ENERGY EFFICIENCY PROGRAMS
ANNUAL SUMMARY AND
TECHNICAL APPENDIX

2002 Results
May 2003

A Sempra Energy utility™

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Executive Summary

Overview

Southern California Gas Company (SoCalGas) continued to administer energy efficiency programs in 2002, under the oversight of the California Public Utilities Commission (CPUC or Commission) per Decision (D.) 01-11-066, Interim Opinion Adopting Energy Efficiency Policy Rules. SoCalGas has coordinated closely with Pacific Gas and Electric (PG&E), Southern California Edison (SCE) and San Diego Gas & Electric (SDG&E) to develop new statewide programs and enhance existing statewide programs. Many of SoCalGas' programs focus on achieving energy and peak demand reductions. In addition to the statewide efforts, SoCalGas implemented certain local programs to benefit its customers. These are primarily a continuation of existing activities, with an emphasis on addressing local customer needs. They include programs that target "hard-to-reach" markets, specifically certain segments of the residential and small/medium nonresidential markets. During the first quarter of 2002, the Commission directed the utilities to continue their 2001 programs until all 2002 programs were approved in March 2002. On March 21, 2002 the Commission issued D.02-03-056 approving the utilities' 2002 statewide energy efficiency programs and budgets with modifications to program design, budgets and program performance targets. The Commission also issued D.02-05-046 and D.02-06-026 approving the utilities' local energy efficiency programs, together with other non-utility local energy efficiency programs.

Funding for the 2002 Energy Efficiency programs is pursuant to Public Utilities (PU) Code Sections 381 and 399 for the electric programs and PU Code Sections 890-900 for the gas programs. Approval for use of these funds for specific 2002 energy efficiency programs was provided in Decisions D.01-11-066, D.02-03-056, D.02-04-001, D.02-05-046, D.02-06-026, D.02-07-040, and D.03-02-027.

In August 2001, the Commission directed the utilities to initiate the Summer Initiative programs that were designed to achieve peak energy and demand savings by as early as Summer 2001. SoCalGas implemented the residential Hard-To-Reach program. The Commission authorized the continuation of the Summer Initiative programs until the end of the first quarter 2002.

In 2002, SoCalGas's expenditures (actual and commitments) for its 2002 Energy Efficiency programs totaled $26.5 million and achieved a total of 6,903 megawatthours (MWh) in energy savings, 10 megawatts (MW) in demand savings and 6,942,000 therms in gas savings.

Residential Energy Efficiency Programs

The 2001 energy efficiency Residential Program Area included both statewide and local efforts that were designed to encourage customers to improve energy efficiency behaviors and to increase the installation of energy efficient products and appliances. These programs, which were designed to provide more energy efficiency options to residential customers, also encouraged them to work directly with key market players to encourage market transformation and to help them make smarter energy efficiency choices.

The Single Family Rebate program (formerly RCP) was developed through an extensive cooperative effort with other California utilities. It was designed to provide residential customers with direct rebates for various energy efficiency measures. The program provides

downstream rebates for 25 various energy efficiency measures. In addition, 11% of applications submitted to the Single-Family Rebate Program were from hard-to-reach customers.

The Multifamily Energy Efficiency Rebate program is a statewide consistent program, which provides a broad list of qualifying energy efficiency measures with prescribed rebates for the installation of qualifying energy-efficient improvements in apartment dwelling units and in the common areas of apartment and condominium complexes, and common areas of mobile home parks.

The Home Energy Efficiency Survey program (on-line and mail-in options) provides customer specific energy efficiency information for single-family residential customers.

Nonresidential Energy Efficiency Programs

SoCalGas' Nonresidential Program Area continued to provide energy education, promote energy efficiency improvements, offered upstream and downstream incentives, and offered training seminars and participated in numerous trade show and community events.

The statewide nonresidential energy audit program, approved April 1, 2002, offers free energy audits to nonresidential customers. The audit provides customer assistance in the form of information on the benefits of installing measures or adopting practices that can reduce the customer's utility bills.

The Express Efficiency program at SoCalGas only offers prescriptive rebates on selected gas measures. These measures include clothes washers, greenhouse curtains, boilers, water and space heaters, pipe and tank insulation and various cooking equipment. The program is limited to small and medium customers with an emphasis on the hard-to reach sector.

The local Nonresidential Financial Incentives Program is the blending of two long-standing energy efficiency programs: the *Commercial Equipment Replacement Program* and the *Industrial Energy Efficiency Incentives Program*. These two programs have provided energy efficiency incentives to small and medium –sized core nonresidential customers focusing on high efficiency gas cooking and laundry equipment and process related efficiency improvements.

The Building Operator Certification program is a seven-module course designed to train and certify facility managers of their professional competence in energy efficient building operations and maintenance. In 2002, the program started classes in October and will continue into 2003.

SoCalGas also promoted emerging technologies by participating in the Emerging Technologies Coordinating Council (ETCC) with the other California utilities and the California Energy Commission.

New Construction Energy Efficiency Programs

SoCalGas' New Construction Program Area provides design assistance services aimed at identifying and capturing energy savings opportunities in new construction projects. New construction programs also offered incentives to encourage the installation of energy efficient design and equipment that exceed Title 24 energy standards. SoCalGas also supported the statewide Codes and Standards program, and continued to promote and support the implementation of energy efficiency codes and standards in its service territory.

The Savings By Design (SBD) program influences nonresidential building owners, tenants, and design teams to exceed current Title 24 standards (or industry standards for processes) by 10 percent or more for their new construction or renovation/remodel projects. SBD provides energy design education, design and technical assistance, and cash incentives for all project types and sizes that meet the program's eligibility criteria.

The California Energy Star New Homes Program (CESNHP) is designed to encourage single family and multifamily (including rental apartments, condominiums, town homes; as well as high-rise residential buildings on a pilot basis) builders to construct homes that exceed compliance with the California Energy Code through a combination of financial incentives, design assistance, and education. These performance-based programs are designed to encourage homebuilders to construct single family and multifamily dwellings that are 15% and 20% more efficient than required by the Energy Efficiency Standards as revised by State Assembly Bill (AB) 970 and effective June 1, 2001.

Cross Cutting Program

The statewide Education and Training program is offered in the service territories of PG&E, SCE, SDG&E and SoCalGas. Overall, the program promotes energy efficiency to a variety of customer segments through energy centers (physical and virtual) and other informational programs. The educational and information efforts of the energy centers and informational programs cover a broad spectrum of market actors including consumers, midstream actors such as design, engineering and contracting communities, and upstream market actors. The motivations to make use of energy center services and informational programs encompass: 1) reducing operational costs, 2) increasing productivity and profitability, and 3) designing more efficient new buildings. SoCalGas conducted 145 seminars/workshops in 2002. Several of these seminars/workshops were joint curricula offered by all of the IOUs.

2000 Summer Initiative Programs

In July 2000, the Commission adopted the Summer 2000 Energy Efficiency Initiative (Summer Initiative) as a "rapid response procedure" to provide measurable demand and energy usage reductions beginning in summer 2000." The programs were approved in August 2000 for implementation beginning September 1, 2000, and concluding on December 31, 2001. The programs that were approved must deliver energy and demand savings by June 1, 2001, and must be designed to achieve savings quickly. SoCalGas's spent $3.97 million with the following energy and demand savings achievements, 513 MWh, 0.3 MW and 594,000 therms.

The Residential Hard to Reach program seeks to achieve peak demand savings through the installation of energy efficiency measures at multifamily apartment complexes, mobile home parks, and condominium complexes. Incentives are offered for a wide variety of measures including: ENERGY STAR® lighting equipment, ENERGY STAR® refrigerators, ENERGY STAR® clothes washers, ENERGY STAR® dishwashers, HVAC equipment, thermal shell measures, water heaters, and low flow shower heads.

Statewide Marketing

The Commission also selected the Department of Consumer Affairs, Flex Your Power Campaign, and the Univision Television Group to implement the statewide marketing efforts in

D. 02-03-056. PG&E and the other IOUs worked closely with these organizations to ensure coordinated, statewide energy efficiency messages in support of the statewide programs.

Non-IOU Programs

The Commission awarded non-utility local programs to be implemented by third parties for 2002 and 2003 and designated the IOUs to administer each program in D. 02-05-046, D. 02-06-026, and D. 02-08-076. SoCalGas was designated to administer 5 of the 14 local non-utility programs operating in SoCalGas's service area. Contracts for the programs were signed in the third quarter of 2002. Program implementation started after contract signing and continues through 2003.

Utility Administration of Non-IOU Programs

In D. 01-11-066 the Commission stated that the IOUs were eligible for up to 5% of program budgets to cover contract administration expenses. SoCalGas continues to work closely with third party implementers and the Commission's Energy Division to monitor program progress, resolve contract issues and facilitate third party requests for program or implementation plan changes.

Market Assessment & Evaluation

Market Assessment and Evaluation activities primarily focused concluding some of the PY 2001 evaluations. D.02-05-046 approved the statewide Market Assessment and Evaluation ("MA&E") and local Evaluation, Measurement and Evaluation ("EM&V") activities. Planning for these studies were done in 2002 with approval from the Assigned Law Judge to conduct these studies received in January 2003. The 2002 program evaluations will be completed in 2003.

TABLE 1.1
SUMMARY OF COSTS

Natural Gas			
	2002		2003 [1]
	Budgeted	Recorded	Budgeted
Residential	$5,211,000	$4,536,100	$4,810,000
Nonresidential	$7,869,000	$7,440,565	$6,743,000
New Construction	$3,297,000	$3,150,734	$3,914,000
Crosscutting	$4,682,000	$4,421,932	$4,060,000
Total IOU Programs	$21,059,000	$19,549,331	$19,527,000
Statewide Marketing	$987,000	$68,698	$987,000
Non-IOU Programs [2]	9,767,719	$1,836,655	$0
Total Non-IOU Programs	$10,754,719	$1,905,354	$987,000
Utility Adm. Of Non-IOU Programs [2]	$335,204	$0	$0
MA&E & Reg Oversight	$1,037,000	$1,037,000	$1,037,000
Shareholder Incentives	$0	$0	$0
EE Total	$33,185,923	$22,491,685	$21,551,000
Summer Initiative	$4,000,000	$3,966,732	$0
Total EE, and SI	$37,185,923	$26,458,417	$21,551,000

Notes:

[1] The 2003 Budget is as filed on November 4, 2002.

[2] This budget is the total 2002-2003 Commissioned approved budget

TABLE 1.2
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS

Annual and Lifecycle Energy Reductions, Electric, MWH

	2002 (Recorded)	2002 Life Cycle (Recorded)	2003 (Planned)*	2003 Life Cycle (Planned)*
Residential	3,012	43,790	4,370	67,716
Nonresidential	5	49	17	171
New Construction	3,374	51,462	9,591	146,981
Crosscutting	N/A	N/A	N/A	N/A
Total EE	6,390	95,301	13,979	214,868
Summer Initiative	513	N/A	N/A	N/A
Total EE and SI	6,903	95,301	13,979	214,868

Annual Demand Reductions, Electric, MW

	2002 (Recorded)	2003 (Planned)*
Residential	(0.08)	2.62
Nonresidential	N/A	-
New Construction	9.79	2.76
Crosscutting	N/A	N/A
Total EE	9.71	5.38
Summer Initiative	0.30	N/A
Total EE and SI	10.01	5.38

Annual and Lifecycle Energy Reductions, Natural Gas, Therms, 000's

	2002 (Recorded)	2002 Life Cycle (Recorded)	2003 (Planned)*	2003 Life Cycle (Planned)*
Residential	1,360	20,223	1,708	21,089
Nonresidential	4,906	87,355	3,616	55,252
New Construction	82	1,221	258	4,305
Crosscutting	N/A	N/A	N/A	N/A
Total EE	6,348	108,799	5,582	80,646
Summer Initiative	594	N/A	N/A	N/A
Total EE and SI	6,942	108,799	5,582	80,646

* Note: Planned 2003 reflects proposals submitted to the CPUC on 11/04/02 and does not reflect 2003 1st Quarter activity.

TABLE 1.3
SUMMARY OF COST-EFFECTIVENESS

	Benefit-Cost Ratios			
	2002 (Recorded)		2003 (Planned)*	
	Utility Cost Test	Total Resource Cost Test	Utility Cost Test	Total Resource Cost Test
Residential	1.81	0.61	1.97	1.05
Nonresidential	3.36	2.15	1.33	1.11
New Construction	0.88	1.03	1.86	2.01
Crosscutting	0.00	0.00	N/A	N/A
Total EE Portfolio	1.84	1.12	1.41	1.23

* Note: Planned 2003 reflects proposals submitted to the CPUC on 11/04/02 and does not reflect 2003 1st Quarter activity.

TABLE 1.4
SUMMARY OF COST-EFFECTIVENESS

	Net Benefits; $ Mil	
	2002 (Recorded) TRC	2003 (Planned)* TRC
Residential	($5.16)	$0.44
Nonresidential	$16.42	$1.22
New Construction	$0.08	$4.07
Crosscutting	N/A	$0.00
Total EE	$11.34	$5.73

Net Benefits = RBn - Net Costs

* Note: Planned 2003 reflects proposals submitted to the CPUC on 11/04/02 and does not reflect 2003 1st Quarter activity.

Residential Programs

Energy Management Services

Statewide Residential Home Energy Efficiency Survey Program

Program Description:

The Home Energy Efficiency Survey program provides customer specific energy efficiency information for single-family residential customers. The program employs two delivery channels: Mail-In Surveys, which include targeted direct mailings, and the interactive online survey, which offers convenient results online to provide customers with valuable information to assist them with understanding, controlling and reducing energy use in their homes.

2002 SCG Results and Achievements:

In 2002 100% of mailed surveys were sent to HTR customers. IOU's met the Commission's mandate for having Spanish and Asian language version surveys available for mailing and web posting within two months of the programs launch date, or June 1, 2002. Following the first quarter of 2002. SoCalGas' Home Energy Fitness program, which promotes the adoption of energy efficient measures and actions by providing informational audits to residential customers was incorporated under the Home Energy Efficiency Survey program in 2002. The program similarly provides residential customers with an individualized assessment of their energy consumption, efficient appliance information, as well as recommendations on how to help reduce energy bills through simple changes in the way both gas and electric appliances are used.

During the first quarter of 2002, the Home Energy Fitness online survey website provided online audits for customers with access to the Internet. First quarter 2002 results show increased activity with 1,285 completed customer online audits.

Energy Efficient Incentives

Statewide Residential Single Family Energy Efficiency Rebates Program

Program Description:

The Single Family Energy Efficiency Rebates program is a statewide program, administered by the four California investor-owned utilities, which provides rebates on various home improvement products, heating and cooling equipment, appliances, and residential pool equipment.

2002 SCG Results and Achievements:

In conjunction with local efforts, SoCalGas worked jointly with statewide utilities to maintain interest in the program by meeting with other agencies to discuss ongoing program-planning efforts. In addition to supporting statewide efforts, targeted events with local contractors included meetings at the SoCal Gas Energy Resource Center to increase program awareness, review program implementation and gain feedback, distribute program materials and provide

information on how to effectively communicate with customers regarding the program. Other meetings included CEE, ENERGY STAR® and Lenox. In addition, coordination of Statewide marketing efforts also included work with Flex Your power, Univision and the US DOE/EPA sponsored ENERGY STAR® program and ENERGY STAR® Partners. Coordination with other utilities included IEUA, LADWP, Pasadena Water & Power.

The 2002 target is that 11% of the Single Family Rebate applications will be from hard-to-reach customers. The program achieved 24% of applications from hard to reach customers.

Statewide Residential Multi-Family Energy Efficiency Rebates Program

Program Description:

The Multifamily Energy Efficiency Rebate program is a statewide consistent program, which provides a broad list of qualifying energy efficiency measures with prescribed rebates for the installation of qualifying energy-efficient improvements in apartment dwelling units and in the common areas of apartment and condominium complexes, and common areas of mobile home parks. Property owners and property managers of existing residential multifamily complexes with 5 or more dwelling units may qualify. The program is uniform throughout all the IOU's service areas, with consistent terms and requirements and implementation characteristics, including rebate levels and application procedures.

2002 SCG Results and Achievements:

The 2002 target is that 10% of multi-family rebate applications will be from hard to reach customers. In 2002, 34% of applications were from hard-to-reach customers.

Southern California Gas ran advertisement placement in three Property Management publications whose circulation included properties in HTR communities. Publications appeared in Apartment Management Magazine (circulation 60,000), Apartment Age (circulation 39,500) and Apartment Owners Association (circulation 62,000). SCG Multifamily Rebate Program worked with the Diverse Markets Outreach Program (DMOP) by presenting overviews of its Rebate programs to representatives of Asian language descent.

While SoCalGas has attempted to market the program to fully utilize the budget the program has been slow in gaining momentum. As is typical of re-designed programs, the Multifamily Program will require a little more lead-time, however SoCalGas is optimistic that its marketing efforts in 2002 will result in increased 2003 program participation.

Upstream Programs

Residential Upstream Gas Air Conditioning Program

Program Description:

This upstream program had two major objectives. First, it promoted the replacement of existing, older inefficient 2 to 5 ton natural gas air conditioning units. Second, it supported the development of a natural gas heat pump through the continued commercialization of energy

efficient natural gas air conditioning. Qualifying units had to have a coefficient of performance (COP) greater than or equal to 0.62 for cooling.

2002 SCG Results and Achievements:

Available funding was used to pay ongoing program costs, including labor. No customer incentives were paid during the first quarter. The program was wound down in the first quarter since Commission budget cutbacks and budget reallocations necessitated that SoCalGas drastically scale back PY2002 efforts. Lack of continuing funds for the second through fourth quarters of 2002 limited activity in the first quarter.

TABLE 2.1
SUMMARY OF COSTS:
RESIDENTIAL PROGRAM AREA

Natural Gas

	2002		2003
	Budgeted	Recorded	Budgeted*
Information	$0	$0	$0
EMS	$291,088	$253,388	$170,000
EEI			
SPCs	$0	$0	$0
Rebates	$4,905,172	$4,269,881	$4,640,000
Loans	$0	$0	$0
Other	$0	$0	$0
Upstream			
Information	$0	$0	$0
Financial Assistance	$14,740	$12,831	$0
Total	$5,211,000	$4,536,100	$4,810,000

Note:
* The 2003 Budget is as filed on November 4, 2002.

TABLE 2.2
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS:
RESIDENTIAL PROGRAM AREA

Annual and Lifecycle Energy Reductions, Electric, MWH

	2002 Annual (Recorded)	2002 Life Cycle (Recorded)
Information	N/A	N/A
EMS	N/A	N/A
EEI		
SPC	N/A	N/A
Rebates	3,012	43,790
Loans	N/A	N/A
Other	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A
Total	3,012	43,790

Demand Reductions, Electric, MW

	2002 Annual (Recorded)
Information	N/A
EMS	N/A
EEI	
SPC	N/A
Rebates	-0.08
Loans	N/A
Other	N/A
Upstream Programs	
Information	N/A
Financial Assistance	N/A
Total	-0.08

Annual and Lifecycle Energy Reductions, Natural Gas, Therms, 000's

	2002 Annual (Recorded)	2002 Life Cycle (Recorded)
Information	N/A	N/A
EMS	N/A	N/A
EEI		
SPC	N/A	N/A
Rebates	1,360	20,223
Loans	N/A	N/A
Other	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A
Total	1,360	20,223

TABLE 2.3
SUMMARY OF COST-EFFECTIVENESS:
RESIDENTIAL PROGRAM AREA

	Benefit-Cost Ratios	
	2002 (Recorded)	
	Utility Cost Test	Total Resource Cost Test
Information	N/A	N/A
EMS	N/A	N/A
EEI		
SPCs	N/A	N/A
Rebates	1.93	0.63
Loans	N/A	N/A
Other	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A

TABLE 2.4
SUMMARY OF COST-EFFECTIVENESS:
RESIDENTIAL PROGRAM AREA

Net Benefits, $Mill	2002 Recorded
Information	N/A
EMS	($0.25)
EEI	
SPCs	N/A
Rebates	($4.90)
Loans	N/A
Other	N/A
Upstream Programs	
Information	N/A
Financial Assistance	($0.01)
Total	($5.16)

Nonresidential Programs

Nonresidential Information

Statewide Nonresidential Building Operator Certification Program

Program Description

The statewide nonresidential Building Operator Certification program, approved April 1, 2002, is a statewide training and certification program for operators of medium and large commercial buildings (including governmental and institutional buildings and complexes) that seeks to establish and support a professional credential for building operators in California. Certified operators will have the training and background to identify and implement energy savings opportunities as an integral part of their operations and maintenance activities. The BOC training course consists of eight days of training classes offered once per month over a seven-month period.

2002 Results & Achievements

Per Decision 02-03-056 Ordering Paragraph 13, the IOUs developed standard training curricula, testing and other certification standards for the statewide Building Operator Certification program. These standards were approved by the CPUC on July 2, 2002. A request for proposals (RFP) was used to select a third party to develop the training, testing and certification program. The Northwest Energy Efficiency Council (NEEC) was awarded a contract to provide the building operator certification courses in all four IOU service areas.

Marketing and recruitment of students began in the third quarter. The first BOC training class began in October 2002. SoCalGas offered one certification course at the Energy Resource Center in Downey. Each course series is comprised of six one-day plus one two-day class held on a monthly basis. The certification course included the following individual classes:

BOC 101 Building System Overview
BOC 102 Energy Conservation Techniques
BOC 103 HVAC Systems and Controls
BOC 104 Efficient Lighting Fundamentals
BOC 105 Maintenance and Related Codes
BOC 106 Indoor Air Quality
BOC 107 Facility Electrical Systems

As a result of the course series beginning in October 2002, the remaining classes in the series continued into 2003.

Energy Management Services

Statewide Nonresidential Energy Audit Program

Program Description

In the first quarter, the Energy Management Services group of programs included three distinct efforts, Commercial Energy Management Services program, Industrial Energy Management Services program, and Energy Edge.

Walkthrough audits were made available for all nonresidential core customers. Commercial and Industrial "Super" audits were conducted by third party engineering consultants when SoCalGas customer representatives determine that the customer would gain substantively from a more extensive audit. In PY2001, an online nonresidential audit capability was added to the SoCalGas website.

This statewide nonresidential energy audit program, approved April 1, 2002, offers free energy audits to nonresidential customers. The audit provides customer assistance in the form of information on the benefits of installing measures or adopting practices that can reduce the customer's utility bills. The energy audit recommendations are based on the customer's recent billing history and/or customer-specific information regarding equipment and building characteristics.

2002 Results & Achievements

First quarter program activities at SoCalGas resulted in 73 commercial walk-through audits, one industrial Super audit and 35 industrial walk-through audits. There was little activity in the Energy Edge program in the first quarter due to funding limits.

In 2002, SoCalGas continued to offer on-line, on-site, phone, CD-ROM and mail-in audits to all nonresidential customer sectors. SoCalGas used various resources and methods to reach the hard-to-reach customer segment. Marketing efforts included bill inserts to small and medium size customers, distribution of materials on SoCalGas incentive and rebate programs, electronic news letters distributed among all customer classes, program information fact sheets, direct mail, promotion of on-line energy audit, and phone call referrals to the audit program. The SoCalGas Account Executives and Field Service Representatives were the primary promoters of the on site audits.

From April through December 2002, a total of 7,051 audits were completed. .

Energy Efficiency Incentives

Statewide Nonresidential Express Efficiency Program

Program Description

This statewide program offers nonresidential prescriptive rebates for specific, proven energy efficient measures including lighting, HVAC, refrigeration, agriculture, gas, LED lighting technology and motor retrofit measures. The program is limited to small and medium customers with an emphasis on the hard-to reach sector.

The Express Efficiency program at SoCalGas only offers rebates on selected gas measures. These measures include clothes washers, greenhouse curtains, boilers, water and space heaters, pipe and tank insulation and various cooking equipment.

2002 Results & Achievements

During the first quarter, the 2001 Express Efficiency program was available to nonresidential customers. SoCalGas processed 24 applications for storage water heaters, two applications for space heating boilers, two applications for hot water boilers, and one application for a power burner fryer.

The statewide nonresidential Express program began on April 1, 2002 with the primary focus on the hard-to-reach customers. Program collateral materials (six technology specific applications – five electric and one gas) were developed and a reservation system was established for the 2002 program.

SoCalGas used various promotions and delivery vehicles such as advertisements in local publications, vendor rollouts, participation in community events, and other approaches to promote the Express Efficiency program. Ongoing program outreach was through workshops, seminars, website updates and community based organizations (CBO).

Increased activity in the SoCalGas Express Efficiency program during the third quarter resulted in 100% commitment (through reservations) of the program budget. As a result of these commitments, SoCalGas implemented a waiting list on August 26, 2002. Future requests for rebates were put on the wait list pending additional funding from cancelled reservations.

In the fourth quarter, the program deadline was extended to December 31, 2002 to allow maximum participation and avoid a hiatus between the 2002 and 2003 programs. From April through December 2002, there were 460 rebate applications received and processed by SoCalGas.

Local Nonresidential Financial Incentive Program

Program Description

The local Nonresidential Financial Incentives Program is the blending of two long standing energy efficiency programs: the *Commercial Equipment Replacement Program* and the *Industrial Energy Efficiency Incentives Program*. These two programs have provided energy efficiency incentives to small and medium –sized core nonresidential customers focusing on high efficiency gas cooking and laundry equipment and process related efficiency improvements.

The NRFIP program focuses on small to medium nonresidential (commercial and industrial) gas customers. The program includes technical support, education, training, outreach, contractor referral, bulk procurement, prescriptive rebates and incentives. It is broken out into three program elements:

- Purchase-Apply-Receive Rebate (PARR) provides prescriptive measures for foodservice type equipment.

- Nonresidential Equipment Replacement (NRER) provides incentives limited to "kind-for-kind" replacement of old, inefficient commercial or industrial end-use gas-fired technology with higher efficiency alternatives.
- Nonresidential Energy Conservation (NREC) provides financial incentives to implement comprehensive energy saving commercial building envelope or industrial process changes on a unique, site specific, "case-by-case" basis.

2002 Results & Achievements

During the first two quarters of the year, the bridge and subsequent interim funding was used to pay labor costs and to direct customer outreach by program staff. Historically program activity in the first half of the year has lagged due to the long process times necessary to develop the larger scale energy efficiency efforts.

The local nonresidential Financial Incentive program received provisional approval from the CPUC on 7/25/02. Final CPUC approval of the NRFIP Program Implementation Plan for PY02 was approved on 10/15/02.

The local NRFIP was fully subscribed in November 2002. The preliminary year-end program results indicate this program was an overwhelming success. The program exceeded the net therm savings goal and most of the program measures exceeded their therm savings goals.

SoCalGas relied on the SoCalGas Account Executives to promote this program to nonresidential customers. Other promotional and delivery vehicles included participation in trade shows, seminars, community based organization (CBO) outreach and program information on the SoCalGas website.

TABLE 3.1
SUMMARY OF COSTS:
NONRESIDENTIAL PROGRAM AREA

Natural Gas

	2002		2003
	Budgeted	Recorded	Budgeted*
Information	$72,921	$68,950	$150,000
EMS			
Large	$0	$0	$0
Small/Medium	$2,766,385	$2,615,767	$2,717,000
EEI: Custom Rebates			
Large	$0	$0	$0
Small/Medium	$0	$0	$0
EEI: Pres Rebates			
Large	$0	$0	$0
Small/Medium	$4,438,887	$4,197,208	$3,876,000
EEI: SPCs			
Large	$0	$0	$0
Small/Medium	$0	$0	$0
Upstream Programs			
Financial	$590,807	$558,640	
Total	$7,869,000	$7,440,565	$6,743,000

Note:
* The 2003 Budget is as filed on November 4, 2002.

TABLE 3.2
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS:
NONRESIDENTIAL PROGRAM AREA

Annual and Lifecycle Energy Reductions, Electric, MWH

	2002 Annual (Recorded)	2002 Life Cycle (Recorded)
Information	N/A	N/A
EMS		
Large	N/A	N/A
Small/Medium	N/A	N/A
EEI: Customized Rebates		
Large	N/A	N/A
Small/Medium	N/A	N/A
EEI: Prescriptive Rebates		
Large	N/A	N/A
Small/Medium	5	49
EEI: SPCs		
Large	N/A	N/A
Small/Medium	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A
Total	5	49

Demand Reductions, Electric, MW

	2002 Annual (Recorded)
Information	N/A
EMS	
Large	N/A
Small/Medium	N/A
EEI: Customized Rebates	
Large	N/A
Small/Medium	N/A
EEI: Prescriptive Rebates	
Large	N/A
Small/Medium	N/A
EEI: SPCs	
Large	N/A
Small/Medium	N/A
Upstream Programs	
Information	N/A
Financial Assistance	N/A
Total	N/A

Annual and Lifecycle Energy Reductions, Natural Gas, Therms, 000's

	2002 Annual (Recorded)	2002 Life Cycle (Recorded)
Information	N/A	N/A
EMS		
Large	N/A	N/A
Small/Medium	N/A	N/A
EEI: Customized Rebates		
Large	N/A	N/A
Small/Medium	N/A	N/A
EEI: Prescriptive Rebates		
Large	N/A	N/A
Small/Medium	4,906	87,355
EEI: SPCs		
Large	N/A	N/A
Small/Medium	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A
Total	4,906	87,355

TABLE 3.3
SUMMARY OF COST-EFFECTIVENESS:
NONRESIDENTIAL PROGRAM AREA

Benefit-Cost Ratios

	2002 (Recorded)	
	Utility Cost Test	Total Resource Cost Test
Information	N/A	N/A
EMS		
Large	N/A	N/A
Small/Medium	N/A	N/A
EEI: Customized Rebates		
Large	N/A	N/A
Small/Medium	N/A	N/A
EEI: Prescriptive Rebates		
Large	N/A	N/A
Small/Medium	5.95	2.92
EEI: SPCs		
Large	N/A	N/A
Small/Medium	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A

TABLE 3.4
SUMMARY OF COST-EFFECTIVENESS:
NONRESIDENTIAL PROGRAM AREA

Net Benefits, $MILL

	2002 Recorded
Information	N/A
EMS	
Large	N/A
Small/Medium	N/A
EEI: Customized Rebates	
Large	N/A
Small/Medium	N/A
EEI: Prescriptive Rebates	
Large	N/A
Small/Medium	$16.42
EEI: SPCs	
Large	N/A
Small/Medium	N/A
Upstream Programs	
Information	N/A
Financial Assistance	N/A
Total	$16.42

New Construction Programs

Residential

California Energy Star New Homes Program

Program Description

During the first quarter of 2002, SoCalGas continued to offer its PY2001 New Energy Advantage Home program to the residential new construction market. This program focused on promoting the installation of high performance duct systems in new single family homes. It involved direct incentives to builders whose duct systems could meet pre-specified leakage standards and training for HVAC installers/builders on high efficiency duct design and installation procedures. With the issuance of D.02-03-056 approving 2002 programs, SoCalGas replaced this program with the California Energy Star New Homes Program.

The California Energy Star New Homes Program (CESNHP) is designed to encourage single family and multi-family (including rental apartments, condominiums, town homes; as well as high-rise residential buildings on a pilot basis) builders to construct homes that exceed compliance with the California Energy Code through a combination of financial incentives, design assistance, and education. These performance-based programs are designed to encourage homebuilders to construct single family and multi-family dwellings that are 15% and 20% more efficient than required by the Energy Efficiency Standards as revised by State Assembly Bill (AB) 970 and effective June 1, 2001. The 15% level has been designated by the EPA as the new Energy Star® Homes baseline for California, subsequent to the revisions of the Standards. As a result, buyers of single family homes, and renters of multi-family dwellings have energy-efficient, money-saving, comfort and quality alternatives when compared to minimally compliant housing.

2002 Results & Achievements

During the first quarter of 2002, available funding was used to pay ongoing program costs. Incentive payments were halted at the beginning of the first quarter and no customer incentives were paid during the quarter. However, builder training classes on High Performance Ducts and ACCA Manual J and Manual D continued to be held during the first quarter.

CESNHP was launched in April 2002 and formally introduced to the building industry at the Pacific Coast Builders Conference in June. Throughout the year, CESNHP program staff participated in state, regional and local business industry associations' meetings, conferences and trade shows, promoting the program and related training opportunities and answering questions. An electronic mailbox was created to support CESNHP, allowing interested parties to request CESNHP applications, ask questions about CESNHP and residential new construction, and allow program participants to submit their compliance documents electronically. Program and training information is available not only at SoCalGas' website but also at the websites of the Institute of Heating and Air-conditioning Industries, California Energy Commission and California Building Energy Consultants. Fifty-one training classes were held throughout the year.

CESNHP's hard-to-reach target was to spend 20% of the direct implementation funds in hard-to-reach markets. 100% of the multi-family dwelling units enrolled in the program meet one or

more of the Commission's hard-to-reach criteria and 61% of total direct implementation funds were committed to hard-to-reach markets..

The statewide CESNHP was awarded the Energy Star Partner of the Year Award. This prestigious award was given to the IOUs for CESNHP's outstanding program design.

Nonresidential

Savings By Design

Program Description

During the first quarter of 2002, SoCalGas' continued to offer its PY2001 Statewide Savings By Design program. With the issuance of D.02-03-056, SoCalGas began implementing the PY2002 Savings By Design program.

The Savings By Design (SBD) program influences nonresidential building owners, tenants, and design teams to exceed current Title 24 standards (or industry standards for processes) by 10 percent or more for their new construction or renovation/remodel projects. SBD provides energy design education, design assistance, and cash incentives for all project types and sizes that meet the program's eligibility criteria. SBD also leverages resources from industry relationships, strategic alliances, and other public purpose programs to accomplish the goals of energy savings, peak demand reduction, and long-term market change.

The program has three elements: the Whole-Building Approach, the Systems Approach, and education and outreach. The core strategy centers on an integrated design approach to optimize energy efficiency, known as the Whole-Building Approach. To include participants who would not normally consider a fully integrated design approach, the Systems Approach provides a simplified, performance-based method, which moves owners and design teams far beyond prescriptive approaches. Finally, program education and outreach strategies, focused on the successful Energy Design Resources (EDR) model, address market barriers by providing owners and designers with the information, education, and tools to help them make the best possible energy efficiency choices. All three elements support the California Energy Commission's goals for market transition to the 2005 Title 24 code revision cycle.

2002 Results & Achievements

During the first quarter, SBD continued to operate under PY2001 program rules inclusive of Title 24 changes mandated under AB 970 and taking into account mandated year-end HVAC efficiency increase. Activities were limited to preliminary outreach efforts and ongoing project monitoring. Available first quarter funding did not allow for any customer incentives to be paid.

PY2002 SBD was rolled out to the public and available on April 1, 2002. The statewide SBD team continued its sponsorship of the AIACC's Savings By Design Energy Efficiency integration Awards. The statewide SBD website (www.savingsbydesign.com) provides comprehensive program information, utility contacts and a downloadable Participant Handbook outlining program policies and procedures as well as application guidelines while SoCalGas' website directs customers to program contacts and provides external links to the statewide website. The EDR website (www.energydesignresources.com) maintains a comprehensive library of

information and resources. The statewide SBD website recorded 15,841 visits during 2002 and the EDR website recorded 41,498 visits during the year.

Workshops, seminars and training supporting SBD and EDR are reported under the Statewide Education and Training; however, 464 individuals were trained in classroom, presentation, lecture and seminar formats. A total of 34 trainees completed the EDR online training courses between April and December. Seven project-specific design assistance and training sessions were provided on green building economics, commissioning high performance buildings, energy efficient measures and the LEED green building rating system developed by the US Green Building Council.

SoCalGas continued its support for the Collaborative for High Performance Schools (CHPS) in conjunction with all partner state agencies. With the Division of State Architect, two CHPS workshops were held in Los Angeles and Orange Counties with a third workshop planned for the first quarter of 2003 in Riverside County. As a result of the passage of numerous school construction bonds on the November 2002 ballot, planning was begun for new construction programs to be undertaken by local school districts. SoCalGas also continued its support of the Los Angeles Community College District, providing support for energy efficient and sustainable design and construction of various projects at its 9 campuses. SoCalGas continued its active participation in the Los Angeles chapter of the US Green Building Council, promoting sustainable design and construction practices to local building owners, designers and developers.

SBD targets geographically hard-to-reach customers and sought to increase the percentage of participating projects from geographically hard-to-reach customers by 25% over PY2001 results. SoCalGas had no contracts signed by hard-to-reach customers outside the City of Los Angeles in 2001. SoCalGas' 2002 goal was to have one project outside of the Los Angeles Basin. In 2002, SoCalGas signed one project in a geographically hard-to-reach area.

Statewide, the program still faces challenges in that new nonresidential building construction projects require multi-year designing and planning. Customers require assurances that program incentives will be available to them when proper documentation is available for program review and commitment of incentive funding. Despite active marketing of the SoCalGas program, several contributing factors led to the program being underspent by the end of 2002: 1) three-month program hiatus contributed to reduced momentum and program participation, 2) the limited market for eligible customers (municipal customers only), and 3) many potential customers were unable to take advantage of SBD because of non-program related factors. By year-end, program momentum was returning to earlier levels and projects were committed after the passage of several bond measures in the November 2002 elections. SoCalGas requested and received Commission approval to shift $700,000 of unspent funds into another nonresidential program, Express Efficiency that experienced greater than expected program participation and needed additional funding.

TABLE 4.1
SUMMARY OF COSTS:
NEW CONSTRUCTION PROGRAM AREA

Natural Gas

	2002		2003
	Budgeted	Recorded	Budgeted*
Residential	$2,241,322	$2,141,890	$1,680,000
Nonresidential	$1,055,678	$1,008,845	$2,234,000
Other	$0	$0	$0
Total	$3,297,000	$3,150,734	$3,914,000

Note:
* The 2003 Budget is as filed on November 4, 2002.

TABLE 4.2
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS:
NEW CONSTRUCTION PROGRAM AREA

Annual and Lifecycle Energy Reductions, Electric, MWH

	2002 (Recorded)	2002 Life Cycle (Recorded)
Residential	814	13,063
Nonresidential	2,560	38,399
Total	3,374	51,462

Demand Reductions, Electric, MW

	2002 (Recorded)
Residential	9.35
Nonresidential	0.44
Total	9.79

Annual and Lifecycle Energy Reductions, Natural Gas, Therms, 000's

	2002 (Recorded)	2002 Life Cycle (Recorded)
Residential	78	1,168
Nonresidential	4	53
Total	82	1,221

TABLE 4.3
SUMMARY OF COST-EFFECTIVENESS:
NEW CONSTRUCTION PROGRAM AREA

Benefit-Cost Ratios

	2002 (Recorded)	
	Utility Cost Test	Total Resource Cost Test
Residential	0.45	0.89
Nonresidential	1.79	1.13

TABLE 4.4
SUMMARY OF COST-EFFECTIVENESS:
NEW CONSTRUCTION PROGRAM AREA

Net Benefits, $MILL

	2002 Recorded
Residential	($0.12)
Nonresidential	$0.20
Total	$0.08

Crosscutting Programs

Information

Energy Efficiency Education and Training Program

Program Description

During the first quarter of 2002, SoCalGas continued to offer its PY2001 Energy Resource Center (ERC) programs as a platform for influencing the way the utility's 4+ million residential and 215,000 core nonresidential customers use both gas and electricity. The ERC facility houses a significant portion of SoCalGas' energy efficiency staff and provides the space required to demonstrate the benefits of high efficiency technologies to customers. It also serves as a focal point for company education efforts targeted at both residential and nonresidential customer groups. The Food Service Center resides within the ERC. Pacific Gas & Electric (PG&E), Southern California Edison (SCE) and SoCalGas jointly developed plans to increase cooperation among the utility energy centers. Three areas were identified for collaboration to build a statewide program: seminar and program coordination, a web-based energy efficiency library, and a partnership program with independent third parties and/or state agencies. With the issuance of D.02-03-056 approving 2002 programs, SoCalGas began implementation of its Energy Efficiency Education and Training program.

The statewide Education and Training program is offered in the service territories of PG&E, SCE, San Diego Gas & Electric (SDG&E), and SoCalGas. Overall, the program promotes energy efficiency to a variety of customer segments through energy centers (physical and virtual) and other informational programs.

The educational and information efforts of the energy centers and informational programs cover a broad spectrum of market actors including consumers, midstream actors such as design, engineering and contracting communities, and upstream market actors. The motivations to make use of energy center services and informational programs encompass: 1) reducing operational costs, 2) increasing productivity and profitability, and 3) designing more efficient new buildings.

2002 Results & Achievements

During the first quarter of 2002, SoCalGas used available funding to pay ongoing program costs, including seminar expenses. While first quarter efforts were reduced relative to previous years due to severe energy efficiency budget cutbacks, 37 seminars were hosted by the ERC during the quarter. A statewide energy center website (www.energyefficiencycenter.com) was designed and made available to the public in April 2000, and included an updated listing of energy efficiency seminars available statewide through the IOUs.

SoCalGas planned to deliver 137 seminars/workshops during 2002. 145 seminars/workshops were conducted during 2002. Several of these seminars/workshops were joint curricula offered by all of the IOUs.

SoCalGas planned to target 40 energy efficiency events to hard-to-reach customers during the year. 67 events were provided for the hard-to-reach markets.

Emerging Technologies Program

Program Description

During the first quarter of 2002, SoCalGas continued to offer its residential Emerging (Select) Technologies program and its cross-cutting Emerging Technologies program. The Select Technologies program element focused on emerging high efficiency gas-fired residential technologies with efforts centering on home appliances such as higher efficiency water heaters, new gas ranges with smooth glass tops, hearth products and novel combo heating systems, among other products. The cross-cutting Emerging Technologies program allocated funding across a number of programs and program elements (Residential Heating and Cooling, Residential Appliances, Small Nonresidential Comprehensive Retrofit, Nonresidential HVAC Turnover, and Nonresidential Process Overhaul). Spending is determined by the availability of promising opportunities for Emerging (Select) Technologies funding. Technologies that have passed through the research and development states are considered for commercialization support as part of SoCalGas' emerging technologies efforts. With the issuance of D.02-03-056, SoCalGas began the implementation of the PY2002 Statewide Emerging Technologies program. The terminology used for this effort for the remainder of PY2002 and beyond is 'Emerging Technologies.'

The statewide Emerging Technologies (ET) program is an information-only program that seeks to accelerate the introduction of energy efficient technologies, applications, and analytical tools that are not widely adopted in California. The program at SCG consists of Demonstration & Information Transfer activities connected with specific (selected) technology areas and the Emerging Technologies Coordinating Council (ETCC). The Demonstration & Information Transfer portion of the program focuses on near-commercial applications with significant market opportunities, and commercial energy efficient applications with low market penetration. The ETCC is a statewide information exchange and coordination effort among Pacific Gas & Electric (PG&E), Southern California Edison (SCE), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), and the California Energy Commission's (CEC) Public Interest Energy Research (PIER) program.

2002 Results & Achievements

During the first quarter of 2002, available funding was used to pay ongoing program costs, including monitoring of ongoing demonstration projects. No customer incentives were paid during the first quarter.

During the remainder of the year, the ETCC met several times to discuss program plans, status of projects, and development of an emerging technologies database. The ETCC continues to collaborate with various CEC PIER teams on many PIER contracts. Of particular focus are the projects and research aimed at building energy management system improvements and diagnostics of equipment failure or performance degradation. We are looking forward to supporting 'continuous commissioning' activities with these emerging processes and technologies. Another emphasis is on the communication of information connected with commercial kitchen ventilation and make-up air supply. The utility members of ETCC maintain the examination of candidate 'products' and deliverables from PIER projects a very high priority.

SoCalGas is deploying demonstrations, and analyzing and evaluating new technology-applications such as novel heat recovery options integrated with new distributed energy resources, infrared burner technology for a variety of core industrial applications, emerging gas cooling technologies, new low NOx burners for boiler and process heaters, and new highly efficient, lean burn, clean engine technologies. Assessment of distributed energy technologies is continuing. Combined heat & power (CHP) systems including small engines and turbines are available to include in new showcase projects, and we continue to track the emergence of solar technologies and fuel cell options as well.

SoCalGas is also working with Occidental College, the South Coast Air Quality Management District, Los Angeles Department of Water and Power and Southern California Edison to determine the energy impacts of replacing conventional perchloro-ethylene (PERC) dry cleaning process with a professional wet cleaning process. This has become more critical with the SCAQMD Board approval of Rule 1421 in Dec. 2002, which will phase out the use of PERC over the next two decades.

The ET program does not have specific goals for the hard-to-reach market but does seek collaborative opportunities to host appropriate demonstration projects at hard-to-reach customer sites. One such example is the Professional Wet Cleaning project, which typically involves small business owners.

Codes & Standards Advocacy Program

Program Description

During the first quarter of 2002, the statewide PY2001 Codes & Standards Program (New Construction Codes and Standards Support) continued its ongoing efforts to bring together the utility administrators, CEC, and other interested parties in discussions to bring about upgrades in standards and codes, thereby capturing the benefits for society from California's diverse energy efficiency market transformation efforts. Also, Codes and Standards Enhancement (C.A.S.E.) initiative work continued to develop promising design practices and technologies for presentation to standards and code-setting bodies in a coordinated manner. This PY2001 program became the PY2002 statewide Codes and Standards Advocacy program under D.02-03-056.

The PY2002 statewide Codes and Standards (C&S) Advocacy program promoted upgrades and enhancements in energy efficiency standards and codes. Codes and Standards Enhancement (CASE) studies are performed for promising design practices and technologies. The study results are presented to standards and code-setting bodies to encourage adoption of energy efficiency measures.

2002 Results & Achievements

Throughout 2002, SoCalGas participated in numerous standards rulemakings, public workshops and meetings on CEC's 2005 Building Energy Efficiency Standards, CEC's Existing Building Energy Efficiency Opportunity Study (AB 549) report, Time Dependent Valuation Life Cycle Costing, Tight Ducts and Outdoor Lighting Standards. SoCalGas continued work on and presented the Gas Cooling Compliance Options for Residential and Non-Residential Buildings CASE initiative and resubmitted the Environmental Impact Study on this initiative.

Local Diverse Market Outreach Program (DMOP)

Program Description

The Diverse Market Outreach Program is a crosscutting marketing and outreach information program. DMOP subsumed the 2001 Energy Facts and Energy Guide Programs and expanded the efforts of these programs by developing a multi lingual and multi cultural outreach campaign that provided residential and business customers with valuable information regarding the breadth of resources available that can be accessed to improve the energy efficiency of their homes and businesses. The program promotes the full range of SoCalGas energy efficiency programs as well as other investor owned utilities and municipal utility programs, third party energy efficiency programs and energy efficiency financing and funding resources. This program also supports the SoCalGas residential Call Center staff and nonresidential Help Desk staff by providing information they can relay to customers seeking energy efficiency advice. Information can be provided to customers in a variety of languages, including Spanish, Chinese, Mandarin, Vietnamese and Korean.

2002 Results and Achievements

The DMOP program successfully leveraged the existing infrastructure of SoCalGas and developed and mobilized additional energy efficiency marketing and outreach strategies especially targeted to the hard-to-reach customer. The multi lingual Call Center and Help Desk staff was augmented and trained to respond to the non-English speaking customers in SoCalGas' service territory. A multi-lingual radio, printing, advertising and media relations campaign was launched. Collateral material was developed and, when appropriate, existing outreach materials was translated directly into Spanish, Chinese, Mandarin, Vietnamese and Korean, however; a unique set of advertising pieces were developed specifically targeting the Asian audience. Information packets were prepared and distributed reaching over 40,000 commercial customers and 200,000 residential customers.

The DMOP program was also very effective and successful in bringing its message directly to the customer.

- The *Mobile Energy Workshop* provided convenience to the business customer reaching more than 900 consumers.
- SoCalGas also sponsored and staffed booths at a 38 community events. The bi-lingual booth staffers distributed in-language and English program materials and answered questions about energy efficiency programs.
- Multi lingual presentations were given at 36 small community groups and were especially effective in communicating the energy efficiency messages to this active and concerned constituency.

TABLE 5.1
SUMMARY OF COSTS:
CROSSCUTTING PROGRAM AREA

Natural Gas

	2002		2003
	Budgeted	Recorded	Budgeted*
Information	$4,682,000	$4,421,932	$4,060,000
EMS	$0	$0	$0
EEI			
SPCs	$0	$0	$0
Rebates	$0	$0	$0
Loans	$0	$0	$0
Other	$0	$0	$0
Upstream			
Information	$0	$0	$0
Financial Assistance	$0	$0	$0
Total	$4,682,000	$4,421,932	$4,060,000

Note:
* The 2003 Budget is as filed on November 4, 2002.

TABLE 5.2
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS:
CROSSCUTTING PROGRAM AREA

Annual and Lifecycle Energy Reductions, Electric, MWH

	2002 Annual (Recorded)	2002 Life Cycle (Recorded)
Information	N/A	N/A
EMS	N/A	N/A
EEI		
SPCs	N/A	N/A
Rebates	N/A	N/A
Loans	N/A	N/A
Other	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A
Total	N/A	N/A

Demand Reductions, Electric, MW

	2002 Annual (Recorded)
Information	N/A
EMS	N/A
EEI	
SPCs	N/A
Rebates	N/A
Loans	N/A
Other	N/A
Upstream Programs	
Information	N/A
Financial Assistance	N/A
Total	N/A

Annual and Lifecycle Energy Reductions, Natural Gas, Therms, 000's

	2002 Annual (Recorded)	2002 Life Cycle (Recorded)
Information	N/A	N/A
EMS	N/A	N/A
EEI		
SPCs	N/A	N/A
Rebates	N/A	N/A
Loans	N/A	N/A
Other	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A
Total	N/A	N/A

TABLE 5.3
SUMMARY OF COST-EFFECTIVENESS:
CROSSCUTTING PROGRAM AREA

	Benefit-Cost Ratios	
	2002 (Recorded)	
	Utility Cost Test	Total Resource Cost Test
Information	N/A	N/A
EMS		
EEI	N/A	N/A
SPCs	N/A	N/A
Rebates		
Loans	N/A	N/A
Other	N/A	N/A
Upstream Programs		
Information	N/A	N/A
Financial Assistance	N/A	N/A

TABLE 5.4
SUMMARY OF COST-EFFECTIVENESS:
CROSSCUTTING PROGRAM AREA

Net Benefits, $MILL

	2002 Recorded
Information	N/A
EMS	
EEI	N/A
SPCs	N/A
Rebates	
Loans	N/A
Other	N/A
Upstream Programs	
Information	N/A
Financial Assistance	N/A
Total	N/A

Market Assessment & Evaluation and Regulatory Oversight

The primary purposes and contents of the Market Assessment &Evaluation (MA&E) section are to: (1) record costs (previous calendar year and current calendar year) associated with MA&E activities; and, (2) highlight the status of various market assessment and evaluation studies. These studies are used to demonstrate performance per an adopted shareholder performance incentive, to measure the status and or changes in the energy efficiency industry and/or energy efficiency products, and to measure other effects of identified programs.

California Energy Commission Measurement, Assessment and Evaluation (MA&E) Activities[1]

2002 Results and Achievements

The California Energy Commission (CEC) continues to manage one statewide study area, Nonresidential Market Share Tracking. The CEC is also conducting data collection activities in the form of commercial and residential customer characteristics surveys. In addition, CEC staff will continue to support to MA&E planning and coordination by providing technical expertise on buildings codes and standards, and through dissemination of studies. CEC staff maintains both physical and on-line libraries of statewide MA&E studies under the guidance of the California Measurement Advisory Council's (CALMAC) Website Committee. The Committee also devoted significant time to making improvements in the site content, organization, and database search functionality in 2002. All reports published since 1996 are now available online for direct download.

Statewide Studies

Nonresidential Remodeling and Renovation

The nonresidential remodeling and renovation study was completed in 2002. This study characterized the decision-making process for purchase of energy using equipment during remodeling or renovating events, and described the level and types of such activity by market segment. The study identified target strategies to facilitate energy efficient investment during remodeling and renovation and market segments with high potential for energy savings. Data were obtained from focus groups, secondary data, building permits, Title 24 documentation, telephone surveys and on-site visits to remodeling and renovation projects completed in 2000.

The differences in the way market actors view the remodeling and renovation market are captured in the first of three reports produced in this study (qualitative, quantitative and summary). Architects and engineers, for example, see little difference in their remodeling and renovation work from that in new construction. Commercial real estate firms and developers, however, specialize in either remodeling/renovation or new construction. Five unique remodeling/renovation investment options are described in this report along with suggestions for program strategies tuned to the different options. The quantitative analysis report revealed

[1] The following write-up on the CEC Data Collection and Analysis was provided by the CEC.

several interesting findings about the market. First, remodeling and renovating activity are governed by factors that are different from those governing the new construction market. Remodeling and renovation have significant effects in reducing electricity use. Office buildings account for most of the remodeling and renovating activity. Retail buildings are also likely candidates, but show noticeably less activity than office buildings. A number of other "micro-level" decision-making findings are also reported. A workshop in March 2002 gave participants a chance to hear a presentation and discuss findings both in person and via dial-in telephone conferencing services. Twenty-eight people from five different states signed up for the conference call.

Nonresidential Market Share Tracking Study

This study, begun in July 2000, is identifying and collecting data on key nonresidential energy efficiency measures. It is processing the data into a confidential database, and aggregating meaningful results into a publicly accessible database.

The Contractor conducted 48 open-ended interviews with suppliers of industrial energy-related technologies. It used results to help in the design of an onsite survey of industrial sites in California to collect information on

- companies' purchases and efficiency choices for motors, compressed air systems, gas process heating, and pumping, including quantities and prices and market pathways
- practices like maintenance, lubrication, self-generation, water reuse, and power generation
- decision factors in choice of efficiency, shares of items purchased through different types of suppliers, how technologies are used

The first year of industrial surveying is complete; raw data from 236 surveys have been delivered. The second, final year of surveying is in progress.

A telephone survey will gather similar information from suppliers to California of industrial and commercial lighting, chillers, and windows. The survey has been developed and is in pre-test phase.

Secondary sources are being used to inform the database, including CADMAC and CALMAC studies, the DEER study, and a UC study on food processing technologies.

CEC Data Collection Activities

The focus of this area is the collection and analysis of basic data about customer characteristics, energy use, and energy-using technologies that provide the foundation for energy efficiency program planning and evaluation, energy demand analysis, and market monitoring. In the past, customer characteristics data were provided to the CEC by the state's utilities through general rate case authorizations. However, with the passage of California State Assembly Bill 1890, these data collection efforts were no longer funded, although utilities are still required to provide the data under the California Code of Regulations, Title 20. In Resolution E-3592, the CPUC, acknowledging the value of Title 20 survey research to cost-effective energy efficiency and conservation activities (Ordering Paragraph 82), authorized the utilities to transfer a total of $2.1 million for two years (1999 and 2000) to the CEC for Title 20 data collection activities. In

November 2000, a request for an additional $2.1 million for 2001 was made in the utilities' study plans. No additional funds were requested in 2002 or 2003.

Commercial End Use Survey (CEUS)

The California Commercial End Use Survey began in March 2001 and is expected to be completed by early 2004. This project will collect building characteristic information from approximately 2800 sites statewide for use in commercial sector market characterization and for developing estimates of energy usage by end-use, end-use saturations, and end-use load shapes. The CEC will also develop site-specific engineering models calibrated to actual historical consumption and then weather normalize the results. The individual site models will be organized into an energy simulation management system that can perform a variety of modeling scenarios based on user-defined characteristics.

Most of 2001 was spent negotiating the data requirements of the project with utilities and developing the project work plan. Throughout 2002, data collection protocols and energy simulation modeling protocols were developed and field testing of the on-site survey instrument using the protocols was completed. The sample design and procedures to recruit survey participants were established. Extensive software development took place during 2002 to create the data entry and quality control software, survey database structure and the energy simulation and model calibration systems. Both historical and normalized weather data sets were developed for 20 separate locations across California. By the end of 2002, enough progress had been made to start full-scale data collection activities in the field.

Residential Appliance Saturation Survey (RASS)

The RASS will gather basic information on building characteristic, appliance holdings, demographic data, awareness of energy efficiency measures and programs, and load shifting opportunities and behavior. The project will produce appliance saturations, end-use intensities, and both confidential and public data sets and reports on project results. Conflicts between the CPUC and the CEC, contract review by Department of General Services, and negotiations with utilities concerning data transfers consumed much of 2002. But a research plan was developed in late 2002, which allowed us to begin survey questionnaire design early in 2003.

Improvements to the Database of Energy Efficient Resources (DEER)

The DEER contains data on costs and energy impacts for commercially available efficiency measures and is used by utilities and the CEC for cost-effectiveness evaluation.

The work in 2002 was to have focused on the development of incremental measure cost data for measures currently not included in the DEER. Because SPC incentives are paid per kilowatt-hour saved, rather than per measure installed, new methodologies for applying measure cost data to the SPC program must be developed. We also anticipated the need to incorporate updated load shapes and load impacts at the end use level to assist program managers in estimating the cost effectiveness of new programs, load control technologies, or energy management systems.

Delay in the adoption of the PY 2001 MA&E plans delayed this project until in spring 2002. Contract documents had been prepared to continue with the firm who had done the previous updates, but unfortunately, in spring 2002 the State suspended all sole-source contracting

options. The encumbrance deadline did not permit opening a bid process, so the $400,000 funding was allowed to revert.

2003 MA&E Plans

CEC Data Collection Activities

Commercial End-Use Survey (CEUS

Full-scale fieldwork began in early 2003 and, as of the end of March, approximately 600 sites have been completed. Full-scale simulation modeling started during April. There is a small end-use monitoring element to the project that will be implemented during 2003 to help calibrate lighting consumption and HVAC system operation. The final piece of the simulation modeling system (the results display component) will be added in 2003. By the end of 2003, the bulk of on-site data collection and simulation model construction will be finished.

Residential Appliance Saturation Survey (RASS)

In April of 2003, the first of two batches of 50,000 mail surveys will be sent to prospective participants. Whole house and A/C metering will be installed this summer. Data collection and analysis should be completed in the calendar year 2003, and the results of the survey will be available early in 2004.

Statewide Studies

Nonresidential Market Share Tracking Study

The second year of industrial surveys is in process. About 140 out of 324 onsite surveys have been conducted.

The telephone survey of lighting, chiller, and window suppliers is still in pre-test phase. By year's end, 104 surveys will have been conducted.

Secondary source research continues, with the Nonresidential New Construction Study results being extracted into the database. (This is a statewide study contracted through SCE.)

CEC MA&E Expenditures and Budgets

Table 1: CEC MA&E Expenditures and Budgets

	PY 2002 Authorized	PY 2002 Actual and Committed	2003 Planned Budget
CEC Data Collection and Analysis			
Commercial End Use Survey (CEUS)		*$ 0*	*$ 0*
Residential Appliance Saturation Survey (RASS)		*$ 0*	*$ 0*
Database of Energy Efficient Resources (DEER)		*$ 0*	*$ 0*
Total		*$ 0*	*$ 0*
CEC-Managed Statewide Studies	*$ 0*		
Nonresidential Market Share Tracking		*$ 0*	
Nonresidential Remodeling & Renovation		*$ 0*	
Total		*$ 0*	*$0*
TOTAL AUTHORIZED	**$ 0**		
TOTAL ACTUAL AND COMMITTED		***$ 0***	

Table 2: Funding Contribution to CEC 2003 Data Collection and Analysis Budget by Utility

	Contribution	Percent
(1) PG&E	*$ 0*	*0*
(2) SCE	*$ 0*	*0*
(3) SDG&E	*$ 0*	*0*
(4) SoCalGas	*$ 0*	*0*
Total	***$ 0***	***0***

CPUC Required and Utility Statewide Studies

SoCalGas along with the other California IOUs are project managing various statewide Market Assessment and Evaluation studies. These studies can be broken down into 2 subcategories, CPUC Required Studies and Utility Statewide Studies.

CPUC Required Statewide Studies

Master Contract for 2002 Study Coordination

The California Public Utilities Commission (CPUC) awarded funding for 15 statewide programs run by the four major investor-owned utilities and about 70 "local" programs, of which over 50 are to be run by non-utility third parties. All are required to carry out evaluation, measurement and verification (EM&V) projects using independent consultants. The Commission ordered the utilities to hire a team of EM&V experts to develop a plan to coordinate all the EM&V work and to consolidate similar activities.

A team of EM&V experts representing more than a single organization will:

- Review the EM&V Plans submitted by all program implementers and their independent third party evaluators;
- Make recommendations to the implementers and their evaluators for improvements to their plans and ways to coordinate and/or consolidate some of their activities with those of other evaluation projects;
- Develop a comprehensive approach for coordinating and consolidating all EM&V activities for 2002 programs, including a process for reviewing completed EM&V reports, and submit to the CPUC;
- Summarize the quarterly reports on EM&V provided by all program implementers;
- Prepare an overall summary and assessment of the studies after their completion.

Next Generation Framework For Program Evaluation

The California Public Utilities Commission (CPUC) wishes to update the framework for assessing energy efficiency programs to meet the new realities of the California energy market. Accordingly, the Commission has mandated the utilities to "hire a team of EM&V experts to coordinate with all utilities and third parties on a statewide basis to . . .help develop the next generation framework for evaluation of program activities."

This development needs to occur at two levels:

- A new framework for valuing energy efficiency program results in the overall resource planning process; and
- New guidelines for impact and process evaluation of individual programs and analysis of the markets in which they operate.

Current program measurement and evaluation approaches focus almost exclusively on point estimates of effects. This choice reflects both past resource planning methodologies and the

nature of the standard practice reporting system. The standard practice reporting system is essentially an accounting system that tracks utility-managed and other programs to assess compliance with current standard regulatory requirements. While this is a reasonable approach for reporting activity, it is inconsistent with elements necessary for electrical system planning. Electric (and gas) system planning is the context necessary for inclusion of energy efficiency within the resource mix for California.

Tasks: Review of methodological developments in resource planning and energy efficiency measurement plus California energy market experience; analyze this information; work on an ongoing basis with the utilities, other experts in the field, and other interested parties via CALMAC workshops and other communication methods; develop a new framework at both the resource planning and individual program evaluation level for assessing energy efficiency programs; propose and document the recommended framework(s) in a white paper.

2002 Statewide Energy Savings Potential Study

The studies will be conducted to ensure that policymakers and program planners have up-to-date, state-of-the-art information on the available cost-effective market potential for energy efficient goods and services in California. The results from these studies will facilitate policymakers and program planners in designing the most efficient and effective energy efficiency programs and program portfolios for the state. Specifically, the studies shall: 1) Continue development and updating of market potential studies for gas and electric technologies in the residential and nonresidential retrofit sectors and new construction sectors[2]; and 2) Identify and prioritize needs for additional and/or updated information to ensure that the market potential studies are up-to-date, and develop a system for keeping the information up-to-date on an ongoing basis; 3) Provide an overarching report to ensure that information regarding the available market potential for different sectors is brought together to provide a complete picture of the available market potential in the state; and, 4) Assess the appropriateness of the overall program portfolio offered throughout the state in light of the information gathered in the market potential studies, with particular emphasis on the cost-effectiveness of the portfolio for different sectors and overall. The studies will assist the Commission, other policymakers and program planners to make informed decisions on program planning, design and implementation throughout the state.

Tasks: Collection of secondary data to conduct the market potential studies, analysis of the data to provide market potential results for different sectors, preparation of a summary report, preparation of a plan to keep the information used to develop these reports updated on an ongoing basis, development of additional analyses to ensure that the overall portfolio of programs offered is informed by the market potential studies, and additional assessment of cost-effectiveness issues related to the overall program portfolio and/or its constituent parts.

2002 New Construction Saturation and Potential Study

The study aims to measure the cost-effective energy savings potential for the following new construction markets: 1) Single-Family New Construction, 2) Multi-Family Low Rise New Construction, 3) Multi-Family High Rise New Construction and 4) Commercial New

[2] Please note that the study of market potential in the new construction sector is being proposed under separate cover. The results of this and the other studies will be incorporated in the overarching report that will provide a summary picture of the available market potential throughout the state.

Construction. Although the CPUC is requiring both saturation and potential studies, efforts are underway to determine saturations of energy efficient technologies for these markets. It is important to note that the AB 970 Tile 24 code changes have mandated the adoption of increased energy efficiency construction practices in newly constructed buildings. The saturation studies will be taking into account the impact of AB 970 on construction practices. Specifically, for the Single Family and Multi-Family Low Rise Markets, saturation data will be included in the 2002 Evaluation of the California ENERGY STAR® Homes Program and in the Builder Compliance to Title 24 Study. Additional saturation data for the Multi-Family Low Rise and High Rise markets will be available in the Multi-Family New Construction Study. All of the residential new construction saturation data will be available by fourth quarter 2003. For the Commercial New Construction Market, saturation data will be included in the 2002 evaluation of the Savings by Design (SBD) Program. Due to the lengthy construction lead- time for commercial new construction, the evaluation of the 2002 SBD Program will be available in mid 2004.

To accomplish this effort, the Study will combine simulation modeling with first cost data to determine the most cost-effective measures. Tasks shall include analysis of saturation data in various evaluation reports, obtaining cost data from several sources, developing and implementing simulation models and analyzing results.

2002 Residential Market Share Tracking Study

The study aims to continue to analyze and track the market shares of various types of residential energy efficient equipment within California. The results from the study have and will continue to assist in program development, program redesign, and broader policymaking decisions to assess the effectiveness of specific programs and intervention strategies and to assess the success of the overall energy efficiency initiative process. Specifically, the Study will track the market shares of various types of equipment by analyzing sales data gathered from distributors and retailers.

To accomplish this effort, a system will be created to gather and analyze sales data to develop quarterly market shares. The system will include a database with line item detail including efficiency and/or ENERGY STAR® information to allow for the tracking of efficiency trends over time. The system will therefore also allow the results to be compared to changes in equipment/building standards.

2002 Nationwide Best Practices Study of Energy Efficiency Programs

The study aims to document best practices from a national perspective of energy efficiency programs to support energy efficiency program design in California. The results from the study will provide the input for a Best Practices database for a website that can be used by PGC applicants to assist them in designing the most efficient and effective energy efficiency programs for the state. The Study will provide practitioners, who are looking for new approaches, key program features that characterize the best program practices. Specifically, the Study shall: 1) Compare programs and components of programs across sectors and 2) Profile the program's best practices from the point of view of program design, administration, and implementation. By addressing these two efforts, the study will assist the Commission and practitioners to make informed decisions on program planning, design and implementation.

To accomplish this effort, the Study shall consist of process benchmarking and performance benchmarking. Process benchmarking involves seeking the best approach to use for implementing a particular energy efficiency program. It adapts lessons from the best practices of other organizations that were determined to be the best in class. Performance benchmarking involves measuring the performance of one energy efficiency program at the component level against the performance metric of other programs.

2002 Development of Deemed Savings Values Study

The study aims to determine *ex ante* (projected) or deemed savings estimates of energy savings associated with a set of reasonably predictable energy efficiency measures. Currently, the CEC's Database for Energy Efficiency Resources (DEER) is the most comprehensive resource for program planners to use when projecting energy savings associated with particular program activities. This database, though updated periodically, is primarily for use by technical experts. In developing a set of deemed savings values for the state, the Study seeks to simplify the assumptions used to project energy savings into a user-friendly format accessible to a wider audience. The goal of this effort would be to produce an Internet-accessible, searchable tool containing the best available deemed savings values for energy efficiency measures for all regions of the state, grouped by sector, building type, end-use and climate zone where applicable. The deemed savings will be based on rigorous and defensible data while making the tool easy to use without compromising accuracy.

Tasks include a literature review; interviews or surveys; database development; Internet search tool; update methodology; coordination plan.

Utility Statewide Studies

2002 Statewide Residential Retrofit Single-Family Home Energy Efficiency Rebate Program

The Single-Family Home Energy Efficiency Rebate program will be delivered through a prescriptive rebate per unit for qualified energy efficiency measures. This program will also target hard-to-reach (HTR) customers as defined in the Commission's Energy Efficiency Policy Manual. This statewide program is consistent in incentive levels, application procedures and program implementation.

The Study shall address the Statewide Single-Family Home Energy Efficiency Program's strategy to integrate information, education, and incentives for a successful cost-effective energy savings program. Specifically,

- M&E for the single-family program will assess the program's ability to provide helpful information, services, financing and prescriptive rebates to help move the market to install energy efficient measures in addition to verifying long-term peak demand and energy savings goals of the program.
- M&E will verify achieved levels of energy and peak demand savings through a program savings study; M&E will provide ongoing feedback and corrective guidance regarding program implementation through a customer behavior analysis, and measure indicators of the program effectiveness through a process evaluation.

2002 Statewide Retrofit Multifamily Rebate Program

The study for the multifamily rebate program will assess the program's effectiveness in generating market response, encouraging multifamily adoption of comprehensive multi-measure projects, addressing the HTR owner/landlord/tenant barriers, and achieving greater penetration in small building complexes. EM&V will verify achieved levels of energy and peak demand savings through a program savings study; provide ongoing feedback and corrective guidance regarding program implementation through a customer behavior analysis; measure indicators of the program effectiveness through a process evaluation; and, conduct an *ex post* savings analysis.

Tasks include installation verification, customer reaction, evaluation of program efficiency, *ex post* measurement.

2002 Refrigerator Recycling Program Evaluation

The statewide program energy and demand savings will be determined. The approach starts with the actual mix of refrigerators collected in the 2001 program. The program tracking data collected includes the model number for every refrigerator recycled and therefore the age and configuration of each. The energy use for each refrigerator recycled will be calculated by one of two approaches:

1) Use a statistical model developed from metering data on several hundred refrigerators collected in 1996, 1998, and one or two new, 2002 samples of old refrigerators. This model would predict the energy use of every type and age of refrigerator included in the program, based on the actual metered results from a large sample of refrigerators of varying ages and types.
2) Combine the data on the individual appliances recycled in 2002 with detailed deemed savings data. The average annual Unit Energy Consumption for individual models can be obtained from the model number matches to manufacturer data such as the AHAM (Association of Home Appliance Manufacturers) database. Since this database provides the energy usage for each model when it was new, the usage would need to be adjusted by a degradation factor to adjust for the increased usage that typically occurs as refrigerators age and degrade. Lawrence Berkeley National Laboratories has done a study that develops a degradation factor that could be used for this analysis

The net program energy savings will be determined by adjusting *ex post* estimates of full-year energy usage for free ridership and expected hours of usage of the recycled unit. The needed data will be collected by a combination of available information in the tracking database, metering or deemed savings data collection and analysis, and follow-up surveys of a representative sample of program participants in each IOU service territory.

Besides estimating program savings**,** a process evaluation will be conducted to provide feedback to the program implementers on elements of the recycling program that can be improved to enhance the program's performance. Also, a market assessment analysis will analyze the market penetration of the recycling program as part of the energy efficiency-related gains achieved by the program

2002 Nonresidential Standard Performance Contract Program

The Study aims to develop reliable energy savings estimates for the Nonresidential Standard Performance Contract (NSPC) Program and to recommend program modifications, if warranted. The Study will also determine whether changes for the PY2002 program are successfully implemented as designed, and whether they have the desired effects on the operation of and satisfaction with the program. The results from the study will provide the input to program managers to assist them in designing the most efficient and effective energy efficiency programs for the ratepayers.

To accomplish this effort, the Study will consist of an impact evaluation and a process evaluation. The impact evaluation will provide *ex post* measurement of the energy savings for the program. Process evaluation involves interviews with program managers, participants and non-participants to determine their perceptions of the program, barriers to program participation, and recommendations for improvements.

Tasks include On-site data collection for a sample of projects; recalculation of energy savings estimates; use of a statistical ratio technique to apply an appropriate realization rate to to non-sampled projects to develop an overall estimate of energy and peak demand savings for each utility's program; interviews with customers, EESPs, and program managers; synthesis of tracking system data; analysis of interview and program data.

2002 Statewide Assessment of the Express Efficiency Program

The statewide Express Efficiency evaluation study will continue and extend established methods for evaluating program success. The primary measurement of program success will be the *ex post* tabulation of the estimated energy and demand savings for measures installed through the program, versus baseline measures. The Express Efficiency program will also be evaluated on program delivery, benchmarking, cost-effectiveness, and overall success in order to refine and optimize program delivery.

The primary measurement of program success will be verification of measures installation and tabulation of the *ex-ante* energy and demand savings for measures installed through the program, versus baseline measures. Estimates will be based on an onsite verification of a selected sample of installations across all utilities on an ongoing basis to ensure that the rebated measures were installed correctly. An assessment of the verification process will be undertaken at the end of the year to ensure sampling validity. Savings estimates will be reviewed to ensure that they reflect state-of-the-art information available to the energy industry and updated to reflect the best available information, as needed. In particular, savings estimates will be reviewed to ensure that they are consistent with the Deemed Savings Database that will be prepared during 2002. To comply with the objectives of the Commission for ongoing assessment and improvement of programs, the study will also focus on process issues such as statewide integration of the Express Efficiency program at the four investor owned utilities. This process evaluation will involve interviews with program staff, other stakeholders such as policymakers, vendors, *etc.*, surveys and possibly in-depth interviews of Express participants to gain an understanding of how well the statewide integration is working and whether and where improvements might be necessary. Recommendations for improvement will be prepared as a result of this phase of the research and to ensure that any problems identified will be resolved to the extent possible for next year's program and future programs.

2002 Statewide Nonresidential Retrofit Energy Audits Program

The Study will document nonresidential customer participation in the various audit options offered (telephone, online, CD Rom, mail-in, and on-sites) and participant satisfaction with the Nonresidential Retrofit Energy Audits Program. The Study will also provide guidance on whether the Program should be continued in the future and if so, what if any modifications are warranted. The Study shall attempt to quantify potential savings given the participants stated behavior prior to the changes. All these analyses will also be done separately for the HTR customers.

The Study will carry out a baseline market assessment, a process and an impact evaluation. The evaluation approach will entail at least the following activities:

- Telephone surveys and/or interviews to collect data from a sample of participants and Program Managers. Data collected (complemented by Program implementation tracking data) should enable Consultant to assess: audits done by type and customer class (including HTR), percent of customers that respond to audit marketing efforts, participant satisfaction, and process and marketing improvements.
- A baseline survey of nonparticipants to assess Program awareness, reasons for non-participation and energy efficiency practices.
- A survey among a subset of participants to document energy efficiency actions (both with and without incentives) taken by participants and/or their employers as a result of the Program.
- Analyses to attempt to quantify potential savings accruing from participation in the Program.

2002 Statewide Nonresidential Building Operator Certification and Training Program

The Study will document participant satisfaction with the Building Operator Certification and Training Program. The Study will also provide guidance on whether the Program should be continued in the future and if so, what if any modifications are warranted. The study will document any actions participants take as a result of the Program.

To accomplish this effort, the Study will carry out a baseline market assessment, a process and optionally, an impact evaluation. The evaluation approach will entail at least the following activities:

- A review of Program implementation tracking data to assess participant recommendations to process and content improvements.
- A telephone survey that addresses participant satisfaction, participant and non-participant post-Program implementation actions and non-participant awareness and practices (for baseline purposes).

2002 Statewide Emerging Technologies Program

This study aims to evaluate the success of the 2002 Emerging Technologies Program by measuring indicators such as awareness of emergent energy efficient technologies amongst the target audience, and the degree to which behaviors of the target audience have changed regarding the adoption and use or commercialization of energy efficient emergent technologies. An assessment of program performance provides a test of the program's ability to overcome barriers to the implementation and commercialization of energy efficient technologies. The Study will

also provide ongoing feedback and corrective guidance regarding program implementation and delivery. The Study includes both a market assessment and process evaluation component. The study results will provide input to program managers to assist them in designing the most efficient and effective energy efficiency programs for the citizens of the state.

To accomplish this effort, the Study will be comprised of a process evaluation and market assessment component. Process evaluation involves survey interviews with demonstration participants (including those who host showcases in their buildings, participate in or attend demonstration projects, and request technical information about specific demonstrations and targeted technologies) to determine customer perceptions and satisfaction with the program as well as effectiveness of outreach activities. Market assessment determines the factors affecting customer awareness and behavior with respect to targeted technologies and the impact of program activities on awareness and use of specific emerging technologies.

2002 Savings By Design Program Building Efficiency Assessment (BEA) Project

This on-going study quantifies the whole-building and end-use energy savings and efficiencies of both participant and non-participant buildings. The approach to developing these data is similar to that used in preparing the statewide NRNC Baseline Study and the results can be referenced back to that study to assess progress on an annual or more frequent basis. Unlike previous impact evaluation studies, however, this data is developed on an on-going basis sampled quarterly or bi-annually, capturing the data stream as the projects enter the program and are carried through to construction rather than retroactively as was done with impact evaluation studies. The results provide timely feedback to program managers and policymakers and should facilitate incremental improvements to program process and operations. The results will also identify changes in design practices as a result of program operation. This project establishes an early baseline of program participant attitudes and responses to the program, including information on program design, the application process, the design assistance services provided by the programs, the timing of program events relative to project events, etc. This data will then be gathered on a repetitive basis to track changes over time.

On-site surveys of a sample of buildings, both participants and non-participants are conducted and DOE-2 models are built based on the surveys. Energy savings are calculated by end-use and for whole buildings. Quantifiable information is developed on the changes in building efficiency attributable to the SBD program influences. Specific building and equipment characteristics (*e.g.*, types of glazing, types of lamps, ballasts and light fixtures, HVAC system types) are tracked and can be analyzed for trends. This study will also provides a process evaluation to assess the attitudes and responses to the SBD program of the program participants as they go through the program process.

2002 Savings By Design Program Market Characteristics and Program Tracking (MCPAT) Project

This on-going project provides bi-annual reports of statewide NRNC market and program activity on a quarterly basis. Reports have been prepared on a regular basis since the fourth quarter of 2000, and the value of this activity will increase over time as time-series data begins to accumulate. Tracking the changing characteristics of the NRNC market over time provides information for refining program design and for assessing program accomplishments.

The quarterly reports on the characteristics of the NRNC market include construction value and volume, types of buildings, and types of construction (new construction or renovation) by county and IOU. The program activity reports include number, square footage, and estimated savings of the projects approved for incentives Program activity is summarized by building type and by program approach for each of the IOUs as well as statewide. Program activity is also described in terms of program penetration into the new construction market, at both the IOU and statewide level.

2002 Savings By Design Program Evaluation: Nonresidential New Construction Technology Trends Project

The basic unit of energy efficiency in new construction programs is the whole building performance. This is achieved through the application of individual efficiency measures, and through the building-level interactions among those measures. This is different from a retrofit program, where there is generally a change in one or two measures in a given project. Previous NRNC MA&E studies have shown that many program participant buildings exceed Title 24 standards of efficiency by 25% or more. While we have data on the end-use efficiencies that account for these dramatic results, we have not teased out the information needed to highlight significant new trends in the technologies used. This information will help program planners to shift the emphasis toward these new technologies and away from technologies that are maturing in the marketplace.

The goal of this study will be to identify the most promising new technology efficiency trends in new construction. Anecdotally, we know that there is an increase in the penetration of such measures as T5 fluorescent lighting fixtures, pulse start metal halide fixtures, underfloor air distribution systems, better chiller controls, daylighting, and high efficiency grocery refrigeration systems. This study will provide evidence of measure penetration and efficiency trends.

2002 Savings By Design Program Cost-Effectiveness Summary Project

This study will summarize the program filings from the Savings By Design Program, along with other market data from the BEA and MCPAT studies to give a statewide overview of the program cost-effectiveness and economics. The study is designed to inform policymakers, program administrators and other interested parties about the effectiveness of Savings By Design as a statewide effort.

The project report will summarize dollars spent for incentives, design assistance, and program administration; associated energy savings and demand reductions, staffing levels, numbers of projects, market penetration, etc. It will analyze program results and make recommendations for improving cost-effectiveness.

2002 Nonresidential New Construction (NRNC) MA&E Project Support

This activity includes technical expertise support for the management of the nonresidential new construction MA&E studies (RFP development, proposal review, review of contractor work and deliverables, etc.), as well as planning and participation in the statewide NRNC program and MA&E activities. It is necessary for the thoughtful and responsible administration of the MA&E activity.

Tasks include maintaining year-to-year continuity in NRNC MA&E data collection and study activities. Identify and address emerging trends and information needs of policy makers, program planners and implementers. Coordinate with other statewide MA&E activities, and deliver study findings to stakeholders.

2002 Energy Design Resources Program Evaluation Project

The statewide nonresidential new construction program area expends significant resources each year to improve the energy usage-related building design tools available to design professionals and to assist these professionals in learning how to use the tools effectively. The effort is called Energy Design Resources. This study will examine the extent to which those receiving the tools use them and the magnitude of energy savings that may be achieved as a result, apart from the new construction incentives program.

This study will have two primary objectives to focus the evaluation effort: 1) Determine the level of usage of the energy design resources that the utilities develop and disseminate. 2) Develop estimates of the energy use and peak demand reductions that can be linked to the use of these tools.

2002 California ENERGY STAR® New Homes Program

The study aims to determine the energy savings estimates for the California ENERGY STAR® New Homes Program and to recommend program modifications if warranted. The Study will also: 1) determine building characteristics of program participants and 2) investigate builders' changes in construction practices in response to the AB 970 building code changes, measures installed by builders to participate in the program, and builders' perceptions of the California ENERGY STAR® New Homes Program. The Study will include both the single family and multi-family program components. The results from the study will provide the input to program managers to assist them in designing the most efficient and effective energy efficiency programs for the citizens of the state.

2002 Statewide Crosscutting Residential Lighting Program

The study for the crosscutting residential lighting upstream program will verify the program's approach to increase supply of ENERGY STAR® product in the market through retailers and manufacturers to achieve immediate and long-term energy savings. EM&V will verify achieved levels of energy and peak demand savings through a program savings study; provide ongoing feedback and corrective guidance regarding program implementation through a customer behavior analysis; measure indicators of the program effectiveness through a process evaluation; and, conduct an *ex post* savings analysis.

1. Verify Program Savings: Perform a verification methodology for energy savings and measure installations for each IOU, and determine the allocations between the HTR and non-HTR customers. The target market segments are residential customers, with 15% of the rebate budget reserved for customers in the Hard-to-Reach (HTR) residential sector and 10% of the rebate funds to be reserved for redemption through purchases from the new delivery channels of grocery and drug stores (Measurement activities may include on-site verifications, phone surveys, audits, and/or statistical analyses to validate the IOU's tracking systems)

2. Conduct an analysis of program efficiency through Process Evaluations for both the HTR and non-HTR customers and the various delivery channels, especially the new delivery channels of grocery and drug stores. (These activities assess the effectiveness of the program approach in delivering customer satisfaction)

Tasks include Installation verification, customer reaction, evaluation of program efficiency, *ex post* measurement.

2002 Education, Training, and Services Program

The study aims to evaluate the overall performance of the 2002 Education, Training, and Services Program by measuring indicators such as customer awareness of energy efficient technologies and practices and the degree to which customer behaviors have changed regarding the adoption and use of energy efficient technologies as a direct result of program activities and strategies. The Study will also: 1) assess the program's ability to overcome barriers to implementation of energy efficient technologies by using a variety of methods to disseminate information about energy efficient equipment and practices; 2) assess the effectiveness of the different strategies the program employs to reach the target audience and to achieve program objectives and goals; 3) assess the impacts of marketing efforts and program activities such as flyers and pamphlets, partnerships with third parties, seminars and demonstrations, and the benefits of statewide collaboration; 4) evaluate and document program accomplishments noting best practices and potential strategies for improving the overall program design; and, 5) provide ongoing feedback and corrective guidance regarding program implementation and delivery. The Study includes both a market assessment and process evaluation component. The study results will provide input to program managers to assist them in designing the most efficient and effective energy efficiency programs for the citizens of the state.

Specific issues to be addressed by the contractor in designing the survey instruments and interview guide shall include, but are not limited to: satisfaction with program offerings and program delivery in relation to what is expected, impact of program activities on customer behavior and adoption of energy efficient equipment and technologies, factors having the greatest impact on participation or non-participation, evaluation of the Program in terms of types of customers most likely to participate and make continued use of program information and recommendations; effectiveness of employed program strategies at achieving program goals and objectives; and, any remaining barriers to implementation of measures and practices that are most commonly emphasized in program activities.

2002 Codes and Standards Program Evaluation

This study will summarize the efforts at improving energy code enforcement and development at both the state and the local level. This program seeks to "lock-in" energy efficiency gains from the utility programs by making them mandatory minimums that all building designers must apply. The long-term energy savings potential is enormous, because the savings accrue every year with all buildings built.

The different utilities have devoted their codes and standards budgets to different purposes. The study will draw on their individual program reporting and develop a consolidated view of the codes and standards efforts statewide. The evaluation will include an estimate of energy savings attributable to the statewide codes and standards effort. The methodology will quantify the

energy savings and demand reduction attributable to the increase in Title 24 efficiency adopted under the AB970 emergency rulemaking at the beginning of 2001.

2002 Local Program MA&E Studies

At the recommendation of the EM&V Master Contractor and under direction from the CPUC's Energy Division, Southern California Gas Company combined 2 local program evaluations (Nonresidential Financial Incentives and Diverse Market Outreach Programs) with 3 local program evaluations (Energy Code Training, Residential Hard-to-Reach Lighting Turn-in, and the In-Home Audit Programs) from SDG&E.

SoCal Gas Nonresidential Financial Incentives and Diverse Market Outreach Programs

Since energy savings achieved by the program are based on *ex ante* assumptions, this task consists of verifying the number of measure installations. The program's savings will then be determined by IPMVP option A, stipulated energy savings. A telephone survey with a statistically representative sample of program participants to verify the number of measure installations achieved by the program. Since the process evaluation component of the project also utilizes a telephone survey for data collection, there will be one questionnaire for the project with separate sections dedicated to the verification of measure installations and the process evaluation. Respondents will be administered both components of the questionnaire, allowing only one sample design for this project, and therefore, allocate more project resources to data collection than if separate samples were required.

The program tracking data will be used to design a representative sample of program participants. Prior to finalizing the sample, there will be verification that the measures in the sample adequately represent the population of rebated measures.

A questionnaire for the program participants that will obtain information verifying measure installations recorded in the program tracking database including:

- Verification that the measure was installed,
- If not installed, reason why not,
- Verification that the measure is still installed,
- If not, why not,

The survey will include a section of the questionnaire that will obtain a variety of information for the process evaluation including:

- How participants heard of the program,
- The reasons for program participation,
- Customer perceptions on how the program has helped them manage their energy bills, and
- Participant satisfaction and recommended program improvements.

A pretest will be performed to identify any difficulties with the instrument. Any revisions necessary will be reviewed and once approved will be implemented into the instrument.

Upon approval of the final survey instrument the contractor will carry out the surveys. All calls will be tracked and any refusals or incomplete responses will be recorded. Upon completing each survey, the data will be entered into an electronic database designed specifically for this survey. The data will be continuously reviewed by the project manager to ensure quality control. All data will be entered into the evaluation tracking system. Data will be validated automatically using imbedded database functionality.

Using sound statistical techniques, verified measure installations in the sample will estimate the number of measure installations in the program. Reporting for this component of the evaluation will be combined with the process evaluation component to form one report for the project.

The Contractor will analyze the results of the telephone survey. The survey instrument for this project will contain both qualitative and quantitative questions where appropriate. The analyses will address all of the research requirements. The quantitative survey analysis will be carried out using a commonly used statistical software package. Contractor will calculate weighted frequencies, means, and cross tabulations of data, where appropriate, to provide unbiased estimates of population characteristics. All statistical extrapolations will be well documented and will reflect the population where applicable. The qualitative questions will be individually analyzed to identify any trends in the responses. The responses will be used to explain the quantitative results within the context of the report.

Regulatory Oversight

Regulatory Compliance and Reporting

Regulatory Compliance and Reporting is designed to capture activities that are undertaken to meet regulatory reporting oversight, and other obligations that are not included in Market Assessment & Evaluation activities. It consists of those activities needed to verify, collect, and report descriptive and technical information related to the achievements and scope of all authorized energy efficiency programs. Examples are advice letter filings, annual energy efficiency reports, filings for performance incentives, and other energy efficiency proceedings including attendance at Energy Division (ED) meetings, workshop participation, testimony, hearings, and data requests and responses.

ED Oversight Costs

Oversight costs include SCG's allocation for the Energy Division (ED) budgets and expenditures. In 2002, SCG paid $43,971 for the ED's expenditures and carry-over CBEE expenditures.

TABLE 6.1
MARKET ASSESSMENT & EVALUATION EXPENDITURES (MA&E)
Natural Gas

	Project ($000's)	Statewide Budget	SCG Recorded
CPUC REQUIRED STUDIES			
	EM&V Master Contract		
	Next gen. eval. framework	477	47
	Expert resource	471	47
	Cost-eff. tests & data	135	13
	Potential/SaturationStudy		
	10-yr. tech potential, g&e	300	30
	Achievable potential	250	25
	Sensitivity analysis	75	7
	Current penetration/sat.	150	15
	Add new construction data	250	25
	Gap analysis	75	7
	Res.market share tracking	450	44
	Best Practices Database		
	20 programs @$50K/ea.	892	88
	Database development	75	7
	Deemed Savings Database		
	Get new data;review algorithms	500	49
	Create user-friendly DEER	150	15
	SUBTOTAL	**4,250**	**420**
STATEWIDE PROGRAM EM&V			
	Residential Retrofit-SW		
	Single Family Rebates	618	61
	Multifamily	412	41
	Mail-in/On-line Audits	245	24
	Ref Recycling	420	41
	Nonresidential Retrofit-SW		
	SPC (large & small)	575	57
	Express Efficiency	735	73
	Audits (on-site)	525	52
	Bldg Operator	80	8
	Emerging Tech Demo	100	10
	New Construction		
	SBD	700	69
	EDR	80	8
	RNC	655	65
	Cross-Cutting-SW		
	Res/Nonres Retrofit/New Construction		
	Res Lighting	425	42
	Education & Training Svcs.	250	25
	Codes & Standards	130	13
	SUBTOTAL	**5,950**	**588**
CPUC Energy Division Funding		**300**	**30**
STATEWIDE MA&E TOTAL		**10,500**	**1,037**

Notes:

[1] All Recorded amounts include payments in 2002 and amounts committed to projects in 2002. Committed amounts may not be fully realized.

Shareholder Performance Incentives

This section is not applicable for the 2002 Energy Efficiency Program Year.

There were no shareholder performance incentives authorized by the California Public Utilities Commission for 2002 Energy Efficiency Programs. The Energy Efficiency Policy Manual, adopted by Decision 01-11-066 stated, "In the past, the Commission has offered shareholder incentives to large IOUs for successful program delivery, in lieu of a profit margin. The Commission will no longer make a special provision for shareholder earnings." (D.01-11-066, Attachment 1, p.28) Decision D.02-03-056 authorizing the 2002 Statewide Energy Efficiency Programs reiterated the Commission's position on this matter.

Summer Initiative Programs

Hard to Reach Program

Program Description

SoCalGas' involvement with the Summer 2000 Energy Efficiency Initiatives was limited to its $4 million funding of the multifamily Hard to Reach Program. This program sought to achieve peak demand savings through the installation of energy efficiency measures at multifamily apartment complexes, mobile home parks, and condominium complexes. The program offers incentives (deemed savings) for a wide variety of measures including: Energy Star lighting equipment, Energy Star refrigerators, Energy Star clothes washers, Energy star dishwashers, HVAC equipment, thermal shell measures, water heaters, and water flow restrictors. The program was standardized statewide, including incentive levels, procedures, and contracts. It was open to all project sponsors that had the appropriate licenses, bonding, certification, and insurance to perform the required work. The utilities administered the program while project sponsors identified and sold individual projects based up an approved marketing plan.

2000 – 2001 Results & Achievements

Funding for SoCalGas' Summer Initiative program was exhausted in December 2001 and the program was not extended into 2002. As of December 31, 2001, $3.97 million had been paid to contractors under this program.

In the initial applications, approximately 50% of the monies were targeted at the installation of high efficiency boilers and boiler controls, with the remaining monies targeted at weather-stripping, low-flow showerheads, water heater blankets, and building shell insulation. At the end of the first quarter of 2001, contractors shifted their efforts away from high efficiency boilers and boiler controls toward measures with much lower energy savings potential. Door infiltration reduction measures (weatherstripping, door shoes, and thresholds) represented 66% of the total monies invoiced by year-end 2001. Duct testing and sealing efforts comprised 19% of invoiced efforts and accounted for the minimal electric savings achieved. Boilers and boiler controllers comprised 11% of invoiced efforts. Low-flow showerheads and faucet aerators accounted for the remaining 4% of invoiced efforts.

Only 617 Mtherms and 513 MWh of annual savings were achieved with this program effort. The energy savings are much lower than expected for this expenditure level. This was due to the increased focus on door weatherization efforts that yield modest energy savings at best.

TABLE 8.1
SUMMARY OF COSTS:
SUMMER INITIATIVE PROGRAMS

	2002	
	Budgeted	Recorded
Program		
Hard to Reach	$4,000,000	$3,966,732
Totals Summar Initiatives	$4,000,000	$3,966,732

TABLE 8.2
SUMMARY OF ENERGY EFFICIENCY PROGRAM EFFECTS:
SUMMER INITIATIVE PROGRAMS

Annual Energy Reductions, Electric, MWH

		2002 (Recorded)
Utility Programs		
	Hard-to-Reach	513
	Total Utility Programs	513
Non-Utility Programs		
	Total Non-Utility Programs	0

Demand Reductions, Electric, MW

		2002 (Recorded)
Utility Programs		
	Hard-to-Reach	0.30
	Total Utility Programs	0.30
Non-Utility Programs		
	Total Non-Utility Programs	0.00

Annual Energy Reductions, Natural Gas, Therms, 000's

		2002 (Recorded)
Utility Programs		
	Hard-to-Reach	594
	Total Utility Programs	594
Non-Utility Programs		
	Total Non-Utility Programs	0

2002 ENERGY EFFICIENCY PROGRAM PLANS—TECHNICAL APPENDIX

EXECUTIVE SUMMARY

This Technical Appendix provides additional supporting documentation for SCG's "Annual Summary of Energy Efficiency Programs," dated May 2003, which reviews the progress of activities during 2002. We are reporting these results using the Energy Efficiency Programs Reporting Requirements Manual 2, draft dated March, 2003, as agreed to by the utilities, Office of Ratepayer Advocates and the Energy Division of the California Public Utilities Commission.

SoCalGas' 2002 Energy Efficiency Program plans were filed on December 14, 2002. On March 21, 2002 the Commission issued D.02-03-056 approving the utilities' 2002 statewide energy efficiency programs and budgets with modifications to program design, budgets and program performance targets. The Commission also issued D.02-05-046 and D.02-06-026 approving the

All incremental measure costs, energy savings, and measure lives are documented in SoCalGas' December 14, 2001 Request for Approval of 2002 Energy Efficiency Programs authorized by D. 02-03-056, D02-05-046 and D.02-06-026.

Table TA 1.1
Avoided Costs
Program Year: 2002

Program Year 2002 & 2003 Avoided Costs (Cumulative and Discounted)

Year	Electric $/MWh	Gas $/Therm
2002	110.850	0.580
2003	174.660	1.015
2004	231.249	1.382
2005	284.777	1.738
2006	330.981	2.082
2007	375.352	2.413
2008	417.754	2.731
2009	458.365	3.038
2010	497.241	3.332
2011	534.373	3.574
2012	570.078	3.807
2013	604.455	4.030
2014	637.559	4.249
2015	669.504	4.459
2016	700.317	4.662
2017	730.102	4.857
2018	758.910	5.045
2019	786.795	5.225
2020	813.670	5.398
2021	839.700	5.565

TABLE TA 2.1
PROGRAM COST ESTIMATES USED FOR COST-EFFECTIVENESS (RESIDENTIAL)
Natural Gas

PROGRAM	UTILITY COSTS						
	Program Incentives (Recorded)		Admin		Shareholder Inc	Other	Total
	Actual	Committed	Actual	Committed			
Information							
Total Information	$ -	$ -	$ -	$ -	$ -	$ -	$ -
EMS							
SW Res Home EE Surveys Program	$ -	$ -	$ 253,388	$ -	$ -	$ -	$ 253,388
Total EMS	$ -	$ -	$ 253,388	$ -	$ -	$ -	$ 253,388
EEI							
SPC	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Rebates							
SW ResSingle Family EE Rebates	$ 2,504,544	$ -	$ 884,916	$ -	$ -	$ -	$ 3,389,460
SW Res Multifamily EE Rebates Program	$ 517,969	$ -	$ 362,453	$ -	$ -	$ -	$ 880,421
Loans	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total EEI	$ 3,022,513	$ -	$ 1,247,369	$ -	$ -	$ -	$ 4,269,881
Upstream Programs							
Financial Assistance							
Gas Air Cinditioning	$ -	$ -	$ 12,831	$ -	$ -	$ -	$ 12,831
Total Upstream	$ -	$ -	$ 12,831	$ -	$ -	$ -	$ 12,831
Total Residential	$ 3,022,513	$ -	$ 1,513,587	$ -	$ -	$ -	$ 4,536,100

TABLE TA 2.2
DIRECT AND ALLOCATED ADMINISTRATIVE COSTS
RESIDENTIAL GAS

PROGRAM	Administrative Cost Elements				
	Labor (direct)	Non-Labor (direct	Contract (direct)	Allocated	Total
Information					
Total Information	$ -	$ -	$ -	$ -	$ -
EMS					
SW Res Home EE Surveys Program	$ 58,003	$ 176,140	$ -	$ 19,244	$ 253,388
Total EMS	$ 58,003	$ 176,140	$ -	$ 19,244	$ 253,388
EEI					
SPC	$ -	$ -	$ -	$ -	$ -
Rebates					
SW ResSingle Family EE Rebates	$ 297,578	$ 541,454	$ -	$ 45,884	$ 884,916
SW Res Multifamily EE Rebates Program	$ 93,129	$ 241,796	$ -	$ 27,527	$ 362,453
					$ -
Loans	$ -	$ -	$ -	$ -	$ -
Total EEI	$ 390,707	$ 783,250	$ -	$ 73,412	$ 1,247,369
Upstream Programs					
Financial Assistance					
Gas Air Cinditioning	$ -	$ 12,831		$ -	$ 12,831
Total Upstream	$ -	$ 12,831	$ -	$ -	$ 12,831
Total Residential	$ 448,710	$ 972,221	$ -	$ 92,656	$ 1,513,587

Table TA 2.3
Market Effects: Residential Projected Annual Program Energy Reductions
Statewide Single Family Rebate
Program Year: 2002

Average Load Impacts Per Unit (Gross)

	HVAC			Lighting			Misc		
Year	kW	kWh	Therms	kW	kWh	Therms	kW	kWh	Therms
2002	-294	2,250,536	669,575				114	1,112,372	575,668
2003	-294	2,250,536	669,575				114	1,112,372	575,668
2004	-294	2,250,536	669,575				114	1,112,372	575,668
2005	-294	2,250,536	669,575				114	1,112,372	575,668
2006	-294	2,250,536	669,575				114	1,112,372	575,668
2007	-294	2,250,536	669,575				114	1,112,372	575,668
2008	-294	2,250,536	669,575				114	1,112,372	575,668
2009	-294	2,250,536	669,575				114	1,112,372	575,668
2010	-294	2,250,536	669,575				114	1,112,372	575,668
2011	-294	2,250,536	669,575				114	1,112,372	575,668
2012	-294	2,250,536	669,575				0	521,080	393,732
2013	1,172	1,173,514	360,831				0	521,080	393,732
2014	1,172	1,173,514	360,831				0	521,080	393,732
2015	1,172	1,173,514	360,831				0	521,080	393,732
2016	1,172	1,173,514	360,831				0	0	42,003
2017	1,172	1,173,514	360,831						
2018	1,172	1,173,514	360,831						
2019	1,172	1,173,514	360,831						
2020	1,172	1,173,514	360,831						
2021	1,172	1,173,514	360,831						
SUM (Lifecycle)	-294	35,317,528	10,612,803				114	13,208,040	7,373,611

Table TA 2.3
Market Effects: Residential Projected Annual Program Energy Reductions
Statewide Multifamily Rebate
Program Year: 2002

Average Load Impacts Per Unit (Gross)

	HVAC			Lighting			Misc		
Year	kW	kWh	Therms	kW	kWh	Therms	kW	kWh	Therms
2002	93	71,352	48,013				0	2,172	270,894
2003	93	71,352	48,013				0	2,172	270,894
2004	93	71,352	48,013				0	2,172	270,894
2005	93	71,352	48,013				0	2,172	270,894
2006	93	71,352	6,213				0	2,172	259,072
2007	93	71,352	6,213				0	2,172	259,072
2008	93	71,352	6,213				0	2,172	259,072
2009	93	71,352	6,213				0	2,172	259,072
2010	93	71,352	6,213				0	2,172	259,072
2011	93	71,352	6,213				0	2,172	259,072
2012	93	71,352	6,213				0	40	258,416
2013	97	67,509	5,837				0	40	258,416
2014	97	67,509	5,837				0	40	258,416
2015	97	67,509	5,837				0	40	258,416
2016	97	67,509	5,837				0	0	258,389
2017	97	67,509	5,837				0	0	203,250
2018	97	67,509	5,837				0	0	203,250
2019	97	67,509	5,837				0	0	203,250
2020	97	67,509	5,837				0	0	203,250
2021	97	67,509	5,837				0	0	203,250
SUM (Lifecycle)	93	1,392,455	288,076				4	21,880	4,946,311

Table TA 2.5
Measure Detail: Residential Program Area
Statewide Single Family Rebate
Program Year: 2002

Year	Measure Code	Measure Description	Recorded Qty	Total Customer Cost	Average Unit Cost	Total KWH Savings	Average kWh Savings	Total Therm Savings	Average Therm Savings	Measure Life	Measure End Use
2002	APPL01	Clothes Washer - ENERGY STAR	13,027	$4,872,098.00	$374.00	521,080	40	351,729	27	14	Misc
2002	APPL02	Dishwasher - ENERGY STAR	11,371	$2,319,684.00	$204.00	591,292	52	181,936	16	10	Misc
2002	HVAC002	Attic Insulation	2,055,250	$1,068,730.00	$0.52	963,090	0	205,525	0	20	HVAC
2002	HVAC003	Wall Insulation	810,883	$381,115.01	$0.47	210,424	0	105,415	0	20	HVAC
2002	HVAC019	Gas Furnace - 80% AFUE with ECM or VSD	1,388	$265,108.00	$191.00	-	-	14,921	11	20	HVAC
2002	HVAC020	Gas Furnace - ENERGY STAR (90% AFUE)	1,076	$735,984.00	$684.00	-	-	34,970	33	20	HVAC
2002	HVAC021	Thermostat - ENERGY STAR	2,886	$245,310.00	$85.00	1,077,022	373	308,744	107	11	HVAC
2002	WH08	Natural Gas Storage Water Heater (EF>=0.6)	3,231	$177,705.00	$55.00	-	-	42,003	13	15	Misc

Table TA 2.5
Measure Detail: Residential Program Area
Statewide Multifamily Rebate
Program Year: 2002

Year	Measure Code	Measure Description	Recorded Qty	Total Customer Cost	Average Unit Cost	Total KWH Savings	Average kWh Savings	Total Therm Savings	Average Therm Savings	Measure Life	Measure End Use
2002	APPL01	Clothes Washer - ENERGY STAR	1	$175.00	$175.00	40	40	27	27	14	Misc
2002	APPL02	Dishwasher - ENERGY STAR	41	$8,364.00	$204.00	2,132	52	656	16	10	Misc
2002	HVAC002	Attic Insulation	34,758	$180,741.60	$5.20	67,271	2	5,561	0	20	HVAC
2002	HVAC003	Wall Insulation	3,171	$14,903.70	$4.70	238	0	254	0	20	HVAC
2002	HVAC019	Gas Furnace - 80% AFUE with ECM or VSD	1	$1,578.00	$1,578.00	-	-	5	5	20	HVAC
2002	HVAC020	Gas Furnace - ENERGY STAR (90% AFUE)	1	$5,530.00	$5,530.00	-	-	17	17	20	HVAC
2002	HVAC021	Thermostat - ENERGY STAR	8	$4,640.00	$580.00	3,844	480	376	47	11	HVAC
2002	HVAC038	Space Heating Boiler	22	$89,320.00	$4,060.00	-	-	41,800	1,900	4	HVAC
2002	WH04	Central System Natural Gas Boilers - Water	271	$1,100,260.00	$4,060.00	-	-	203,250	750	20	Misc
2002	WH05	Natural Gas Water Heater Controllers	22	$77,000.00	$3,500.00	-	-	19,800	900	15	Misc
2002	WH07	Low-Flow Showerheads	132	$1,218.36	$9.23	-	-	1,188	9	15	Misc
2002	WH08	Natural Gas Storage Water Heater (EF>=0.6)	241	$13,255.00	$55.00	-	-	2,651	11	15	Misc
2002	WH14	Central System Natural Gas Water Heaters	46	$184,000.00	$4,000.00	-	-	11,822	257	4	Misc
2002	WH15	Natural Gas Boiler Controllers	35	$122,500.00	$3,500.00	-	-	31,500	900	15	Misc

TABLE TA 3.1
PROGRAM COST ESTIMATES USED FOR COST-EFFECTIVENESS (NONRESIDENTIAL)
NATURAL GAS

PROGRAM	UTILITY COSTS						
	Program Incentives (Recorded)		Admin		Shareholder Inc	Other	Total
	Actual	Committed	Actual	Committed			
Information							
SW Nonres Building Operator Certification Program	$ -	$ 28,614	$ 40,336	$ -	$ -	$ -	$ 68,950
Total Information	$ -	$ 28,614	$ 40,336	$ -	$ -	$ -	$ 68,950
EMS							
Large	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Small/ Medium							
SW Nonres Energy Audit Program	$ -	$ -	$ 2,615,767	$ -	$ -	$ -	$ 2,615,767
Total EMS	$ -	$ -	$ 2,615,767	$ -	$ -	$ -	
EEI Cutomized Rebates							
Large	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Small/Medium	$ -	$ -	$ -	$ -	$ -	$ -	$ -
EEI Prescriptive Rebates							
Large	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Small							
SW Nonres Express Efficiency Program	$ 1,910,115	$ -	$ 1,301,765	$ -	$ -	$ -	$ 3,211,880
Nonresidential Financial Incentives	$ 926,929	$ -	$ 58,398	$ -	$ -	$ -	$ 985,327
EEI SPCs	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total EEI	$ 2,837,044	$ -	$ 1,360,163	$ -	$ -	$ -	
Upstream Programs							
Financial Assistance							
Commercial Equipment Replacement	$ 30,060	$ -	$ 265,915	$ -	$ -	$ -	$ 295,975
Industrial Energy Efficiency Incentives	$ 136,888	$ -	$ 125,777	$ -	$ -	$ -	$ 262,665
Other	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Upstream	$166,948	$ -	$ 391,692	$ -	$ -	$ -	$ 558,640
Total Nonresidential	$ 3,003,992	$ 28,614	$ 4,407,958	$ -	$ -	$ -	$ 7,440,565

TABLE TA 3.2
DIRECT AND ALLOCATED ADMINISTRATIVE COSTS
NONRESIDENTIAL NATURAL GAS

PROGRAM	Administrative Cost Elements				
	Labor (direct)	Non-Labor (direct)	Contract (direct)	Allocated	Total
Information					
SW Nonres Building Operator Certification Program	$ 18,132	$ 19,141	$ -	$ 3,063	$ 40,336
Total Information	$ 18,132	$ 19,141	$ -	$ 3,063	$ 40,336
EMS					
Large	$ -	$ -	$ -	$ -	$ -
Small/ Medium					
SW Nonres Energy Audit Program	$ 1,854,527	$ 590,305	$ -	$ 170,935	$ 2,615,767
Total EMS	$ 1,854,527	$ 590,305	$ -	$ 170,935	$ 2,615,767
EEI Cutomized Rebates					
Large	$ -	$ -	$ -	$ -	$ -
Small/Medium	$ -	$ -	$ -	$ -	$ -
EEI Prescriptive Rebates					
Large	$ -	$ -	$ -	$ -	$ -
Small					
SW Nonres Express Efficiency Program	$ 830,203	$ 372,696	$ -	$ 98,866	$ 1,301,765
Nonresidential Financial Incentives	$ 7,105	$ 46,858	$ -	$ 4,435	$ 58,398
EEI SPCs	$ -	$ -	$ -	$ -	$ -
Total EEI	$ 837,308	$ 419,554	$ -	$ 103,301	$ 1,360,163
Upstream Programs					
Financial Assistance					
Commercial Equipment Replacement	$ 212,780	$ 53,135	$ -	$ -	$ 265,915
Industrial Energy Efficiency Incentives	$ 120,075	$ 5,702	$ -	$ -	$ 125,777
Other	$ -	$ -	$ -	$ -	$ -
Total Upstream	$332,855	$58,837		$ -	$ 391,692
Total Nonresidential	$ 3,042,822	$ 1,087,837	$ -	$ 277,300	$ 4,407,958

Table TA 3.3
Market Effects: Nonresidential Projected Annual Program Energy Reductions
Statewide Express Efficiency Rebates
Program Year: 2002

Average Load Impacts Per Unit (Gross)

	HVAC			Lighting			Misc		
Year	kW	kWh	Therms	kW	kWh	Therms	kW	kWh	Therms
2002	0	0	309,200				0	5,126	2,397,979
2003	0	0	309,200				0	5,126	2,397,979
2004	0	0	309,200				0	5,126	2,397,979
2005	0	0	309,200				0	5,126	2,397,979
2006	0	0	309,200				0	5,126	2,397,979
2007	0	0	309,200				0	5,126	1,956,724
2008	0	0	309,200				0	5,126	1,956,724
2009	0	0	309,200				0	5,126	1,956,724
2010	0	0	309,200				0	5,126	1,956,724
2011	0	0	309,200				0	5,126	1,956,724
2012	0	0	309,200				0	0	1,936,454
2013	0	0	309,200				0	0	1,936,454
2014	0	0	309,200				0	0	1,879,451
2015	0	0	309,200				0	0	1,879,451
2016	0	0	309,200				0	0	1,879,451
2017	0	0	309,200				0	0	1,604,991
2018	0	0	309,200				0	0	1,604,991
2019	0	0	309,200				0	0	1,604,991
2020	0	0	309,200				0	0	1,604,991
2021	0	0	309,200				0	0	1,604,991
SUM (Lifecycle)	0	0	6,184,001	0	0	0	0	51,257	39,309,727

Table TA 3.3
Market Effects: Nonresidential Projected Annual Program Energy Reductions
Local Nonresidential Financial Incentives
Program Year: 2002

Average Load Impacts Per Unit (Gross)

	HVAC			Lighting			Misc		
Year	kW	kWh	Therms	kW	kWh	Therms	kW	kWh	Therms
2002	0	0	93,244				0	0	2,743,355
2003	0	0	93,244				0	0	2,743,355
2004	0	0	93,244				0	0	2,743,355
2005	0	0	93,244				0	0	2,743,355
2006	0	0	93,244				0	0	2,743,355
2007	0	0	93,244				0	0	2,743,355
2008	0	0	93,244				0	0	2,743,355
2009	0	0	93,244				0	0	2,743,355
2010	0	0	93,244				0	0	2,743,355
2011	0	0	93,244				0	0	2,743,355
2012	0	0	93,244				0	0	2,743,355
2013	0	0	93,244				0	0	2,743,355
2014	0	0	93,244				0	0	2,409,561
2015	0	0	93,244				0	0	2,409,561
2016	0	0	93,244				0	0	2,409,561
2017	0	0	93,244				0	0	2,403,520
2018	0	0	93,244				0	0	2,403,520
2019	0	0	93,244				0	0	2,403,520
2020	0	0	93,244				0	0	2,403,520
2021	0	0	93,244				0	0	2,403,520
SUM (Lifecycle)	0	0	1,864,889	0	0	0	0	0	52,166,545

Table TA 3.5
Measure Detail: Nonresidential Program Area
Statewide Express Efficiency Rebates
Program Year: 2002

Year	Measure Code	Measure Description	Recorded Qty	Total Customer Cost	Average Unit Cost	Total KWH Savings	Average kWh Savings	Total Therm Savings	Average Therm Savings	Measure Life	Measure End Use
2002	APPL05	Commercial Clothes Washer - Horizontal Axis	216	$86,616.00	$401.00	5,126	24	20,269	94	10	Misc
2002	COOK02	Infrared Fryer	16	$27,335.28	$1,708.46	-	-	11,888	743	12	Misc
2002	COOK03	Infrared Rotisserie	23	$60,373.64	$2,624.94	-	-	31,211	1,357	12	Misc
2002	COOK04	Power Burner Foodservice Equip - Conveyor Oven	16	$69,957.67	$4,372.35	-	-	13,904	869	12	Misc
2002	HVAC037	Greenhouse Heat Curtain	1,131,423	$554,397.27	$0.49	-	-	441,255	0	5	Misc
2002	HVAC038	Space Heating Boiler	279	$1,080,022.64	$3,871.05	-	-	309,200	1,108	20	HVAC
2002	HVAC038	Space Heating Boiler	7	$30,915.68	$4,416.53	-	-	8,851	1,264	20	Misc
2002	WH02	Pipe Insulation (per linear ft.)	5,743	$25,211.77	$4.39	-	-	9,706	2	20	Misc
2002	WH03	Tank Insulation (per square ft.)	4,661	$18,970.27	$4.07	-	-	28,059	6	20	Misc
2002	WH09	Hot Water Boiler	245	$437,130.95	$1,784.21	-	-	799,172	3,262	20	Misc
2002	WH16	Storage Water Heater (LRG >75 MBTUH)	33	$125,954.82	$3,816.81	-	-	50,505	1,530	15	Misc
2002	WH17	Storage Water Heater (SML <= 75 MBTUH)	15	$1,490.26	$99.35	-	-	366	24	15	Misc
2002	WH18	Instantaneous Water Heater (LRG > 200 MBTUH)	32	($41,972.04)	($1,311.63)	-	-	167,252	5,227	15	Misc
2002	WH19	Instantaneous Water Heater (SML <= 200 MBTUH)	26	($36,177.12)	($1,391.43)	-	-	56,338	2,167	15	Misc
2002	WH20	Process Boiler	37	$230,338.99	$6,225.38	-	-	759,203	20,519	20	Misc

Table TA 3.5
Measure Detail: Nonresidential Program Area
Local Nonresidential Financial Incentives
Program Year: 2002

Year	Measure Code	Measure Description	Recorded Qty	Total Customer Cost	Average Unit Cost	Total KWH Savings	Average kWh Savings	Total Therm Savings	Average Therm Savings	Measure Life	Measure End Use
2002	COOK06	PARR Convection Oven	97	$136,285.00	$1,405.00	-	-	59,871	617	12	Misc
2002	COOK07	PARR Combination Oven	10	$60,680.00	$6,068.00	-	-	30,707	3,071	12	Misc
2002	COOK08	PARR Rotating Rack Oven	27	$74,412.00	$2,756.00	-	-	83,932	3,109	12	Misc
2002	COOK09	PARR Deck Oven	2	$3,408.00	$1,704.00	-	-	1,354	677	12	Misc
2002	COOK10	PARR Under-fired broiler	90	$41,850.00	$465.00	-	-	90,383	1,004	12	Misc
2002	COOK11	PARR Over-fired [char] broiler	10	$9,380.00	$938.00	-	-	7,063	706	12	Misc
2002	COOK12	PARR Griddle	45	$37,620.00	$836.00	-	-	25,709	571	12	Misc
2002	COOK13	PARR Cheese melter	6	$2,106.00	$351.00	-	-	2,761	460	12	Misc
2002	COOK14	PARR Salamander	6	$1,992.00	$332.00	-	-	1,612	269	12	Misc
2002	COOK15	PARR Steam Kettle	8	$14,560.00	$1,820.00	-	-	11,814	1,477	12	Misc
2002	COOK16	PARR Braising Pan	4	$6,160.00	$1,540.00	-	-	2,259	565	12	Misc
2002	COOK17	PARR Cabinet Steamer	7	$14,140.00	$2,020.00	-	-	8,225	1,175	12	Misc
2002	COOK18	PARR Fryer - High Effic. Unit with Electr Ignition	1	$3,123.00	$3,123.00	-	-	942	942	12	Misc
2002	COOK19	PARR Fryer - High Effic. Unit	12	$12,372.00	$1,031.00	-	-	5,388	449	12	Misc
2002	COOK20	PARR Fryer - Unit with Electr. Ignition	9	$2,907.00	$323.00	-	-	1,773	197	12	Misc
2002	COOK21	NRER Oven Replacement	3	$103,278.00	$34,426.00	-	-	97,968	32,656	20	Misc
2002	HEAT01	NRER Kiln Replacement	3	$30,093.00	$10,031.00	-	-	56,693	18,898	20	Misc
2002	HEAT02	NRER Engine Replacement	9	$43,884.00	$4,876.00	-	-	2,845	316	15	Misc
2002	HEAT03	NRER Misc. Process Equip. Replacement	644	$2,541,868.00	$3,947.00	-	-	472,488	734	20	Misc
2002	HEAT04	NREC Heat Recovery	16	$169,792.00	$10,612.00	-	-	184,057	11,504	20	Misc
2002	HEAT05	NREC Engine Rebuilds	3	$10,980.00	$3,660.00	-	-	3,196	1,065	15	Misc
2002	HEAT06	NREC Equip. Modernization	93	$1,171,893.00	$12,601.00	-	-	1,592,314	17,122	20	Misc
2002	HVAC049	NRER Furnace Replacement	5	$53,295.00	$10,659.00	-	-	93,244	18,649	20	HVAC

TABLE TA 4.1
PROGRAM COST ESTIMATES USED FOR COST-EFFECTIVENESS (NEW CONSTRUCTION)
GAS ONLY

PROGRAM	Program Incentives (Recorded)		Admin		Shareholder Inc	Other	Total
	Actual	Committed	Actual	Committed			
Res New Construction							
SW Res New Construction Energy Star Program--SF	$ 301,245	$ 429,724	$ 309,792	$ 30,185	$ -	$ -	$ 1,070,945
SW Res New Construction Energy Star Program--MF	$ 301,245	$ 429,724	$ 309,792	$ 30,185	$ -	$ -	$ 1,070,945
Total Residential	$ 602,490	$ 859,447	$ 619,584	$ 60,369	$ -	$ -	$ 2,141,890
Nonresidential New Construction							
SW Nonres New Construction Savings by Design Program	$ -	$ 219,665	$ 763,460	$ 25,720	$ -	$ -	$ 1,008,845
Total NonResidential	$ -	$ 219,665	$ 763,460	$ 25,720	$ -	$ -	$ 1,008,845
Other							
Total Other	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total New Construction	$ 602,490	$ 1,079,112	$ 1,383,043	$ 86,089	$ -	$ -	$ 3,150,734

TABLE TA 4.2
DIRECT AND ALLOCATED ADMINISTRATIVE COSTS (NEW CONSTRUCTION)
NATURAL GAS

PROGRAM	Administrative Cost Elements				
	Labor (direct)	Non-Labor (direct)	Contract (direct)	Allocated	Total
Res New Construction					
SW Res New Construction Energy Star Program--SF	$ 194,308	$ 97,192	$ -	$ 18,292	$ 309,792
SW Res New Construction Energy Star Program--MF	$ 194,308	$ 97,192	$ -	$ 18,292	$ 309,792
Total Residential	$ 388,616	$ 194,384	$ -	$ 36,584	$ 619,584
Nonresidential New Construction					
SW Nonres New Construction Savings by Design Program	$ 267,931	$ 443,470	$ -	$ 52,059	$ 763,460
Total NonResidential	$ 267,931	$ 443,470	$ -	$ 52,059	$ 763,460
Other					
Total Other	$ -	$ -	$ -	$ -	$ -
Total New Construction	$ 656,547	$ 637,854	$ -	$ 88,642	$ 1,383,043

Table TA 4.3
Market Effects: New Construction Projected Annual Program Energy Reductions
Statewide Res New Construction Energy Star Program--Single Family
Program Year: 2002

Average Load Impacts Per Unit (Gross)

	HVAC			Lighting			Misc		
Year	kW	kWh	Therms	kW	kWh	Therms	kW	kWh	Therms
2002							384	357,804	-2,696
2003							384	357,804	-2,696
2004							384	357,804	-2,696
2005							384	357,804	-2,696
2006							384	357,804	-2,696
2007							384	357,804	-2,696
2008							384	357,804	-2,696
2009							384	357,804	-2,696
2010							384	357,804	-2,696
2011							384	357,804	-2,696
2012							384	357,804	-2,696
2013							384	357,804	-2,696
2014							384	357,804	-2,696
2015							384	357,804	-2,696
2016							384	357,804	-2,696
2017							384	357,804	-2,696
2018							384	357,804	-2,696
2019							384	357,804	-2,696
2020									
2021									
SUM (Lifecycle)							384	6,440,472	-48,535

Table TA 4.3
Market Effects: New Construction Projected Annual Program Energy Reductions
Statewide Res New Construction Energy Star Program--Multifamily
Program Year: 2002

Average Load Impacts Per Unit (Gross)

	HVAC			Lighting			Misc		
Year	kW	kWh	Therms	kW	kWh	Therms	kW	kWh	Therms
2002							11,308	659,217	100,553
2003							11,308	659,217	100,553
2004							11,308	659,217	100,553
2005							11,308	659,217	100,553
2006							11,308	659,217	100,553
2007							11,308	659,217	100,553
2008							11,308	659,217	100,553
2009							11,308	659,217	100,553
2010							11,308	659,217	100,553
2011							11,308	659,217	100,553
2012							11,308	659,217	100,553
2013							11,308	659,217	100,553
2014							11,308	659,217	100,553
2015							11,308	659,217	100,553
2016							11,308	659,217	100,553
2017									
2018									
2019									
2020									
2021									
SUM (Lifecycle)							11,308	9,888,255	1,508,294

Table TA 4.3
Market Effects: New Construction Projected Annual Program Energy Reductions
Statewide Nonres New Construction Savings by Design
Program Year: 2002

Average Load Impacts Per Unit (Gross)

	HVAC			Lighting			Misc		
Year	kW	kWh	Therms	kW	kWh	Therms	kW	kWh	Therms
2002	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2003	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2004	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2005	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2006	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2007	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2008	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2009	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2010	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2011	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2012	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2013	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2014	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2015	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2016	267	1,170,459	7,649	354	1,445,521	-2,284	86	1,512,900	341
2017									
2018									
2019									
2020									
2021									
SUM (Lifecycle)	267	17,556,885	114,735	354	21,682,815	-34,260	86	22,693,500	5,115

Table TA 4.4
Measure Detail: New Construction Program Area
Statewide Res New Construction Energy Star Program--Single Family
Program Year: 2002

Year	Measure Code	Measure Description	Recorded Qty	Total Customer Cost	Average Unit Cost	Total KWH Savings	Average kWh Savings	Total Therm Savings	Average Therm Savings	Measure Life	Measure End Use
2002	HOME05	Single Family Coastal, 15%>Title 24	36	$20,297.52	$563.82	25,164	699	(202)	(6)	18	Misc
2002	HOME06	Single Family Coastal, 20%>Title 24	396	$424,595.16	$1,072.21	332,640	840	(2,495)	(6)	18	Misc

Table TA 4.4
Measure Detail: New Construction Program Area
Statewide Res New Construction Energy Star Program--Multifamily
Program Year: 2002

Year	Measure Code	Measure Description	Recorded Qty	Total Customer Cost	Average Unit Cost	Total KWH Savings	Average kWh Savings	Total Therm Savings	Average Therm Savings	Measure Life	Measure End Use
2002	HOME11	Low Rise Apartments	3,216	($70,752.00)	($22.00)	649,632	202	98,281	31	15	Misc
2002	HOME12	Townhomes	71	$22,578.00	$318.00	9,585	135	2,272	32	15	Misc

Table TA 4.4
Measure Detail: New Construction Program Area
Statewide Nonres New Construction Savings by Design
Program Year: 2002

Year	Measure Code	Measure Description	Recorded Qty	Total Customer Cost	Average Unit Cost	Total KWH Savings	Average kWh Savings	Total Therm Savings	Average Therm Savings	Measure Life	Measure End Use
2002	NC001	Other Systems	8	$331,400.52	$41,425.07	1,506,366	188,296	-	-	15	Misc
2002	NC002	Whole Building - Overall Building Performance	4	$1,833.39	$458.35	6,534	1,634	341	85	15	Misc
2002	NC010	Air-Cooled Package Air-Conditioner (greater than or equal to 65,000 BTUH)	2	$23,638.80	$11,819.40	118,194	59,097	-	-	15	HVAC
2002	NC018	High Efficiency Lighting	2	$78,072.00	$39,036.00	487,950	243,975	(180)	(90)	15	Lighting
2002	NC054	HVAC Air Cooled Package A/C	10	$11,720.40	$1,172.04	58,602	5,860	-	-	15	HVAC
2002	NC056	Glass/DL - High Performance Side Glass with DL Control	1	$2,975.60	$2,975.60	14,878	14,878	52	52	15	HVAC
2002	NC058	Glass - Low Solar Heat Gain Coefficient by Orientation	3	$10,092.00	$3,364.00	50,460	16,820	1,100	367	15	HVAC
2002	NC059	Lighting - High Efficiency	28	$153,211.36	$5,471.83	957,571	34,199	(2,104)	(75)	15	Lighting
2002	NC060	HVAC Motors - Premium Efficiency	3	$2,566.40	$855.47	12,832	4,277	(11)	(4)	15	HVAC
2002	NC061	HVAC Variable Frequency Drives	4	$183,098.60	$45,774.65	915,493	228,873	1,400	350	15	HVAC
2002	NC068	HVAC - Large Boilers (>= 300,000 Btu/hr)	3	$19,767.96	$6,589.32	-	-	5,108	1,703	15	HVAC

TABLE TA 5.1
PROGRAM COST ESTIMATES USED FOR COST-EFFECTIVENESS (NEW CONSTRUCTION)
GAS ONLY

PROGRAM	Program Incentives (Recorded)		Admin		Shareholder Inc	Other	Total
	Actual	Committed	Actual	Committed			
Information							
SW CC Education and Training Program	$ -	$ -	$ 3,525,192	$ -	$ -	$ -	$ 3,525,192
Codes & Standards Program	$ -	$ -	$ 183,002	$ -	$ -	$ -	$ 183,002
SW CC Emerging Tecnologies	$ -	$ 100,000	$ 606,810	$ 6,929	$ -	$ -	$ 713,738
Crosscutting EMS							
EMS	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Crosscutting EEI							
Residential Lighting Program	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Upstream MT							
MT	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Crosscutting	$ -	$ 100,000	$ 4,315,004	$ 6,929	$ -	$ -	$ 4,421,932

TABLE TA 5.2
DIRECT AND ALLOCATED ADMINISTRATIVE COSTS (CROSSCUTTING)
NATURAL GAS

PROGRAM	Administrative Cost Elements				
	Labor (direct)	Non-Labor (direct)	Contract (direct)	Allocated	Total
Information					
SW CC Education and Training Program	$ 1,125,282	$ 2,195,125	$ -	$ 204,785	$3,525,192
Codes & Standards Program	$ -	$ 168,176	$ -	$ 14,826	$183,002
SW CC Emerging Tecnologies	$ 395,695	$ 171,676	$ -	$ 39,439	$606,810
Crosscutting EMS					
EMS	$ -	$ -	$ -	$ -	$0
Crosscutting EEI					
Residential Lighting Program	$ -	$ -	$ -	$ -	$0
Upstream MT					
MT	$ -	$ -	$ -	$ -	$0
Total Crosscutting	$ 1,520,977	$ 2,534,977	$ -	$ 259,050	$ 4,315,004

MA & E AND REGULATORY OVERSIGHT

Not applicable

TABLE 7.1
COST OF PERFORMANCE INCENTIVES

Electric and Gas Combined			
	2002		2003
	Budgeted	Claimed	Budgeted
Residential Program Area	$0	$0	
Nonresidential Program Area	$0	$0	
New Construction	$0	$0	
Crosscutting			
General/Other	NA	NA	
Total[1]	$0	$0	$0

Electric Only			
	2002		2003
	Budgeted	Claimed	Budgeted
Residential Program Area			
Nonresidential Program Area			
New Construction			
Crosscutting			
General/Other			
Total	$0	$0	

Gas Only			
	2002		2003
	Budgeted	Claimed	Budgeted
Residential Program Area			
Nonresidential Program Area			
New Construction			
Crosscutting			
General/Other			
Total	$0	$0	

TABLE TA 8.1
SUMMER INITIATIVE PROGRAMS
PROGRAM EXPENDITURES

PROGRAM	Program Incentives (Recorded)		Admin		Other	Total
	Actual	Committed	Actual	Committed		
Hard to Reach	$ 3,966,095	$0	$637	$0	$0	$3,966,732
	$3,966,095	$0	$637	$0	$0	$3,966,732

TABLE TA 8.2
Summer Initiative Programs
DIRECT AND ALLOCATED ADMINISTRATIVE COSTS

PROGRAM	Administrative Cost Elements				
	Labor (direct)	Non-Labor (direct	Contract (direct)	Allocated	Total
Hard to Reach	$595	$42	$0	$0	$637
Totals Summar Initiatives	$595	$42	$0	$0	$637