lack of coordination between PG&E staff. According to this contact, "There are too many programs, which creates confusion for PG&E

staff." This contact further stated, "Right now I have two account representatives battling over which programs we should use. It just doesn't make sense."

Observations by Medical Participants in the Mass Markets Program

Medical participants in the Mass Markets program reported relatively high levels of satisfaction with the program application process, with 80% of survey respondents rating their satisfaction at an eight or higher on a scale from zero-to-ten. The minority of respondents who gave lower ratings to the application process elaborated with statements that parallel the difficulties that program staff pointed out. In open-ended responses, three respondents stated that the application process was too complex, one felt that the application requirements were not clear enough, and another reported that PG&E had contacted them requesting additional information. Two respondents also reported that the application process took too much time.

Despite the problems that some reported, the majority of medical participants in the Mass Markets program did not report difficulty understanding (91%) or completing (91%) the application. However, when asked to elaborate on their answers, three respondents stated that the instructions, measurements, or equipment descriptions required for the application were unclear. Table 5.2 shows the number of Mass Markets participants surveyed who reported experiencing a variety of difficulties with program processes.

Table 5.2: Program Difficulties Reported by Mass Markets Medical Participants (Multiple Responses Allowed)

POTENTIAL PROGRAM DIFFICULTIES	RESPONSES	PERCENT OF TOTAL (n=55)
PG&E Requested Additional Information for Applications	12	22%
Delays Occurred	8	15%
Program Participation Took Too Long	7	13%
Program Participation Was Too Complex	6	11%
Application Was Difficult to Understand	5	9%
Application Was Difficult to Complete	5	9%
Lack of Coordination Between Program Staff	5	9%
Unable to Track Application Status	4	7%
Program Staff Was Unresponsive	3	6%
Insufficient Communication with Program Staff	2	4%

As was the case with NRR participants, the most commonly cited difficulty with the program participation process among medical participants in the Mass Markets program was that PG&E

requested additional information for the application. Notably, however, only 22% of Mass Markets participants reported that PG&E requested additional information for their applications, as opposed to half of the NRR participants; this is consistent with the relative simplicity of the Mass Markets application.

Medical participants in the Mass Markets program also mentioned the application process in open-ended responses when asked for their opinions on what was best about the program and what most needed to be changed. Four these participants mentioned the ease of the application process as a strength of the program, while nine respondents suggested the application should be simplified or streamlined. While the survey data do not indicate a reason for these differing views, the projects undertaken through the Mass Markets program vary in size and this size variation may correspond with a variation in the complexity of the application process.

Medical participants in the Mass Markets program also largely reported that PG&E staff provided support as they navigated program processes. Less than 10% of the Mass Markets participants interviewed reported a lack of coordination between program staff, that the program staff was unresponsive, or that their communication with program staff was insufficient. In addition, only 7% of respondents reported that they were unable to track the status of their applications.

Notably, however, while the 11 hospital respondents generally rated highly the support they received from program staff, these participants were twice as likely as the sample overall to report that they were unable to get information on the status of their applications, that program staff was unresponsive, and that there was insufficient communication with program staff. Table 5.3 summarizes these findings

Table 5.3: Mass Market Medical Respondents' Ratings of Difficulties with Program Staff Support

POTENTIAL PROGRAM DIFFICULTIES	PERCENT OF TOTAL RESPONSES	
	HOSPITALS (N=11)	TOTAL SAMPLE (N=56)
Lack of Coordination Between Program Staff	18%	7%
Unable to Track Application Status	18%	6%
Program Staff Was Unresponsive	18%	9%

Somewhat surprisingly, all four of the Mass Markets participants who reported that the application was difficult to complete had worked with a PG&E account representative at some point during their program participation process. Although the survey data do not suggest a cause for this finding, all four of these respondents received incentives of $900 or more through the program, putting them in the top 25% of projects by incentive size. Based on these relatively large incentives, it is possible that these were larger projects requiring a more complex application.

Observations by Architects, Engineers, and Contractors

In contrast to program staff reports and observations by some program participants, none of the architects or engineers interviewed felt the program requirements and application were onerous. Rather, architects and engineers reported that paperwork requirements were reasonable, timelines were understandable, and that their interactions with program representatives were generally positive.

The engineers interviewed, who are involved with each project for only a short time, have gained a great deal of experience with the PG&E incentive process. These contacts reported working with PG&E incentives between 15 and 25 times over the last four years and stated that they know how to navigate PG&E's systems. Likely as a result of that experience, these respondents had minimal complaints about program processes. One engineer expressed frustration about the need to submit "wet signatures" on program paperwork, as opposed to digital signatures, because of the difficulty of obtaining the appropriate signatures in a timely manner. However, another engineer said that he or she had no complaints because "customers do a lot of the application. We are not involved here." Both of these engineers stated that the application requirements were reasonable and it was clear what information was needed.

Contractors who had worked with PG&E programs in medical facilities described a similar experience with application paperwork to that of the architects and engineers. One contractor estimated that he is responsible for submitting application paperwork on about 60% of his projects, while the customer is responsible for the paperwork on the other 40%. Another contact stated that the application "paperwork is not too bad." This contact reported that Field S&S staff often take on the majority of the application paperwork, saying, "I give the customer the application to complete and then I give the PG&E rep for that customer the information… [The] PG&E rep will do most of the work for you." One contractor expressed the opinion, however, that new construction program requirements were clearer than those for retrofits.

Architects and engineers who remain involved in a single project over many years interact with PG&E intermittently throughout the course of the project. These respondents reported more difficulty navigating PG&E's incentive process because of the long time periods involved. Contacts stated that the program participation requirements become buried in the details of the larger project and the staff members involved in program participation may move or change jobs. One architect commented, "Projects are so long we forget to submit stuff. Churn [staff turnover] is a problem with our team and keeping the paperwork straight is an issue when we do not have the same people doing the work."

Another respondent reported that staff turnover at PG&E can also create difficulties in the program application and participation process. He said, "There is a lack of continuity on the PGE side regarding who follows a project. PG&E is a gigantic mystery of people. They admit this."

While the problems that architects and engineers reported with the program application process largely focused on the difficulty of maintaining records and communications over the course of a

long-term project, all firms expressed some degree of confusion regarding the range of programs and services PG&E offers. Demonstrating this confusion, one architect stated that finding information about PG&E program services "took some digging." This contact further stated, "I was not finding all the information in one place. I probably did not find all [the necessary information]." Similarly, an engineer reported that his firm had been unable to take advantage of a design incentive on one of their projects because of confusion regarding PG&E's programs.

The architects and engineers interviewed report that PG&E staff members are responsive to their needs and helpful in resolving confusion over the range of program offerings available. One contact stated, "PG&E reps have been very responsive and guide me in the right direction." He went on to say, "There are many programs, but the PG&E reps are pretty good at explaining this. The quantity of programs can be confusing, but PG&E reps are helpful and they do a lot of handholding." Other contacts echoed this statement, saying that PG&E reps were "very helpful" and "very responsive," usually responding to questions within one day. One contact also reported that PG&E staff were helpful in gathering the information necessary for long-term projects, saying, "They have more project memory than we do in some cases."

PARTICIPANT EXPERIENCES WITH PROJECT IMPLEMENTATION

Field S&S and Program Staffs' Observations

Although PG&E does not specify which firms customers should use, program staff maintain a list of preferred engineering firms with expertise in healthcare facilities that are capable of taking on complex projects with highly specialized requirements. However, contacts report that a shortage of qualified trade allies frequently results in project delays. According to one Field S&S contact, "There are a limited number of energy specialists who understand hospitals, so our trade allies get booked up with business." To address this shortage, a program management contact reported that PG&E is engaged in recruiting additional qualified trade allies for the medical segment.

One Field S&S contact suggested that the performance of trade allies, including their ability to conform to project timelines, might be improved by implementing customer quality-of-service surveys and establishing formal mechanisms whereby Field S&S staff can communicate issues associated with trade ally performance to program managers. Program staff contacts stated that PG&E formed a Trade Allies Group in 2008 to manage relationships with trade allies across programs.

In additional to a shortage of qualified trade allies, contacts report that approval and permitting processes external to PG&E, including OSHPD approval, commonly result in project delays.

Observations by Medical Participants with NRR Projects

While participants in the NRR component of the program did not comment on the ability of trade allies to meet the demand for program services, five participants provided opinions on the extent

to which PG&E's program services are coordinated with OSHPD regulations. Three of these five reported that PG&E's services are responsive to OSHPD regulations, referring to PG&E's efforts to facilitate the approval process for efficiency projects as "efficient" and "transparent." However, the other two participants were more critical of PG&E's efforts. One of these participants said, "I don't think PG&E and OSHPD even know that the other one exists. They are each in different worlds." The other respondent critical of PG&E's efforts to coordinate with OSHPD described the OSHPD approval process as "a miserable mess."

Observations by Medical Participants in the Mass Markets Program

Although only 7 of the 55 (13%) Mass Markets participants surveyed felt that the program participation process took too long, three of these respondents cited problems that likely result from the shortage of qualified trade allies that Field S&S staff described. One contact reported difficulty "connecting with the contractor." Another reported that they "couldn't get the contractor to start work," and the third reported delays between the time when a lighting vendor determined the amount of lights needed for the project and when the installation took place.

Although some reported problems with contractors, medical participants in the Mass Markets program were generally satisfied with the equipment they installed through the program. Eighty-seven percent of the respondents rated their satisfaction with the performance of the incentivized equipment as an eight or higher on a scale from zero-to-ten. In addition, nearly half of the respondents (46%) reported that the incentivized equipment provided them with benefits beyond energy savings. The non-energy benefits that participants cited include lighting that better meets the needs of the space, reduced maintenance requirements, and better functioning equipment.

Medical participants in the Mass Markets program who were less than fully satisfied with the performance of the incentivized equipment stated that the equipment was not functioning properly, that it was difficult to understand or operate, and that the equipment had not provided the level of energy savings that they had expected.

Observations by Architects and Engineers

None of the architects or engineers interviewed reported that their involvement with the program created significant time constraints. Two respondents reported that program involvement required "a little bit" of additional time on the part of their firm, with one stating that the additional time was "not a big deal" and the other elaborating that the time "is buried in project costs." A third respondent reported that PG&E's design team incentives covered the cost of the additional time required for program participation. One architect stated that program participation required such an insignificant amount of time compared with the overall commitment of the project that he could not estimate the total amount of time that participation required.

PARTICIPANT EXPERIENCE WITH THE INCENTIVE PROCESS

Time Required to Receive Rebate

A minority of medical participants with NRR projects or in the Mass Markets program reported that delays occurred in the verification and incentive payment for their projects.

Three of the ten NRR participants interviewed reported problems with the project verification and incentive process. One participant cited this element as the reason that the overall program participation process took too long, saying, "A lot of the delay has to do with the time it takes to get the documentation." The second respondent stated that he or she had waited almost a year and had not yet received the incentive. According to this respondent, PG&E does not allow local staff to verify the project and the need to bring staff from farther away has caused delays. This respondent said, "We are a long way from San Francisco and they don't want to come down here." A third respondent reported problems with the company that validated the installation, but said that their account representative had resolved the issue.

Eighty percent of the medical participants in the Mass Markets program surveyed rated their satisfaction with the length of time it took for the incentive to arrive as an eight or higher on a scale from zero-to-ten. However, as Table 5.4 shows, this aspect of the program gained the lowest proportion of satisfied ratings.

Table 5.4: Mass Markets Medical Participants' Satisfaction with Program Elements

PROGRAM ELEMENT	PARTICIPANTS WITH A SATISFACTION RATING OF 8 OR HIGHER ON A ZERO-TO-TEN SCALE		
	RESPONSES	TOTAL VALID RESPONSES*	PERCENT WITH A RATING ≥8
Performance of Incentivized Equipment	48	54	89%
Program Staff's Technical Understanding of Measures	37	42	88%
Overall Program Experience	44	51	86%
Your Interactions with Program Staff	41	48	85%
Final Cost to You of the Incentivized Equipment	43	51	84%
Length of Time it Took for Incentive to Arrive	37	46	80%

* Valid responses exclude responses of "Don't Know," "Not Applicable," and "Refused."

Respondents who were not satisfied with the length of time it took the incentive to arrive reported waiting from two months to almost a year. One respondent elaborated that, "It took too long for the inspections to come through," and reported that the need for multiple departments within PG&E to process paperwork caused delays.

Contractors who had worked on medical facility projects receiving PG&E incentives also reported that delays in the incentive process had caused customer dissatisfaction. A lighting contractor that was generally satisfied with the overall program process reported that his customers would sometimes call him after a project was completed stating they had not received their rebate check. “I have had a few problems with delay in the rebate of money, but that is about it. I usually tell customers it is 30 days, but there are times it has taken longer. They always get the money though,” he said.

Rebate Amount

In addition to difficulties with the time it took to receive their rebates, both NRR and Mass Markets medical participants reported that the rebate amounts were too small to justify the costs of the project. One NRR participant, who received an incentive of less than $300 for a domestic hot water retrofit, stated hyperbolically, “I get reimbursement checks for $70 and my engineering time took $700,000. For major capital retrofits, the reimbursement should at least make the time put in worthwhile.”

The majority of medical participants in the Mass Markets program (84%) were satisfied with the final cost of the equipment, taking into account the rebate. However, those that were not satisfied elaborated with comments that parallel the opinion of the medical participant with an NRR project who stated that the incentive amount was not sufficient. Two of the Mass Markets participants surveyed stated that installing the incentivized equipment required more labor or staff time than they would otherwise have invested.

6 CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the conclusions and recommendations we draw from our process evaluation of the Medical Efficiency Program. (Note: During interviews and surveys, respondents also made a variety of recommendations, which were summarized in the text of the report as appropriate and are presented in Appendix B with greater detail.)

CONCLUSION 1: The Medical Efficiency Program, especially its core Medical Facilities program, appears to be effective in stimulating customers' awareness of and interest in comprehensive energy management. Medical NRR participants appear to undertake many of the opportunities that PG&E and program staff present to them.

The interviewed medical customers with NRR projects generally agreed that PG&E met a variety of program goals related to promoting a comprehensive approach to energy management, including:

- Encouraging whole facility assessments (8 of 10 interviewed participants generally agreed)
- Encouraging long-term planning (7 participants)
- Encouraging integration of energy efficiency into standard design processes (7 participants)

These 10 interviewed participants reported on average having discussed with PG&E staff between eight and nine of the twelve program services we inquired about. Further, they had undertaken many of opportunities they had discussed. For six of the twelve services we asked about, more than half of those who had discussed each service with PG&E had undertaken projects incorporating that service. For another two of the twelve services, just under half of the participants who discussed the services with PG&E had undertaken related projects.

Program managers from programs in the U.S. and Canada that seek to encourage customers to adopt a comprehensive approach to energy management hold the opinion that customers accept comprehensive approaches gradually, building on the success of each action to take on additional improvements. The experiences of both medical customers with NRR projects and medical participants in the Mass Markets program suggest this may be true for PG&E's medical customers. Eight of the ten interviewed medical customers with NRR projects reported installing at least two energy efficiency measures during the 2006-2008 program cycle. In addition, 40% of medical participants in the Mass Markets program reported that their company had participated in PG&E's energy efficiency programs more than once.

Although participants reported taking on multiple projects, only 4 of the 10 interviewed medical participants with NRR projects generally agreed that PG&E encouraged grouping several measures into one project.

➡ ***Recommendation 1:*** **The medical program team should explore with Field S&S staff opportunities to encourage customers to undertake projects that bundle several measures together.** PG&E should encourage customers to undertake both bundled projects (typically termed *comprehensive projects*), as well as the adoption of a comprehensive, whole-facility approach to energy management.

CONCLUSION 2: PG&E's design and implementation of its Medical Efficiency Program appears consistent with insights and lessons learned from managers of other programs in the U.S. and Canada that seek to encourage customers to take a comprehensive approach to energy efficiency.

These insights and lessons learned that are also descriptive of the Medical Efficiency Program include, but are not limited to:

- Developing sector-specific expertise so that both one's services and the language used with customers "speaks to" customers' needs
- Developing familiarity with the sector's regulatory issues and assisting customers within the context of those constraints
- Forming long-term relationships with customers and following up with them with respect to their energy management plans and actions
- Forming relationships with executives, as well as facility directors
- Forming relationships with trade allies
- Educating customers and the trade allies that serve them
- Offering a wide range of services, including technical, planning, and project management assistance

➡ ***Recommendation 2:*** **We encourage the medical program team to continue in the course it has set.**

CONCLUSION 3: Through the efforts of Field S&S, the SAM, and medical program staff, PG&E appears to be successfully establishing and maintaining the type of long-term relationships necessary to encourage a comprehensive approach to energy management.

The interviewed managers of other programs that seek to promote comprehensive approaches to energy management stated that their programs have found success in building and maintaining relationships with customers. These relationships enable the program staff to follow-up on

energy audit or engineering assessment recommendations, and to leverage the success of each energy efficiency action to gain the customer's commitment for further actions.

Both medical customers with NRR projects and medical participants in the Mass Markets program reported that PG&E's Field S&S staff and other outreach efforts had informed them about PG&E's energy management programs and services, and that PG&E staff were influential in the customers' decisions to participate.

Interviewed medical customers with NRR projects elaborated on their relationships with their Field S&S account representatives in open-ended responses asking them to further explain the generally high ratings they gave to their interactions with PG&E. These NRR participants described their account representatives as very active, engaged in the relationship, and responsive to their customers' needs. When asked to describe any ongoing contact that they had with PG&E, all 10 of the interviewed NRR participants reported continuing contact with their account representative, either through regularly scheduled meetings or on an as-needed basis to address issues related to the customer's energy use.

Even though the medical customers interviewed described positive relationships with PG&E staff, one interviewed Field S&S staff member suggested the Field S&S staff could use additional assistance from the medical team. This contact described the process of identifying customer needs as subjective, elaborating that it "depends on the questioning abilities of each individual Field S&S staff member." This contact would welcome additional training in lines of questioning that might be effective in leading to customer engagement with energy efficiency.

➡ ***Recommendation 3:*** **To ensure that Field S&S staff continue to maintain strong relationships with medical customers, the medical program team should provide Field S&S staff with further training and resources to engage customers in identifying and pursuing energy efficiency opportunities.**

This training might include:

- Lists of questions for Field S&S staff to ask medical customers, and guidance on identifying and suggesting services to the customer based on their responses.
- Further training for Field S&S staff regarding the unique characteristics of the medical segment, including the regulatory environment in which medical facilities operate.
- Opportunities for Field S&S staff with medical customers to come together and discuss common issues that medical customers face, and to share any best practices that they have identified in working with this segment.

CONCLUSION 4: A corollary of long-term relationships providing the foundation for customers' comprehensive efficiency approaches is that such relationships can potentially involve more staffing resources than the program has available.

As stated, long-term, supportive relationships are (typically) required to move customers toward a comprehensive, whole-facility approach to energy efficiency. Yet PG&E, like all organizations conducting efficiency programs, has limited Field S&S, SAM, and medical program staff time. One interviewed Field S&S staff member expressed a desire for additional training to gauge customer interest in and ability to complete projects in order to determine the appropriate amount of resources to devote to that customer while it deliberates about potential energy management actions. The interviewed managers of other programs that encourage customers to take a comprehensive approach to efficiency also spoke of the need to gauge the receptiveness of the customer in order to allocate program resources effectively.

This issue dovetails with a difficulty PG&E encounters in trying to coordinate both its own activities and those of the third-party Hospital Pilot Program provider. The third-party provider works under a performance contract, while PG&E staff work in an environment similar to a time-and-materials contract, with efficiency performance goals, as well as those for customer service. When PG&E invests significant staff resources in a customer that ultimately does not pursue energy efficiency within a given program cycle, the medical program may reap less savings than otherwise, yet both the customer and PG&E benefit from a strong working relationship, and the customer might pursue efficiency in a subsequent program cycle. In contrast, the third-party provider does not have customer service goals, nor will it be credited with savings accruing in the next program cycle, unless its contract with PG&E continues. Further, PG&E can be credited with a range of efficiency actions the customer might take as a result of the relationship, while the third-party provider is under contract to deliver savings from a more limited set of customer actions.

- ***Recommendation 4A:*** **Program and Field S&S staff should continually assess the willingness and ability of medical customers to progress toward a comprehensive approach to energy management and adjust program resources accordingly. Program staff might assist Field S&S staff by articulating criteria or customer characteristics to consider in an assessment of customer receptivity to program goals.**

- ***Recommendation 4B:*** **PG&E and the CPUC need to recognize in their development and oversight of program plans, strategies, and methods, that third-party providers are circumscribed in their ability to be full partners in PG&E's efforts to encourage customers to adopt a comprehensive approach to energy efficiency.**

CONCLUSION 5: The Medical Efficiency Program appears to have generally succeeded in being responsive to customers and providing them with a well-coordinated effort and a centralized point-of-contact for energy management. However, opportunities remain to further coordinate efforts and provide timely, consistent services.

Given that PG&E initiated its targeted approach to the medical sector in 2006, we believe the medical team should take pride in the finding that 7 of 10 interviewed NRR participants agreed with a statement characterizing program staff as responsive and their efforts well coordinated. Our findings also suggest that the medical team can further improve its responsiveness to participants. Most troubling among these findings were participant statements that:

- On multiple occasions for a new construction project, poor communication with PG&E threatened to derail the project.
- Program contacts appeared to at least one respondent to lack "authority" to speak for PG&E.
- It was difficult to identify the status of a project.
- Field S&S staff in different regions provided contradictory advice to a large organization with multiple facilities.

While the issue of medical team responsiveness and coordination is less relevant to the experiences of Mass Market participants, those participants include hospitals and other large customers that are also potential participants in the NRR and NRNC components of Medical Efficiency. Although, overall, Mass Market participants reported very low rates of dissatisfaction with the elements of staff coordination, communication, and responsiveness, as well as the ability to track application status, the 11 interviewed hospital participants were twice as likely as the sample overall to indicate dissatisfaction with each of these elements, except for communication, for which they reported no dissatisfaction.

➡ ***Recommendation 5:*** **Medical team staff should work to further coordinate and streamline PG&E's contact with customers that have active projects or potential projects under active consideration.**

The team might take such steps as to:

- Develop a process to identify and track critical NRR and NRNC project junctures for which a delay in response from PG&E might jeopardize the project.
- Ensure that Field S&S staff maintain consistent communication with the medical team, including the SAM, so that they can identify organizations that are contemplating or engaged in projects served by different account representatives and ensure they provide such organizations with consistent advice with respect to energy management.

- Engage in an ongoing exploration with Field S&S staff the topics they feel unable to definitively address with the customer and develop procedures to quickly give customers authoritative responses.
- Ensure that all NRR and NRNC participants understand that their Field S&S representative is their primary point-of-contact with PG&E's energy management programs and services, yet are aware of who on the medical team they might additionally notify if they believe their Field S&S representative has been unresponsive.
- Ensure that both Field S&S staff and medical team staff have the ability to quickly identify project status at a customer's request.

CONCLUSION 6: PG&E has an opportunity to increase its promotion of a comprehensive approach to energy efficiency to medical participants in the Mass Markets program, especially to hospitals and other large facilities.

More than half of the surveyed hospital Mass Markets participants expressed interest in five of the program services we inquired about. In addition, 7 of these 11 hospital Mass Markets respondents reported that their facilities had taken part in PG&E incentive programs more than once.

Respondents from the four interviewed outpatient clinics (Mass Market participants) expressed a high level of interest in program services, with more than half of the respondents stating they would be interested in discussing with PG&E eleven of the program services we asked about. Despite this expressed level of interest, only one of these four respondents had participated more than once in a PG&E incentive program.

Even though most Mass Market respondents from hospitals and outpatient clinics expressed interest in most program services, for nine of the fourteen program services listed, less than half of the interested respondents from each facility type reported discussing the service with anyone at PG&E.

➡ ***Recommendation 6:*** **The Medical Facilities program could further encourage a comprehensive approach to energy management by reaching out to large medical customers participating in the Mass Markets program.**

Mass market program participants from hospitals and large clinics – the facility types that most often engage in NRR projects or multiple Mass Markets projects – may be particularly receptive to the Medical Facilities program services and willing to take on additional, more comprehensive, measures and approaches.

CONCLUSION 7*A*: Processes underlying the targeted Medical Efficiency Program, such as PG&E's NRR and NRNC components, were in flux during the 2006-2008 period; yet PG&E appears to be identifying and addressing many of the problems the evaluation team identified.

CONCLUSION 7B: PG&E's organization of its efficiency activities in 2006-2008 resulted in medical-sector energy savings being attributed to efforts other than the Medical Efficiency Program; yet the 2010-2012 commercial sector plan appears to simplify the attribution of savings to programmatic efforts.

In the follow-up interview with program staff in September 2009, staff identified such process improvements as:

- Implementation of many of the recommendations made by the consultant PG&E engaged to streamline the NRR processes
- Improvements underway in NRNC processes
- Improved coordination among PG&E's activities and reduction in the "silo" phenomenon
- A single application form for NRR and NRNC projects
- Acceptance of faxed copies of "wet" signatures on application forms
- Improvements in the project management system

Staff also indicated the 2010-2012 plan will facilitate the Medical Efficiency Program in receiving credit for efficiency projects in medical office buildings and skilled nursing facilities that are part of the large hospital and medical-sector organizations targeted by the team. (Since these facilities most commonly install prescriptive measures, in 2006-2008 these savings were attributed solely to Mass Markets.) It appears the 2010-2012 plan will also support the medical team's efforts to encourage energy-efficient new construction. The long time frames associated with such construction were at odds with the short time frame of the 2006-2008 Medical Efficiency Program.

➡ ***Recommendation 7:* PG&E should continue to identify opportunities to streamline program processes and reduce inter-group "silo" effects.**

In support of PG&E's efforts to improve program processes throughout the commercial sector, medical program staff should take the initiative to inform Customer Energy Efficiency management of difficulties experienced by participating medical customers. PG&E should recognize that recognition for work well-done supports the attainment of program goals; accordingly, PG&E should continue steps to ensure that the medical team receives credit for medical-sector energy savings. In particular, PG&E needs to ensure that mechanisms exist to credit the medical team with work on new construction projects that are not completed within a program cycle.

CONCLUSION 8: PG&E's MDSS tracking system appears to have discrepancies in fields associated with project status. In addition, PG&E's information management group appeared at the time of this research to have insufficient resources to provide tracking data extracts to the program evaluators in a timely manner.

In analyzing the MDSS excerpts we received for NRR, NRNC, and Mass Markets participants, we found discrepancies for some records between the project status field and the fields associated with committed and paid energy savings and incentives. We also encountered significant delays in obtaining from PG&E extracts of the requested participant data.

➡ ***Recommendation 8:*** **PG&E might develop an algorithm that populates the status field with a status of *Paid* when the fields associated with paid incentives are populated. PG&E might investigate whether other program evaluators also experienced delayed responses to their data requests and, if so, develop a solution commensurate with the significance of the problem**.

APPENDICES

APPENDICES

A MEDICAL PARTICIPANT CHARACTERISTICS

This appendix presents data from the program database on medical customers with nonresidential new construction (NRNC) and retrofit (NRR) projects, as well as medical participants in the Mass Markets program. These data were drawn by the PG&E evaluation manager from the MDSS database and provided to the evaluation team in October 2008. Note that some discrepancies exist in the tables as a result of inconsistencies within the MDSS database. In particular, projects not categorized as *Paid* in the *Project Status* field nonetheless displayed non-zero values in the *Paid Rebate* field.

NRNC AND NRR MEDICAL PARTICIPANT DATA

Table A.1: Project Counts by Status Code for NRNC / NRR

STATUS CODE	NRNC	NRR
Paid	2	43
New	48	51
G	6	0
Withdrawn	10	24
TOTAL	**66**	**118**
Total Excluding Withdrawn	56	94

Table A.2: Project Counts by Program Year for NRNC / NRR

YEAR	COMMITTED, NOT PAID	PAID
NRNC		
2006	0	3
2007	0	3
2008	0	4
TOTAL	**0**	**10**
NRR		
2006	4	13
2007	1	26
2008	12	7
TOTAL	**17**	**46**

Table A.3: Project Counts by Division for NRNC / NRR

DIVISION	NRNC	NRR	TOTAL
CCO	6	3	9
EBA	5	27	32
FRE	10	11	21
KER	1	5	6
NBY	6	3	9
SAC	10	8	18
SFO	8	14	22
SJO	4	9	13
YOS	6	14	20
TOTAL	**56**	**94**	**150**

Table A.4: Square Footage for NRNC / NRR

CHARACTERISTIC	NRNC	NRR
Number of Records with Data	40	68
Minimum	2,500	4,800
Maximum	869,000	3,200,000
Average	129,247	313,595

Table A.5: Descriptive Rebate Statistics for NRNC / NRR

CHARACTERISTIC	COMMITTED REBATE		PAID REBATE	
	NRNC	NRR	NRNC	NRR
Count	10	63	10	46
Minimum	$330	$43	$330	$28
Maximum	$150,000	$504,227	$150,000	$302,536
Average	$25,636	$29,027	$22,944	$25,446
Standard Deviation	$45,417	$71,454	$45,445	$56,176
20th Percentile	$799	$1,675	$940	$1,844
40th Percentile	$6,091	$5,398	$4,746	$5,036
60th Percentile	$15,570	$12,950	$11,317	$10,851
80th Percentile	$30,557	$29,348	$22,554	$25,775

MASS MARKETS MEDICAL PARTICIPANT DATA

Table A.6: Project Counts by Status Code for Mass Markets

BUSINESS TYPE	PROJECTS
G	3
New	8
Paid	437
Rejected	44
Withdrawn	10
TOTAL	**502**

Table A.7: Project Counts by Program Year for Mass Markets

BUSINESS TYPE	PROJECTS	PERCENT
2006	174	35%
2007	176	36%
2008	142	29%
TOTAL	**492**	**100%**

Table A.8: Project Counts by Measure Type for Mass Markets

DESCRIPTION	CODE	COUNT	PERCENT
Lighting	AKSF6	164	33%
Appliance General Improvements	AKQR6	141	29%
Lighting CFL Promotion	AKSP6	56	11%
Food Services	AKRL6	46	9%
Heating & Cooling	AKRV6	37	8%
Refrigeration	AKSZ6	30	6%
Boiler & Water Heating	AKRB6	14	3%
Boilers and Water Heating	LAKC6	2	0%
Lighting	LALI6	1	0%
Application Splitting Stub Nonresidential	MLX	1	0%
TOTAL		**492**	**100%**

Table A.9: Descriptive Rebate Statistics for Mass Markets

CHARACTERISTIC	COMMITTED REBATES	PAID REBATES	DAYS BETWEEN APPLICATION RECEIVED AND REBATE PAID
Count	491	450	
Sum	$511,394	$437,704	
Average	$1,042	$972	16 days
Median	$348	$330	13 days
Minimum	$4.25	$4.25	0 days
Maximum	$23,786	$17,300	92 days
Standard Deviation	$2,198	$1,801	
20th Percentile	$75		
40th Percentile	$255		
60th Percentile	$500		
80th Percentile	$1,260		

B PARTICIPANT AND PROGRAM CONTACT RECOMMENDATIONS

Field S&S and program staff contacts, as well as interviewed participants and trade allies, made a variety of recommendations regarding ways that, in their view, the medical program could improve. These recommendations were summarized in the text of the report as appropriate and are presented here to provide PG&E with greater detail on staff and participant suggestions.

FIELD S&S STAFF PROCEDURES

- A Field S&S staff contact stated that the preliminary screening process is subjective and suggested that it would improve if PG&E were to provide a list of specific questions for Field S&S staff to ask customers.
- One Field S&S contact reported selecting the appropriate staff members to provide technical support in advance of project implementation and briefing them on their role(s) in advance. This contact suggested standardizing this approach for Field S&S staff.

FIELD S&S STAFF TRAINING

- One Field S&S contact expressed a desire for increased access to regulatory expertise to help customers navigate the OSHPD approval process.
- Field S&S staff contacts requested additional training on the retrocommissioning program, Medical Pilot Program, and OSHPD, including the impact of the OSHPD review process on project timelines and instructions regarding how to help customers navigate OSHPD approval processes.

CUSTOMER OUTREACH

- Field S&S staff expressed a desire for additional marketing and customer education efforts to increase awareness of PG&E's program offerings.
- One NRR respondent who did not find all of the information he sought reported that the website provides only a "thumbnail sketch" of PG&E's programs and services, and suggested that the site include more detailed information.

RELATIONSHIPS WITH TRADE ALLIES

- The architects and engineers interviewed stated that PG&E staff should be organized around firms, not geographic regions. They suggested that PG&E assign a staff person to a set of firms and have that person serve as the primary contact for those firms.
- Architects and engineers suggested that PG&E program representatives should make presentations to organizations such as the Bay Area Leaders of Sustainable Architecture (BALSA), the California Society of Healthcare Engineers, and any association of hospital managers or CEO's.
- Architects and engineers suggested that PG&E program representatives should do regular presentations (such as *lunch-and-learns*) with all architecture and engineering firms that do hospital or medical-sector work. One respondent thought there were only 15 to 20 firms that specialize in this work in California and it would not be hard to present programs to each firm on a regular (such as bi-annual) basis.
- The architects and engineers interviewed expressed a desire for PG&E to keep program information current and clear on their website. Professionals noted they had difficulty navigating program materials online.
- One Field S&S contact suggested that the performance of trade allies, including their ability to conform to project timelines, might be improved by implementing customer quality-of-service surveys and establishing formal mechanisms whereby Field S&S staff can communicate issues associated with trade ally performance to program managers.

THIRD-PARTY IMPLEMENTERS

- One Field S&S contact suggested that the program could benefit from increased accountability for third-party implementers. To accomplish this, the contact recommended an enhanced third-party quality assurance process in which the overall effectiveness of third-party programs would be evaluated. These evaluations would include:
  - The amount of innovation each third-party program brings to the medical segment
  - The implementer's ability to meet project deadlines
  - The implementer's ability to complete project tracking and reporting responsibilities
- One Field S&S contact noted that some third-party implementers conduct work only in certain parts of PG&E's territory and suggested that for uniformity, third-party implementers should be able to undertake projects throughout the entire PG&E service territory.

C SURVEY INSTRUMENTS

PG&E MEDICAL EFFICIENCY PROGRAM
INTERVIEW GUIDE – PROGRAM MANAGERS

Name: _____

Title: _____

Date: _____

Phone: _____

Introduction

Hello my name is _____. I'm calling on behalf of PG&E. I'm a research consultant hired by PG&E to evaluate its efforts to encourage energy efficiency among its hospital and healthcare customers. I'd like to ask you a few questions as part of our research, which contributes to PG&E's continuous improvement efforts. Is now a good time to answer a few questions that should take less than twenty minutes to complete? [If not: Can you suggest a time I could call you back? _____.

Overview

1. I'd like to start by getting an overview of your role in the _____ program. Can you briefly describe in your own words what your role is?

2. [If not answered above:] Do you work more closely with a particular sub-segment, customer type, measure type, or incentive type?

3. How many participants are currently in your program?

4. What does the term "participant" mean? Someone with a completed project, someone who has made a commitment to a project…

5. [If not addressed:] How did the current participants come to the program?

6. How is the program marketed?

7. I understand that your program attempts to be "comprehensive." Can you explain to me what "comprehensive" means in terms of your program?

8. [If not clear from above:] How does your program encourage participants to undertake comprehensive approaches to energy efficiency?

9. [If not answered:] Are there any penalties for only completing part of a comprehensive plan?

10. How does your program track participants and their progress?

PG&E MEDICAL EFFICIENCY PROGRAM
INTERVIEW GUIDE – ACCOUNT REPRESENTATIVES

Name: _____

Title: _____

Date: _____

Phone: _____

Hello, this is _____ with Research Into Action. Research Into Action is conducting an evaluation of the 2006-2008 Medical Efficiency Program under contract to PG&E. I am calling to speak with you about this program. Your comments will be kept confidential.

Overview

1. I understand you serve PG&E's key accounts. Which of these accounts are in the medical sector?

2. In your own words, can you briefly describe your role in the Medical Efficiency program?

    a. [If not answered above] Do you have a particular area of expertise, either with respect to a Medical sub-segment or a particular area of energy efficiency?

    b. [If not answered above] Can you describe your role and the role of other program staff in the audit process? Maybe change these to be more effective and reduce # of Q's. (If redund w below eliminate)

3. When you are talking with medical customers about PG&E's incentives, do you refer to the "Medical efficiency program","NRR", "NRNC", or something else?

Marketing

Next, I'd like to talk a little about marketing and outreach to medical customers and how you think the market is responding to these programs?

4. First, can you briefly describe your role in promoting this program? [Probe: directly promoting to accounts, attending events, etc.]

5. [If not answered above] Are you more likely to market programs to a particular Medical market sub-segment or customer type than to others?

    a. [IF Y] Which ones?

        i. Why is that?

6. [If not answered above] Are you more likely to promote certain PG&E programs or services over others?

    a. [IF Y] Which ones?

        i. Why is that?

7. What kind of feedback have you gotten for these activities, either from attendees at events or later, from accounts of yours that attended?

    a. What do you think has worked the best?

    b. What has worked the least well?

Project Implementation

8. After a customer has indicated interest in the program, how frequently do you communicate with that customer about the program, and how is this communication carried out?

    a. How frequently do you go on customer calls? Do you go by yourself or do program staff (such as project managers) or PG&E engineers accompany you? How frequently do you have program staff accompany you?

    b. [IF Y] How do you help customers identify additional projects?

    c. In your opinion, does this process enable you to provide customers with a complete list of programs and services that are available to them?

    d. Why or why not?

Program Technical Support & Expertise

9. When technical issues or questions arise with customers that are beyond your expertise, how do you access the necessary technical resources for this customer?

a. How and through whom is the technical support and expertise offered? [Probes: At specific junctures (such as a scoping phase) or as needed?

b. Any problems in accessing this support (internal to PG&E)?

c. Is there additional support or expertise the program could provide that would be of value to these customers?

Communication

I'd like to discuss communication, both with Medical efficiency program management and other staff and with customers.

First, I'd like to ask about the lines of communication within the Medical efficiency program {or term used by the respondent}.

10. How frequently and how formally do you communicate about program issues with Medical efficiency program managers (the segment manager and project managers) and other program staff (e.g., engineers)? [Probe: meetings, emails/memos, phone calls?]

    a. What kinds of communication do you have with program managers about customer leads?

    b. When you supply program managers with information about customer leads, how is this information used?

11. Have you experienced any communication challenges? For example, have there been any times when needed information didn't get delivered to the right person or didn't get delivered quickly enough?

    a. What kinds of effects have such occurrences had on your customers in terms of their ability to get projects approved and implemented?

    b. Were you able to identify and deal with the causes? If so, how?

12. How would you change or improve communications within the Medical efficiency program?

Training

13. Please describe the training and education you have received associated with the PG&E Medical Efficiency Program?

    a. [Probe] August, 2008 Healthcare Summit for S&S staff? Monthly conference calls with the healthcare S&S?

14. Has this training been effective?

    a. [If not answered above] Why or why not?

15. What changes, if any, have resulted from your having received the(se) training(s)?

16. If any, what additional training is necessary?

Staffing

17. How about staffing? Do you think that there is sufficient S&S staff to adequately support the Medical efficiency program?

    a. What changes might you make to staffing?

Support

18. Do you receive sufficient support from the Medical efficiency program staff to be able to do your job correctly?

    a. [If not] In what ways has support been insufficient?

    b. What changes would you like to see?

Coordination with 3Ps

19. Do you have any interaction with the management or staff of third-party programs?

    a. [Probe] What kind and how much?

    b. In what ways, if any, has this affected delivery of services, in either the Medical efficiency program or the third-party programs? Has it helped, hindered, or had some other effect?

c. Do you think that service delivery would be improved by a different amount or kinds of coordination? If so, what would you recommend?

Program Implementation

20. How is your performance in the program evaluated? [Probe: How does this influence how you set individual, departmental and sales and service goals? Do these these goals conflict?]

    a. If any, what impact do the criteria upon which your performance in the program is evaluated influence how you prioritize your work? [Probes: Do the criteria upon which your work is evaluated cause you to favor any particular market sub-segment, customer type, measure type, or incentive type? [If Y]

        i. [If Y] Which ones?

        ii. [If Y] Why is that?

Program Overview

21. What do you think medical customers need to motivate and enable them to pursue energy efficiency in a comprehensive manner?

Close

Finally, just a few questions in closing.

22. What would you say are the program's strongest points?

23. What are its weakest points?

24. Other than what we've discussed above, what would you change about the program?

PG&E MEDICAL EFFICIENCY PROGRAM
SURVEY GUIDE – MASS MARKET PARTICIPANTS

Name: _____

Title: _____

Date: _____

Phone: _____

Introduction

Hello, my name is _____ from Research Into Action. I am calling on behalf of Pacific Gas and Electric Company to obtain feedback on your organization's experience with PG&E's incentives for energy efficiency in medical facilities. Our records indicate you are the contact for your organization's incentivized project. Are you the correct person to speak with?

() Yes
() No

[if no:] Contact info: _____

PG&E is taking a close look at how their programs can help their medical customers through adoption of energy efficiency. Your responses are completely confidential and will not be shared with anyone, including PG&E, in a way that could identify you or your organization. Is this a good time for you to talk with me, or would you prefer to schedule another time? It should take about 15 minutes to complete the survey.

() Yes
() Reschedule

Reschedule

What would be a good time to speak with you? _____

Is this the best number to reach you at? _____

1. Our records indicate that your company participated in a PG&E energy efficiency program between 2006 and 2008. Is this correct?

   ( ) Yes
   ( ) No
   ( ) Don't know
   ( ) Refused

2. Please stop me when I read the category that best describes this facility.
   [ ] Skilled nursing facility with beds
   [ ] General medical and/or surgical hospital
   [ ] Group residence or facility with beds other than hospitals and skilled nursing
   [ ] Outpatient hospital or clinic
   [ ] Primary care medical offices
   [ ] Dentist offices
   [ ] Child care
   [ ] Psychiatric and substance care
   [ ] Don't know
   [ ] Refused
   [ ] Other, please specify: _____

Program Marketing and Outreach

3. How did you learn about PG&E's energy efficiency incentives? [DO NOT READ RESPONSES; MULTIPLE RESPONSES]
   [ ] PG&E account representative
   [ ] Other PG&E staff
   [ ] PG&E audit
   [ ] Other PG&E program
   [ ] PG&E website
   [ ] PG&E conference or workshop
   [ ] Other conference or workshop
   [ ] PG&E technology demonstration
   [ ] Program brochure or printed information
   [ ] Contractor hired by PG&E (ex: QuEST)
   [ ] Vendor, contractor or consultant (that serves the customer)
   [ ] Your managerial staff
   [ ] Trade publication
   [ ] Trade show
   [ ] Medical or professional organization/association
   [ ] Colleague
   [ ] Family, friend, or neighbor
   [ ] Don't know
   [ ] Refused
   [ ] Other, please specify: _____

4. What was the most important source of information in your decision to participate?
   _____

5. On a scale from 0 to 10, with 0 being not at all informative and 10 being extremely informative, how would you rate the program material you saw?

( ) 0
( ) 1
( ) 2
( ) 3
( ) 4
( ) 5
( ) 6
( ) 7
( ) 8
( ) 9
( ) 10
( ) Don't know
( ) Refused

6. Why do you say that?_____

7. Have you seen any of the program outreach materials such as a brochure?

( ) Yes
( ) No
( ) Don't know
( ) Refuse

8. On a scale from 0 to 10, with 0 being not at all informative and 10 being extremely informative, how would you rate the program material you saw?

( ) 0
( ) 1
( ) 2
( ) 3
( ) 4
( ) 5
( ) 6
( ) 7
( ) 8
( ) 9
( ) 10
( ) Don't know
( ) Refused

9. Why do you say that?_____

10. Why did you decide to participate in the program? [DO NOT READ RESPONSES; MULTIPLE RESPONSES]

[ ] To save money on utility bills
[ ] To save energy
[ ] To obtain a rebate; program incentive
[ ] To reduce maintenance costs
[ ] To be green; help protect the environment
[ ] To replace old equipment
[ ] To replace broken equipment
[ ] To update technology
[ ] Corporate policy to be energy efficient
[ ] Part of a broader remodeling or renovation
[ ] PG&E sponsored program
[ ] Prior program participation experience
[ ] Recommended by program contact
[ ] Recommended by contractors/vendors
[ ] Recommended by colleague
[ ] Recommended by family, friend, or neighbor
[ ] Other [SPECIFY: _____]
[ ] Don't know
[ ] Refused

11. Thinking back to when you were first involved with the program, were there any aspects of the program that initially caused you concern?

( ) Yes
( ) No
( ) Don't know
( ) Refused

12. What caused your concern?_____

13. Was this issue resolved?

( ) Yes
( ) No
( ) Don't know
( ) Refused

14. How? _____

Application Problems and Satisfaction

15. Please indicate by saying "yes," "no," or "don't know" whether you encountered any of the following possible difficulties with your project.

PG&E requested additional information	( ) Yes
Took too long	( ) No
Was too complex	( ) Don't know
Application was difficult to understand	( ) Refused
Application was difficult to complete	
Delays occurred	
Unable to get information on the status of the application	
Program staff unresponsive; could not get adequate answers to questions	
Insufficient communication with program staff	
Seemed to be a lack of coordination among program staff	

16. Had the program adequately informed you of the urgency of the need for information?
    ( ) Yes
    ( ) No
    ( ) Don't know
    ( ) Refused

17. Can you explain which part of the process took too long? [probe to understand participant's expectations] _____

18. What made the application materials difficult or confusing? [DO NOT READ RESPONSES; MULTIPLE RESPONSES ALLOWED]
    [ ] Instructions confusing
    [ ] Measure or equipment descriptions confusing
    [ ] Information needed for the application was not clear
    [ ] It was difficult to obtain the information required by the application
    [ ] Not clear where to send completed materials
    [ ] Other [SPECIFY: _____]
    [ ] Don't know
    [ ] Refused

19. Did you encounter any difficulties in addition to the types we just discussed?
( ) Yes
( ) No
( ) Don't know
( ) Refused

20. What were the difficulties? _____

21. 21. On a scale from 0 to 10, with 0 being extremely dissatisfied and 10 being extremely satisfied, how satisfied were you overall with the process of applying to the program?
( ) 0
( ) 1
( ) 2
( ) 3
( ) 4
( ) 5
( ) 6
( ) 7
( ) 8
( ) 9
( ) 10
( ) Don't know
( ) Refused

22. Why do you say that? _____

23. If you could change anything about the application process, what would you change?
_____

24. Have you participated in other PG&E energy efficiency programs before?
( ) Yes
( ) No
( ) Don't know
( ) Refused

25. How did your most recent program participation compare to your prior experience? Was it easier, harder, or about the same?
    ( ) Easier
    ( ) Harder
    ( ) About the same
    ( ) Don't know
    ( ) Refuse

26. Why do you say that? _____

Participation

27. Did the equipment for which you received an incentive replace existing equipment?
    ( ) Yes
    ( ) No
    ( ) Not relevant
    ( ) Don't know
    ( ) Refused

28. What was the operating condition of the replaced equipment?
    ( ) Old equipment had failed/Burned out
    ( ) Old equipment had problems, but still working
    ( ) Old equipment in working condition with no problems
    ( ) Don't know
    ( ) Refused
    ( ) Other, please specify: _____

29. Did the incentivized equipment provide your facility with benefits other than energy savings?
    ( ) Yes
    ( ) No
    ( ) Don't know
    ( ) Refused

30. What benefits?_____

Communications

We are interested in learning more about your communications with the various parties involved in your project.

31. Please indicate by saying "yes," "no," or "don't know" whether you had contact with any of the following during the course of your project and program participation.

Account representative	( ) Yes
Other PG&E staff	( ) No
A contractor that specializes in working with PG&E incentive programs	( ) Don't know
An equipment supplier or installation contractor	( ) Refused
Demand Response aggregator	
ESCO	

32. From your perspective, did you think the different parties coordinated and worked well together?

( ) Yes
( ) No
( ) Don't know
( ) Refused

33. Why do you say that? _____

34. Did you have a clear idea of who you could go to for help?

( ) Yes
( ) No
( ) Don't know
( ) Refused

35. Who could you go to for help? [DO NOT READ]

( ) Account representative
( ) Other PG&E staff
( ) Contractor specializing in PG&E programs
( ) Equipment supplier or installation contractor
( ) Don't know
( ) Refused
( ) Other, please specify: _____

Program Satisfaction

36. For these next questions, I'd like you to rate your satisfaction with various aspects of the program using a scale of 0 to 10, with 0 being extremely dissatisfied and 10 being extremely satisfied. How satisfied are you with:

The performance of the incentivized equipment	( ) 0

The final cost to you of the incentivized equipment	( ) 1
Your interactions with the program staff	( ) 2
Program staff's technical understanding of the measures	( ) 3
The length of time it took for the incentive to arrive	( ) 4
Your overall experience with the program	( ) 5
	( ) 6
	( ) 7
	( ) 8
	( ) 9
	( ) 10
	( ) Don't know
	( ) Refused

37. And why did you say you were less than fully satisfied with the equipment's performance?_____

38. And why did you say you were less than fully satisfied with your final cost for the equipment? _____

39. And why did you say you were less than fully satisfied with your interactions with program staff? _____

40. And why did you say you were less than fully satisfied with program staff's technical understanding? _____

41. And why did you say you were less than fully satisfied with the time it took for the incentive to arrive? _____

42. And why did you say you were less than fully satisfied with your overall experience with the program? _____

43. Would you participate in the program again?
    ( ) Yes
    ( ) No
    ( ) Don't know
    ( ) Refused

44. Why do you say that? _____

Other Program Interests

45. I am going to read a list of energy efficiency services PG&E offers. For each one, please first tell me whether you are interested in this service. For each of the services you are interested in, please tell me whether you have discussed this service with PG&E or with a contractor by indicating yes, no, or not sure.

	Are You Interested	Was it Discussed with PG&E	Was it Discussed with a Contractor
• Energy audit to identify cost-effective energy efficiency opportunities • Assistance taking action on energy audit recommendations • Assistance in designing energy efficiency projects • Commissioning or tune-ups of facilities or equipment for energy-efficient performance • Benchmarking assistance • Coordination with ENERGY STAR® ratings • New construction incentives, or Savings by Design • Incentives to offset increased design team costs for energy efficiency • Assistance to develop long-term energy efficiency plans for your organization • Information generally applicable to medical facilities on efficient technologies and design strategies • Providing education and training opportunities for your facilities staff • Assistance for self-generation or renewable generation of electricity	() Yes () No () Not sure	() Yes () No () Not sure	() Yes () No () Not sure

	Are You Interested	Was it Discussed with PG&E	Was it Discussed with a Contractor
• Assistance for reducing demand and participating in demand response efforts • Connections to water conservation programs			

Conclusion

46. What was the best thing about the program for your organization?

_____

47. What most needs to be changed about the program?

_____

48. Do you have any other thoughts or comments about your program participation?

_____

Those are all the questions I have for you, thank you very much for your time.

PG&E MEDICAL EFFICIENCY PROGRAM
SURVEY GUIDE – NRR AND NRNC PARTICIPANTS

Name: _____

Title: _____

Company: _____

Incentivized Measure (in call list): _____

Date: _____

Phone: _____

1. Research Issue: Explore the medical market response to PG&E efficiency efforts

ID	_____
Name of contact	_____
Name of company/org	_____
Phone Number	_____
Incentivized Measure (in call list)	_____
Interviewer	_____

2. Was the incentive paid? (in call list)
   - ☐ Yes (P)
   - ☐ No (N)

3. Hi, I'm and I'm calling from Research into Action on behalf of PG&E as part of an evaluation of its energy efficiency services to medical facilities during 2006 and 2008. Our records indicate you are the contact for your organization's energy efficiency project(s). Are you the correct person to speak with?

   Your responses are completely confidential and will not be shared with anyone, including PG&E, in a way that could identify you or your organization. Is this a good time for you to talk with me, or would you prefer to schedule another time? It should take about 15 to 20 minutes to complete the survey.
   - ❍ Yes
   - ❍ Reschedule
   - ❍ No/Refused

4. If rescheduling:

What would be a good time to speak with you? _____

Is this the best number to reach you at? _____

Section 1

Just to let you know- we are attempting to understand the PROCESS by which you became aware of, and your facility participated in, ANY PG&E energy efficiency program from 2006 to 2008.

5. Our records indicate that your company participated in a PG&E energy efficiency program between 2006 and 2008. We have as one measure you may have had installed/implemented. Is this correct?
   - ❍ Yes [CONTINUE]
   - ❍ No [THANK AND TERMINATE]
   - ❍ Don't know/Refused [THANK AND TERMINATE]

6. Is the you did with PG&E complete?
   - ❍ Yes
   - ❍ No
   - ❍ Not Sure

7. Did you have any other measures installed besides ?
   - ❍ Yes
   - ❍ No
   - ❍ Not Sure

8. What other measures were installed during the 2006-2008 time period through an energy efficiency program?

_____
_____
_____

9. Can you recall when the installation was completed for this measure? Or a general time frame of when it was done?

_____
_____
_____

10. Can you remember the name of the program you worked with for this other project? Can you recall who your program contact was?

_____
_____
_____

11. How did you learn about the program that facilitated the installation of this measure?

_____
_____
_____

12. How did you learn about PG&E's energy efficiency incentives? [DO NOT READ RESPONSES; MULTIPLE RESPONSES OK]

- ❑ PG&E account representative
- ❑ Other PG&E staff
- ❑ PG&E audit
- ❑ Other PG&E program
- ❑ PG&E website
- ❑ PG&E conference or workshop
- ❑ PG&E technology demonstration
- ❑ Program brochure or printed information
- ❑ Contractor hired by PG&E (ex: QuEST)
- ❑ Vendor, contractor or consultant (that serves the customer)
- ❑ Trade publications
- ❑ Trade show
- ❑ Medical or professional organization/association
- ❑ Colleague
- ❑ Word of mouth; from another medical organization
- ❑ Family, friend, or neighbor
- ❑ 98 Don't know
- ❑ 99 Refused
- ❑ Other (please specify)

If you selected other, please specify

_____

13. If you selected "Other PG&E Staff" can you please elaborate on who that staff was?

_____
_____
_____

PG&E Medical Program Services (Per PIP)

14. I am going to read a list of energy efficiency services PG&E offers. For each one, first tell me whether you have discussed this service with anyone at PG&E by indicating yes, no, or not sure. Second, please tell me whether or not you might be interested in this PG&E service by indicating yes, no, or not sure.

	Was it Discussed			Are You Interested		
	Yes	No	Not Sure	Yes	No	Not Sure
Energy audit to identify cost-effective energy efficiency opportunities	❍	❍	❍	❍	❍	❍
Assistance taking action on energy audit recommendations	❍	❍	❍	❍	❍	❍
Assistance with retrofit or remodeling project	❍	❍	❍	❍	❍	❍
Commissioning or tune-ups of facilities or equipment for energy-efficient performance	❍	❍	❍	❍	❍	❍
Coordination with ENERGY STAR® ratings	❍	❍	❍	❍	❍	❍
Incentives to offset increased design team costs for energy efficiency	❍	❍	❍	❍	❍	❍
New construction incentives	❍	❍	❍	❍	❍	❍
Assistance to develop long-term energy efficiency plans for your organization	❍	❍	❍	❍	❍	❍
Information on efficient technologies and design strategies	❍	❍	❍	❍	❍	❍
Assistance for self-generation or renewable generation of electricity	❍	❍	❍	❍	❍	❍
Assistance for reducing electrical load and participating in demand response efforts	❍	❍	❍	❍	❍	❍
Connections to water conservation programs	❍	❍	❍	❍	❍	❍

15. PG&E has several objectives for its services for medical customers. Please tell me whether these objectives were met, by saying "generally yes," "somewhat," "not really," or "no opinion" if you feel your experiences don't enable you to comment on this.

	Generally Yes	Somewhat	Not Really	No Opinion
a. Meeting regularly with you or other staff to ensure you are receiving the ongoing energy efficiency support you require	❍	❍	❍	❍
b. Offering expertise about energy efficiency and medical facilities	❍	❍	❍	❍
c. Encouraging a whole-facility assessment of your opportunities	❍	❍	❍	❍
d. Encouraging long-term planning to reduce energy costs	❍	❍	❍	❍
e. Encouraging grouping several measures in one project	❍	❍	❍	❍
f. Encouraging integration of energy efficiency into your standard design processes for new buildings and systems	❍	❍	❍	❍
g. Educating you or your staff about efficient building operations	❍	❍	❍	❍

16. Can you explain how your experiences didn't fully meet the program objective of "offering expertise about energy efficiency and medical facilities"?

_____

_____

_____

17. Of the following, who would you say was the most influential in your decision to pursue your energy efficiency project: people within your organization, PG&E, or someone else?

_____

_____

_____

18. Prior to this incentive project, had your organization…

	Yes	No
Discussed efficiency options with your contractor?	❍	❍
Considered installing efficient equipment, but not discussed this with your contractor?	❍	❍

19. Concerning your incentive project, at any time did you visit PG&E's website?
- ❍ Yes
- ❍ No/ don't recall

20. Would you say that you found all of the information you were looking for, some of the information, or none at all?
- ❍ All
- ❍ Some
- ❍ None at all

21. What information did you not find?

_____
_____
_____

22. Did you pursue the contact given on the website for incentive program help—the Business Customer Service Center—which you could email or phone?
- ❍ Yes
- ❍ No
- ❍ Don't know

23. Did you, at any time, contact the Business Customer Service Center?
- ❍ Yes
- ❍ No
- ❍ Don't recall

24. To what extent did you receive the information you needed from the Business Customer Service Center? Would you say…(read list)
- ❍ Fully
- ❍ Partially
- ❍ Not at all
- ❍ Don't know

25. What information did you not find?

_____
_____
_____

26. Did the Business Customer Service Center direct you to someone who could give you that information?
- ❍ Yes
- ❍ No
- ❍ Don't recall

27. Who was that person? If you don't know a name a position or description is fine.

_____

_____

_____

28. Did you have contact with that referral? [probe to code]
- ❍ Yes—I contacted the referral
- ❍ Yes—the referral contacted me
- ❍ No/don't recall

29. To what extent did you receive the information you needed from that referral? Would you say…(read list)
- ❍ Fully
- ❍ Partially
- ❍ Not at all
- ❍ Don't know

Now we're going to transition and talk about your account representative.

30. Please rate how helpful your PG&E account representative was concerning your project, using a 0 to 10 scale where "0" is "not at all helpful" and "10" is "extremely helpful".
- ❍ 0
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10
- ❍ don't know/refused

31. Why do you say that?

_____

_____

_____

32. Please rate how helpful any other PG&E staff you spoke with was concerning your project, using a 0 to 10 scale where "0" is "not at all helpful" and "10" is "extremely helpful".

- ❍ 0
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10
- ❍ don't know/refused

33. Why do you say that?

_____

34. At any time when you were involved with your project, were you confused about what the role was of the PG&E staff you were talking with or what they could do for you?

- ❍ Yes
- ❍ No
- ❍ Don't know

35. What were you confused about?

_____

_____

_____

36. Please rate the degree to which the confusion was problematic for you. Use a 0 to 10 scale, where 0 is no problem and 10 is a significant problem.

- ❍ 0
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ 8
- ❍ 9
- ❍ 10
- ❍ don't know/refused

37. [[Only ask if not clear from above questions]] Just to be clear, how did the confusion result in a problem for your organization?

_____

_____

_____

Application Problems and Satisfaction

Please indicate by saying "yes," "no," or "don't know" whether you encountered any of the following possible difficulties during the application, review, or approval process for the program.

38. PG&E informed me that my application was incomplete and requested additional information.

- ❍ Yes
- ❍ No
- ❍ Don't know

39. Took too long

- ❍ Yes
- ❍ No
- ❍ Don't know

40. Was too complex
- ❍ Yes
- ❍ No
- ❍ Don't know

41. Application was difficult to understand
- ❍ Yes
- ❍ No
- ❍ Don't know

42. Application was difficult to complete
- ❍ Yes
- ❍ No
- ❍ Don't know

43. Unable to get information on the status of the application
- ❍ Yes
- ❍ No
- ❍ Don't know

44. Program staff unresponsive or poorly coordinated
- ❍ Yes
- ❍ No
- ❍ Don't know

45. What part of the process took too long?

_____

_____

_____

46. When PG&E indicated to you that they needed more information did they make it clear to you that the application could not move forward without the additional information they were requesting?
- ❍ Yes
- ❍ No
- ❍ Don't know

47. What made the application confusing or difficult? [DO NOT READ RESPONSES; MULTIPLE RESPONSES]

- ❑ Instructions confusing
- ❑ Measure or equipment descriptions confusing
- ❑ Information needed for the application was not clear
- ❑ It was difficult to obtain the information required by the application
- ❑ Not clear where to send completed materials
- ❑ Don't know
- ❑ Refused
- ❑ Other (please specify)

If you selected other, please specify_____

48. Did you encounter any difficulties in addition to the types we just discussed?

- ❍ Yes
- ❍ No
- ❍ Don't Know [Don't Read]

49. Please tell me what kind of difficulties you experienced other than those we listed above:

_____

_____

_____

50. Prior to this project, had your organization…

	Yes	No
Received an energy efficiency incentive from PG&E?	❍	❍
Installed efficient equipment, but not received an incentive?	❍	❍

51. How did this most recent participation compare with your prior participation experiences? Was it easier, harder, or about the same?

- ❍ Easier
- ❍ Harder
- ❍ About the same
- ❍ No prior participation experiences

52. Why do you say that?

_____

_____

_____

53. Thinking back over the whole process of working with PG&E's energy efficiency programs, was there anything about the process you would like to see change?

_____
_____
_____

54. Please briefly describe your ongoing involvement, if any, with your PG&E contacts:

_____
_____
_____

Participant Characteristics

55. Which of the following describe the facility where the incentivized equipment was installed? Indicate all that apply: [read list] [Do not read: Primary care refers to a facility where the health care provider is the first point of consultation for the patient.]

- ❑ Hospital
- ❑ Skilled nursing facility
- ❑ Overnight care facility other than hospitals and skilled nursing facilities
- ❑ Primary care medical offices
- ❑ Outpatient hospital or clinic
- ❑ Other

56. Does the hospital have more than 100 beds?

- ❍ yes, more than 100 beds
- ❍ no, fewer than 100 beds
- ❍ don't know

57. Does the skilled nursing facility have more than 100 beds?

- ❍ yes, more than 100 beds
- ❍ no, fewer than 100 beds

58. Does the residence facility have more than 100 beds?

- ❍ yes, more than 100 beds
- ❍ no, fewer than 100 beds

59. Does your facility have any of the following planned or recently completed? (within the past 3 years)
- ❑ expansion
- ❑ seismic upgrades
- ❑ renovations
- ❑ none of the above

60. Regarding the expansion, is it completed, underway, or in the planning stages? [multiple responses allowed due to possible multiple phases or projects]
- ❑ completed
- ❑ underway
- ❑ planning

61. Regarding the seismic upgrades, are they completed, underway, or in the planning stages? [multiple responses allowed due to possible multiple phases or projects]
- ❑ completed
- ❑ underway
- ❑ planning

62. Regarding the renovations, are they completed, underway, or in the planning stages? [multiple responses allowed due to possible multiple phases or projects]
- ❑ completed
- ❑ underway
- ❑ planning

63. Do you have any comments about how well PG&E's efficiency services mesh with OSHPD's regulations?

_____
_____
_____

64. Do you have any other comments about PG&E's medical facility programs?

_____
_____
_____

Those are all the questions I have for you, thank you for your time.

(End of Interview)

PG&E MEDICAL EFFICIENCY PROGRAM
INTERVIEW GUIDE – ARCHITECTS AND ENGINEERS

Name: _____

Firm: _____ _____ Engineer _____ Architect

Title: _____

Date: _____

Phone: _____

Hello, I'm _____, calling on behalf of PG&E. I'm a research consultant hired by PG&E to evaluate its efforts to encourage energy efficiency among its hospital and healthcare customers. I understand you have been involved in efficiency projects with healthcare customers. I'd like to ask you a few questions as part of our research, which contributes to PG&E's continuous improvement efforts. Is now a good time? [If not: Can you suggest a time I could call you back? _____.

Before we get started, you'll note that many of the questions use the term energy efficiency. PG&E also offers services related to renewable energy, reducing demand, demand response, and so on. For simplicity, I will use the term "efficiency" to refer to all these services broadly. If your remarks address one of these other areas specifically, be sure to let me know.

I'd like to start off getting some general information about you.

Background

1. As background for me:

   a. What type of work do you specialize in?

   b. About how many efficiency projects have you worked on for medical sector clients that have qualified for PG&E incentives or services in the past four years [since Jan 2006]?

Project	Can you very briefly describe the project(s)?	When did the project start?	When did the project end?
1			
2			
3			

c. Have you worked with clients outside of the medical sector that have participated in PG&E efficiency programs?

d. Have you worked with clients on efficiency projects in any sector prior to 2006?

e. How do you typically get involved with a medical customer's project?

Knowledge of PG&E Programs

2. Just so that we are on the same page, can you briefly state for me your understanding of the incentives and services PG&E offers to new construction projects?

   a. Anything else? Anything else?

   b. And which of these have you and your clients used?

3. How did you learn about PG&E's current incentives and services?

   a. What led to your decision to participate in these programs?

   b. Would you say that customers typically know about these incentives and services, or are you bringing them to their attention?

   c. How often are customers stating their interest in pursuing an energy efficiency solution, in contrast to you suggesting it?

   d. Is energy efficiency a hard sell for your customers? If yes, why?

   e. Do customers lose interest when they know more about what would be entailed, such as costs or scheduling considerations?

   f. What terminology do you use to talk with customers about energy-efficient approaches? Do you talk about payback, or the need to consider costs from a life-cycle cost perspective, or something else?

Energy Efficiency and the Client

4. At what point in the project process do you begin to talk about energy efficiency with your client? [Probe for a term to describe the phase of the process. Possible terms they might use: RFP/Proposal, Programming/Pre-Design, Conceptual Design, Schematic Design, Design Development, Construction Documents, Construction, Occupancy.]

Incentive Application and Program Requirements

5. What feedback can you give me on the incentive application procedures? My understanding is that each project submits an application to PG&E and then paperwork/technical analysis/other materials are submitted throughout the course of the project. Is this right? Please comment on both parts in your answers.

    a. What is your role in getting the application ready?

        i. [If not evident:] Did you complete the application for your customer(s), or do they do that?

    b. In your view, are the application requirements reasonable?

    c. Is it clear what information needs to be submitted?

    d. How hard is it to assemble the needed information?

6. How well do the program requirements mesh with your new construction projects?

    a. Do you have the information the program needs at the point when the program wants it?

        i. Probe: Does it vary by incentive type or service provided? How so? [Need to probe to ensure you understand which PG&E incentive type/service is being referred to] Does program involvement pose any threat of delay for the project?

7. In what ways, if any, does participating in the program complicate meeting Office of Statewide Health Planning and Development (OSHPD) requirements?

8. Does program involvement require additional time on your firm's part?

    a. Is this time paid for by your client?

    b. How much time is required of your staff?

    c. Are there any modifications to the program that PG&E might make so that it can better support the design and construction of energy efficient facilities?

    d. Are there any other services or incentives PG&E might offer to better encourage energy-efficient construction?

9. Have you ever pursued design incentives from PG&E?

10. Have you attempted to run a project through a PG&E program and then ended up not doing so?

    a. [If yes] What happened that you didn't end up going through the program?

    b. [Probes:] Did the project go ahead?

        i. If so, did the project change so that it didn't qualify; or did the project still qualify but you or the client decided not to pursue the program?

        ii. Why?

11. What is your general experience with the PG&E inspection phase of your projects?

12. Is there any other feedback you want to offer on the incentive application or any program processes overall?

Communication

13. Have you spoken to or emailed any PG&E staff in connection with your projects? [If no, skip to Q15]

    a. If yes, what did you speak to them about?

    b. How responsive were they?

    c. Did they provide at the outset what you considered to be satisfactory answers, or was some back-and-forth needed?

        i. [If negotiation occurred] And was the issue resolved to your satisfaction?

14. As far as you know, have your customers been in contact with PG&E staff?

    a. [If no, skip to Q12] What about?

    b. Did they receive satisfactory support from PG&E?

General Feedback

15. PG&E offers a variety of services, incentives, and programs to its customers. Have you or your customers ever been confused by this?

    a. Probes: Confused about which program is most applicable to their project?

    b. Confused about which programs offer services useful to them?

    c. Confused about the role of contractors PG&E has directly hired to assist them in delivering programs to customers? [Do not read: this refers to "third party" programs]

16. Do you know if others in your firm have worked with customers on projects eligible for PG&E incentives and services?

    a. Do you encourage others in your firm to tap into PG&E's programs?

17. How well do you think PG&E's medical program works with the *medical sector overall*?

18. How well do you think PG&E's medical program works with *your profession*?

    a. Is there any information or materials that PG&E needs to present that would help persuade other professionals to participate in the program?

19. Are there any firms or groups [you haven't mentioned] that you think PG&E medical should be working with?

    a. Do you have any advice for PG&E on how to get the word out to professionals such as yourself about its incentives and services?

    b. Are there any organizations you would recommend PG&E partner with or present to?

20. How can PG&E get more new construction projects?

PG&E MEDICAL EFFICIENCY PROGRAM
INTERVIEW GUIDE – CONTRACTORS

Name: _____

Title: _____

Date: _____

Phone: _____

Hello, I'm _____, calling on behalf of PG&E. I'm a research consultant hired by PG&E to evaluate its efforts to encourage energy efficiency among its hospital and healthcare customers. I understand you have been involved in efficiency projects with healthcare customers. I'd like to ask you a few questions as part of our research, which contributes to PG&E's continuous improvement efforts. Is now a good time? [If not: Can you suggest a time I could call you back? _____.

Before we get started, you'll note that many of the questions use the term energy efficiency. PG&E also offers services related to renewable energy, reducing demand, demand response, and so on. For simplicity, I will use the term "efficiency" to refer to all these services broadly. If your remarks address one of these other areas specifically, be sure to let me know.

I'd like to start off getting some general information about you.

Background

1. As background for me:

   a. What type of work do you specialize in?

   b. About how many efficiency projects have you worked on for medical sector clients that have qualified for PG&E incentives or services in the past four years [since Jan 2006]?

Project	Can you very briefly describe the project(s)?	When did the project start?	When did the project end?
1			
2			
3			

   c. Have you worked with clients outside of the medical sector that have participated in PG&E efficiency programs?

d. Have you worked with clients on efficiency projects in any sector prior to 2006?

e. How do you typically get involved with a medical customer's project?

Knowledge of PG&E Programs

2. Just so that we are on the same page, can you briefly state for me your understanding of the efficiency incentives and services PG&E offers ?

   a. Anything else? Anything else?

   b. And which of these have you and your clients used?

3. How did you learn about PG&E's current incentives and services?

   a. What led to your decision to participate in these programs?

   b. Would you say that customers typically know about these incentives and services, or are you bringing them to their attention?

   c. How often are customers stating their interest in pursuing an energy efficiency solution, in contrast to you suggesting it?

   d. Is energy efficiency a hard sell for your customers? If yes, why?

   e. Do customers lose interest when they know more about what would be entailed, such as costs or scheduling considerations?

   f. What terminology do you use to talk with customers about energy-efficient approaches? Do you talk about payback, or the need to consider costs from a life-cycle cost perspective, or something else?

Energy Efficiency and the Client

4. At what point in the project process do you begin to talk about energy efficiency with your client?

Incentive Application and Program Requirements

5. What feedback can you give me on PG&E's incentive application procedures? My understanding is that each project submits an application to PG&E and then paperwork/technical analysis/other materials are submitted throughout the course of the project. Is this right? Please comment on both parts in your answers.

a. Probe: Does it vary by incentive type or service provided? How so? [Need to probe to ensure you understand which PG&E incentive type/service is being referred to]Does program involvement pose any threat of delay for the project?

b. What is your role in getting the application ready?

   i. [If not evident:] Did you complete the application for your customer(s), or do they do that?

c. In your view, are the application requirements reasonable?

d. Is it clear what information needs to be submitted?

e. How hard is it to assemble the needed information?

6. Are you ever involved in new construction?

   a. [If yes] Do any of the new construction projects qualify for efficiency incentives?

   b. How well do the program requirements mesh with new construction projects?

   c. Do you have the information the program needs at the point when the program wants it?

7. Are any of your projects subject to OSHPD (Office of Statewide Health Planning and Development) review?

   a. [If yes] In what ways, if any, does participating in the program complicate meeting OSHPD requirements?

8. Does program involvement require additional time on your firm's part?

   a. Is this time paid for by your client?

   b. How much time is required of your staff?

   c. Are there any modifications to the program that PG&E might make so that it can better support the design and construction of energy-efficient facilities?

   d. Are there any other services or incentives PG&E might offer to better encourage energy-efficient construction?

9. Have you attempted to run a project through a PG&E program and then ended up not doing so?

    a. [If yes] What happened that you didn't end up going through the program?

    b. [Probes:] Did the project go ahead?

        i. If so, did the project change so that it didn't qualify; or did the project still qualify but you or the client decided not to pursue the program?

        ii. Why?

10. What has been your experience with PG&E inspections?

11. Is there any other feedback you want to offer on the incentive application or any program processes overall?

Communication

12. Have you spoken to or emailed any PG&E staff in connection with your projects? [If no, skip to Q14]

    a. If yes, what did you speak to them about?

    b. How responsive were they?

    c. Did they provide at the outset what you considered to be satisfactory answers, or was some back-and-forth needed?

        i. [If negotiation occurred] And was the issue resolved to your satisfaction?

13. As far as you know, have your customers been in contact with PG&E staff?

    a. [If no, skip to Q14] What about?

    b. Did they receive satisfactory support from PG&E?

General Feedback

14. PG&E offers a variety of services, incentives, and programs to its customers. Have you or your customers ever been confused by this?

    a. Probes: Confused about which program is most applicable to their project?

b. Confused about which programs offer services useful to them?

c. Confused about the role of contractors PG&E has directly hired to assist them in delivering programs to customers? [Do not read: this refers to "third party" programs]

15. Do you know if others in your firm have worked with customers on projects eligible for PG&E incentives and services?

a. Do you encourage others in your firm to tap into PG&E's programs?

16. How well do you think PG&E's medical program works with the *medical sector overall*?

17. How well do you think PG&E's medical program works with *your profession*?

a. Is there any information or materials that PG&E needs to present that would help persuade other professionals to participate in the program?

18. Are there any firms or groups [you haven't mentioned] that you think PG&E medical should be working with?

a. Do you have any advice for PG&E on how to get the word out to professionals such as yourself about its incentives and services?

b. Are there any organizations you would recommend PG&E partner with or present to?

19. How can PG&E get more projects like the ones you are involved in to qualify for and apply for incentives?

PG&E MEDICAL EFFICIENCY PROGRAM
INTERVIEW GUIDE – PROGRAM MANAGERS OF MEDICAL AND COMPREHENSIVE PROGRAMS ELSEWHERE

Name: _____

Title: _____

Date: _____

Phone: _____

1. You have designed your program to encourage your customers and support your customers in achieving comprehensive savings [or: …in meeting the unique needs of the medical sector]. So how do you get the customer to "bite," so to speak. I'm thinking of the adage "you can bring a horse to water, but you can't make him drink."

2. What marketing and outreach activities occur?

    c. Probes: any mailers, case studies, personal contact

3. What approaches do you take to encourage customers to act comprehensively?

    a. What does it mean *programmatically* to offer these deep relationships and comprehensive services? [Probe to explore if the program offers only a brochure describing comprehensiveness, or uses account reps to market, or…]

    b. Who is approached? (executive—operations? financial?, facility manager?, service provider?)

4. Is a plan necessary?

5. In what ways do you work with trade allies to promote comprehensiveness?

    a. [Probe to distinguish: comprehensiveness in general (program-wide) and comprehensiveness for a given customer.]

6. What projects have occurred (or are underway) that you think best attain the goal of comprehensiveness?

a. What led to these projects occurring? [Probe for roles/motive force within the organization, from trade allies, from program-affiliated staff.]

b. What seems to be an adequate lead-time for getting involved with a customer's project?

7. Have any customers established a long-range plan to do facility up-grades over time?

a. How is that working out?

b. What does the program do to keep nudging customers along with their planned up-grades?

8. How do you define comprehensiveness?

a. Are studies done for all customers that express interest in the program to identify the opportunities? [Or some customers, or only under certain conditions, namely xxx?]

b. [If yes:] Who does the studies—consultants under contract to the program or consultants under contract to the customer?

9. How do you encourage new construction to take a comprehensive approach to energy efficiency?

a. [Probe with questions as above, to the extent that prior answers focused on retrofit]

b. What seems to be an adequate lead-time for getting involved with a customer's new construction project?

10. What are the barriers you encounter in getting your customers to embrace a comprehensive approach?

11. What are your plans going forward? Any changes contemplated to better attain comprehensiveness?

12. Two final, quick questions. Have you noticed any other programs around the country that focus on comprehensiveness that I should contact?

13. Do you have a logic model that you can send me?