

PY2000 Residential Contractor Program Process Evaluation and Data Analysis

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Executive Summary

This report serves as the final, summative deliverable for the program year 2000 (PY2000) process evaluation of the Residential Contractor Program (RCP). We provide, below, a concise summary of key findings and recommendations.

It is important to note that many of these findings and recommendations were made before significant changes were made in the PY2001 single-family program. In PY2001, many of the measures such as windows, insulation, and new heating and cooling equipment are now provided as rebates to the customer. Accordingly, some of the recommendations may no longer be germane to the RCP program. To keep the historic record complete, we include all recommendations, below.

Key Findings

PY2000 Single Family Element

The most important process-related findings for the SF element include:

- Participating contractors are, on the whole, more satisfied with the program during PY2000 than they were in PY99. Not surprisingly, the incentives offered by the program were thought by many to be the most important benefit of the program. Several others noted that having RCP was a positive sales generator for them. Other contractors felt that the utilities' involvement enhanced their reputation and added a level of quality assurance to the work that they performed.
- There remains a substantial level of dissatisfaction with certain elements of program administration.
- Where contractors are dissatisfied with the program administration and payment processing, this appears to adversely affect their overall impressions of the program.
- Training is viewed very favorably in all service areas.
- The program has given a real boost to the development of an infrastructure to provide duct diagnostic and repair services.
- Contractors would like to have substantial advance notification of any program changes, and especially anything affecting incentive levels or the ability of their customers to participate in the program.
- The distribution of incentives on a per household basis favors census tracts that have a higher percentage of whites, lower percentage of Hispanics, and higher median incomes. Areas with lower population densities received higher benefits on a per household basis than did higher density census tracts.

PY2000 Multifamily Element

The most important process-related findings for the MF element include:

- Participating multifamily contractors are, overall, sufficiently satisfied with the program to continue participating, but a number of areas for improvement are seen.
- Participating property managers as a whole are pretty satisfied with the program; many have minimal involvement with the program's administration or communications with the utilities.
- The deemed savings option is greatly influential in EESP's decisions about whether or not to participate in the program and about the types of jobs to submit to RCP. There is a desire to have deemed savings made available for other measures (such as appliances) as well.
- Simplifications in the required paperwork are desired, especially for large projects involving multiple buildings.
- The multifamily element of RCP operates in competition with the Summer Initiatives Program for applications from a relatively finite population of contractors.
- Advantages of the Summer Initiatives Program, as viewed by contractors, include more attractive incentives and, importantly, more attractive payment terms.
- Significant communications problems existed for several participants where difficulties were encountered in getting information to enable them to complete applications or to obtain information on the status of filed projects.
- Greater marketing to property managers is desired.
- EESPs that participated in PY2000 intend to participate in PY2001.
- A survey of non-participant contractors should be considered in the future to ascertain whether any administrative or incentive level concerns exist within this group.

Recommendations

Single Family Element

Based upon feedback obtained from contractors, several recommendations arise from this research that warrant consideration from the program managers.

1. *Continue and increase training if at all possible*

Training is valued highly by all contractors and is likely to have strong on-going energy efficiency benefits even in the absence of an RCP program. The inclusion of broader training opportunities involving form submission, on-site training, and selling energy efficiency are all positive enhancements and should be expanded.

2. *Address budget shortfalls in ways other than suspending the program*

The suspension of program funds that occurred during the summer of 2000 in the SCE/SoCal Gas program was a major source of discontent among contractors. Complaints about the program focused on both the suspension of the program and the communication of this suspension, which was reportedly received by most participants after the program was already suspended. Additionally, the suspension of funds appears to be creating an adverse effect -- hoarding of vouchers through the reservation of funds for potential jobs before customers have actually committed to having the work completed. Increasing the program budget alleviates some pressure on the program. However, this appears unlikely to solve the core problem but rather only postpone the inevitable.

We recommend that the utilities develop, in advance of running out of funds, a plan to deal with potential budget shortfalls during PY2001 and communicate this plan with contractors. Ideally, such a plan would include scaling back incentives rather than simply cutting these incentives all together. We feel that it would also be good practice to develop a rationing system that gives priority to newer participants. These contractors are less likely to understand the intricacies of the program and many have yet to recoup their initial investment in time and money developing the new techniques.

Additionally, if any changes are to be made to the program in the future, it is important that the notification be made in writing to all contractors with a minimum of 14 days, and preferably 30 days forward effective date.

3. Establish and track payment times for payment to contractors

Timeliness of payments remained a concern of participating contractors during PY2000. If there is any element with which contractors are most dissatisfied, this is it. Data were not available to us to assess this issue in an objective fashion.

4. Continue fax and e-mail communications with contractors

Contractors appreciate notification on the status of the program and, in particular, expressed a desire to know that they have up-to-date information to give customers. Fax and e-mail approaches can be very cost effective for such updates.

Multifamily Element

Some of the recommendations offered above for the single-family element are applicable to the multifamily element as well. Specifically, monitoring timelines on individual applications, and continuing to expand communication activities, also pertain to MF element as well. In addition, we offer the following suggestions.

1. Explore additional options for deemed savings

The availability of deemed savings appears to be greatly influential to the level of participation in RCP multifamily program as well as the selection of projects submitted for approval. EESPs are very aware of the availability of the deemed savings options and explicitly attribute key program participation (and nonparticipation) decisions to this feature of the MF program. The possibility of expanding the deemed savings option to other measures should be taken up again, especially any measures where increased participation activity is desired. Any expansion of the deemed savings option should be highlighted in future communications to EESPs.

2. Pilot efforts to increase direct participation by property owners should be encouraged

This promises to allow greater breadth of penetration into this challenging market, capturing activities undertaken independent of the EESPs. It is possible that the participation of the property owners may also increase the diversity of measures submitted for approval. EESPs we interviewed mentioned the greater difficulties of performing work addressing measures in dwelling units due to access issues, yet one property manager we interviewed had targeted measures in dwelling units in their first application to the program. Additionally, these applications addressed energy efficient appliances, in contrast to the focus on lighting, boilers, and water heaters found among the EESPs we interviewed.

3. Increase marketing directed to property owners and managers

Property owners and managers encouraged the use of more direct marketing methods such as direct mail and communications through trade associations.

4. Expedite application processing

Every effort should be made to reduce waiting periods for participants at each stage of the application process. Property managers and their EESPs rightly wish to move forward expeditiously with their plans. If necessary, staffing adjustments should be made to allow for speedier approvals and timely communications on project status. Where administrative delays are unavoidable, adroit communications can ameliorate some of the frustrations experienced by participants.

5. Re-examine incentive levels

Feedback from EESPs suggests that some incentive levels from PY2000 were not large enough to attract substantial participation in the RCP program. In particular, it was recommended that incentives be increased for smaller facilities, and for appliances, room air conditioners, and selected lighting applications. We recommend that the utilities re-examine incentive levels to determine if any adjustments are warranted.

1. Overview

This report serves as the final summative deliverable for the PY2000 process evaluation of the Residential Contractor Program (RCP). The objectives of this research were to prepare a process evaluation of the program and to summarize participation results. In order to assist RCP program managers, in their planning for PY2001 programs, a report on the process issues was prepared in December 2000. This was then followed by a year-end summary report that was undertaken after the PY2000 participation records were available. Both reports are combined into this document.

It was our objective to provide detailed assessments of both the single and multi-family elements. Because only summary figures were provided for the multi-family program, we could not do the types of analysis provided for the single-family element.

1.1 Research Completed

Five research tasks were completed during the period from late November 2000 through February 2001, including:

- Data Analysis – analysis and summary of PY2000 program activity in the SF element was completed. Several potentially important trends in measure type and contractor activity levels emerge from this analysis. A preliminary analysis of MF activity was also completed, but an inability to obtain complete year-end data for the programs prevented a full and final analysis of the years' activity in the MF element.
- Focus Group Research -- in total, six focus groups were conducted to obtain feedback from customers and contractors.
- Stakeholder Interviews -- interviews were conducted with program administrators from each of the utilities, as well as several other persons who have been involved with various aspects of the program such as training and screening.
- SF Contractor Interviews --structured interviews were conducted with 35 participating contractors scattered throughout the state.
- MF Contractor and Property Managers Interviews --structured interviews were conducted with 14 contractors either participating in, or considering participation in, the MF element of the program. In addition, 16 participating property management firms were interviewed.

1.2 Context for Interpretation of Findings

As outlined above, we have obtained information from both utility staff and participating contractors. Preparing this report, we have endeavored to provide a candid summary of feedback provided by contractors who participated in the PY2000 Residential Contractor Program, including both single family and multifamily elements. In some cases, the perspectives of the utility administrators and contractors appear to be inconsistent because of varying perspectives. Importantly, where such perspectives differ, it is not necessarily important to ascertain which perspective is more accurate. Rather, if the program strives to encourage the participation of these contractors, it is important to acknowledge that these perspectives are important -- even inaccurate perceptions -- because, for these contractors, these perceptions are their reality.

1.3 Organization

The remaining sections of this report are organized as follows:

- Section 2 provides a summary of PY 2000 RCP activity, including both single and multifamily elements.
- Section 3 summarizes feedback obtained from contractors participating in the RCP Single Family element.
- Section 4 summarizes feedback obtained from contractors participating in the RCP Multifamily element.
- Finally, Section 5 provides several recommendations that arise from this summary.

2. Summary of PY2000 RCP Activity

2.1 Single Family Program Activity

The SF RCP program was designed to give customers who hired RCP-eligible contractors a reduction in the cost of energy efficient equipment or ductwork and HVAC diagnostic services. In the PY2000 program, the contractor performed the work and was paid by the customer the full amount of the job less the incentive level. The contractor completed the paperwork and received the incentive from the utility.

Table 2-1, below, provides a summary of RCP incentive levels during PY2000.

Table 2-1: PY2000 RCP Incentive Levels

AC/HP Diagnostic/Tune up	\$75 plus \$25 Advanced
Attic Insulation	\$0.15/ft ²
Basic HVAC Diagnostic/Tune up	\$75
Diagnostic and Duct Bonuses ¹	\$25
Duct Testing	\$75
Duct Testing and Sealing	\$125 Plus \$75 for testing
Energy Star Air Conditioner	\$225
Energy Star Central Heat Pump	\$250
Energy Star Gas Furnace	\$250
Hard-wire Fluorescents	\$15 or \$60 or \$75
High Efficiency Gas Water Heater	\$30
High Performance Windows	\$1/ft ² shifting to \$2/ft ² in May
Insulation Package	\$0.01/ft ²
Pipe Insulation	\$5
Programmable Thermostat	\$25
Screw-in CFL:	\$5
Wall Insulation	\$0.14/ft ²
Water Saving Showerheads	\$7

¹ Note that SCE/SoCal Gas offered \$25 for AC/HP Tune-up Bonuses, SDGE offered a \$25 bonus if both AC and Duct Diagnostics were performed.

Using program databases supplied by each of the utilities, we conducted a brief analysis of trends in installation rates for various measures in the program. Salient trends that emerge from this analysis include the following:

- High performance windows accounted for the largest number of measures for PG&E, (PG&E 43%, SCE 15%, and SDG&E 16%)
- Basic and Advanced HVAC diagnostics and AC/HP tune-up accounted for the largest number of measures for SDG&E. (SDG&E 42%, PG&E 14%, and SCE 19%)
- Duct Testing and Duct Sealing accounted for the largest number of measures for SCE/SoCal Gas. (SCE 52%, PG&E 21%, and SDG&E 30%)
- High performance windows accounted for the greatest percentage of utility rebate dollars at PG&E and SDG&E (PG&E 70%, SCE 27%, and SDG&E 38%). Duct Testing and Sealing accounted for the largest percentage of rebate dollars at SCE. (SCE 52%, PG&E 10%, and SDG&E 22%).
- On a statewide level, the top three measures are high performance windows with \$3.3 million, duct testing and sealing with \$1.9 million, and HVAC diagnostics with \$1 million. These three categories represent over 85 percent of the \$7.2 million in vouchers paid in PY2000.

Table 2-2, below, provides a summary of the processed vouchers, by measure type and by contractor. Figure 2.1 and Table 2.3 show the breakdown of vouchers by measure type for each utility and the entire RCP program. Tables 2.4 to 2.6 show the details on the amount of vouchers given by each measure. Tables 2.7 to 2.9 provide the information on the most active contractors in each utility program.

- A few contractors received the lion's share of the incentive monies distributed. For PG&E, two-thirds of the funds were distributed to 20 out of 134 contractors. For SCE/SoCal Gas, 69 percent of the funds went to the 20 most active contractors out the 156 that participated in PY2000. For SDG&E, three-quarters of the funds were given to the top 15 contractors out of a pool of 73 who participated in PY2000.

Table 2-2: PY2000 Single-Family Summary of Vouchers Processed

	PG&E	SCE/SoCal Gas	SDG&E	Total RCP
Number of Vouchers Distributed in PY 2000	30,553	Not Applicable	Not Applicable	Not Applicable
Total Value of All Vouchers Distributed	\$7,212,892	Not Applicable	Not Applicable	Not Applicable
Number of Vouchers Returned (percentage of total distributed)	9,290 (30.4%)	17,407	6,134	32,831
Total Value of Returned Vouchers	\$2,744,137	\$3,381,438	\$1,128,870	\$7,254,445
Average Value per Voucher	\$295	\$194	\$184	\$220

Figure 2.1: PY2000 Vouchers by Measure Type

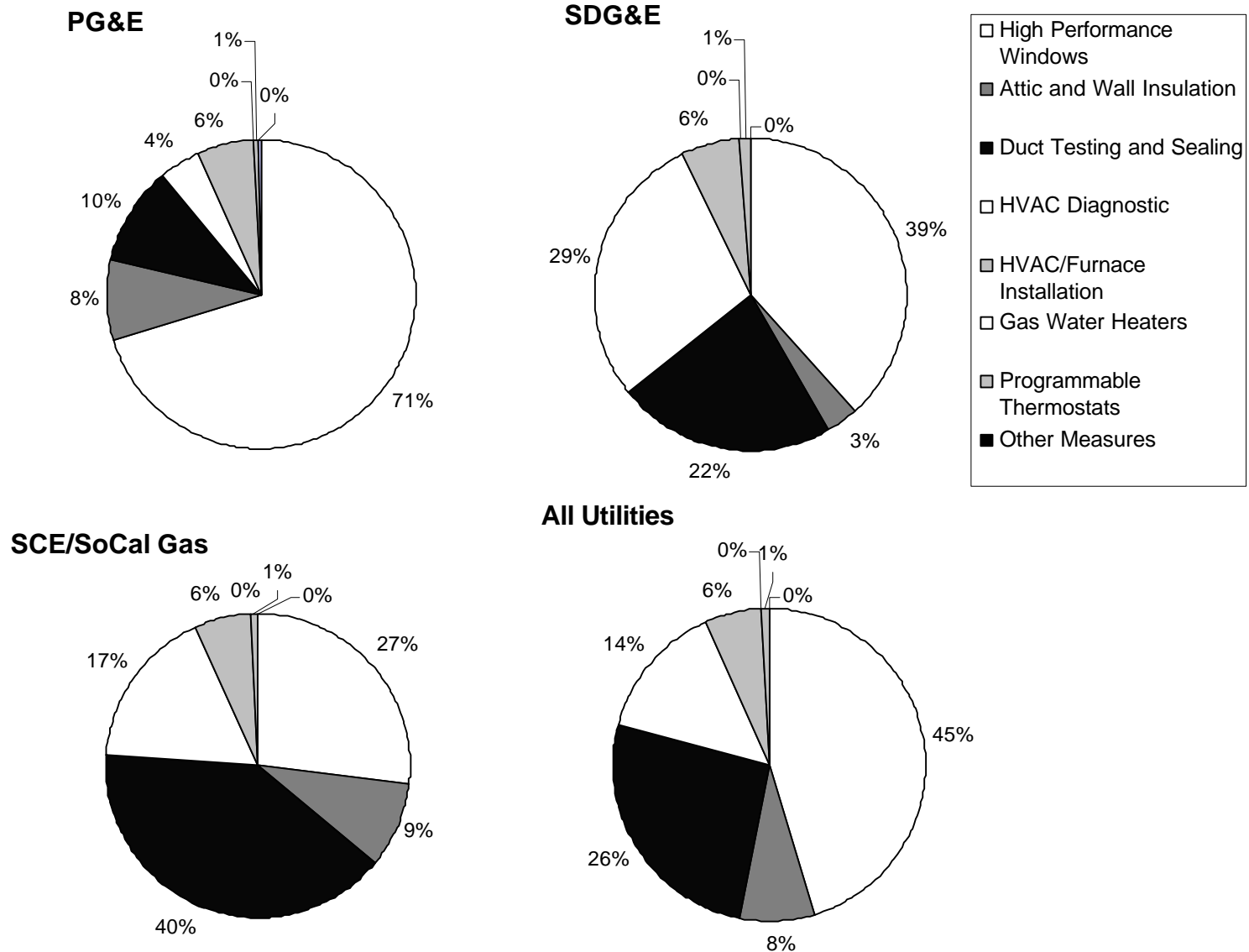


Table 2-3: Voucher Totals By Measure Category

	PG&E	SCE/SoCal Gas	SDG&E	Total Program
High Performance Windows	\$1,928,587.00	\$914,920	\$433,386	\$3,276,893.00
Attic and Wall Insulation	\$226,167.34	304,064.000	\$36,878.00	\$567,109.34
Duct Testing and Sealing	\$288,125.00	1,357,625.00	\$253,050.00	\$1,898,800.00
HVAC Diagnostic	\$118,350.00	581,625.00	\$324,875.00	\$1,024,850.00
HVAC/Furnace Installation	\$160,600.00	196,050.00	\$68,350.00	\$425,000.00
Gas Water Heaters	\$2,100.00	\$1,470.00	\$300.00	\$3,870.00
Programmable Thermostats	\$15,575.00	\$23,875.00	\$11,350.00	\$50,800.00
Other Measures	\$4,633.00	1,810.00	\$681.00	\$7,124.00
Total Program	\$2,744,137.34	\$3,381,439.00	\$1,128,870.00	\$7,254,446.34

Table 2-4: Voucher Totals By Measure Type: PG&E

Measure	Voucher Dollars	Number of Measures	Percent of Utility's Total Dollars	Percent of Utility's Total Measures	Cumulative Percent of Funds	Cumulative Percent of Measures
PG&E						
High Performance Windows	\$1,928,587.00	5,967	70.28%	42.62%	70.28%	42.62%
Attic Insulation	\$160,474.35	760	5.85%	5.43%	76.13%	48.05%
Duct Testing and Sealing	\$177,875.00	1423	6.48%	10.17%	82.61%	58.22%
Basic HVAC or AC/HP Diagnostic/Tune up	\$118,350.00	1969	4.31%	14.07%	86.92%	72.28%
Energy Star Central Air Conditioner	\$101,250.00	450	3.69%	3.21%	90.61%	75.50%
Duct Testing	\$110,250.00	1470	4.02%	10.50%	94.63%	86.00%
Wall Insulation	\$61,808.74	458	2.25%	3.27%	96.88%	89.27%
Energy Star Gas Furnace	\$57,250.00	229	2.09%	1.64%	98.97%	90.91%
Programmable Thermostat	\$15,575.00	623	0.57%	4.45%	99.54%	95.36%
Insulation Package	\$3,884.25	180	0.14%	1.29%	99.68%	96.64%
Energy Star Central Heat Pump	\$2,100.00	9	0.08%	0.06%	99.75%	96.71%
Hard-wire CFL	\$3,802.00	254	0.02%	1.81%	99.77%	98.52%
High Efficiency Gas Water Heater	\$2,100.00	70	0.08%	0.50%	99.85%	99.02%
Water Saving Showerheads	\$511.00	73	0.01%	0.52%	99.86%	99.54%
Pipe Insulation	\$315.00	63	0.00%	0.45%	99.86%	99.99%
Screw-in CFL:	\$5.00	1	0.00%	0.01%	99.86%	100.00%
	\$2,744,137.34	13,999	100.00%	100.00%		

Table 2-5: Voucher Totals By Measure Type: SCE/SoCal Gas

Measure	Voucher Dollars	Number of Measures	Percent of Utility's Total Dollars	Percent of Utility's Total Measures	Cumulative Percent of Funds	Cumulative Percent of Measures
SCE/SoCal Gas						
High Performance Windows	\$914,920	3939	27.06%	14.54%	27.06%	14.54%
Duct Sealing	\$695,300	5492	20.56%	20.27%	47.62%	34.81%
Duct Testing	\$662,325	8707	19.59%	32.13%	67.21%	66.94%
Basic HVAC or AC/HP Diagnostic/Tune-up	\$339,225	4048	10.03%	14.94%	77.24%	81.88%
Attic Insulation	\$235,433	1124	6.96%	4.15%	84.20%	86.03%
Advanced HVAC Diagnostic/Tune-up	\$231,300	716	6.84%	2.64%	91.04%	88.67%
Energy Star Air Conditioner	\$163,575	694	4.84%	2.56%	95.88%	91.23%
Wall Insulation	\$61,764	461	1.83%	1.70%	97.71%	92.93%
Energy Star Gas Furnace	\$28,500	111	0.84%	0.41%	98.55%	93.34%
Programmable Thermostat	\$23,875	893	0.71%	3.30%	99.25%	96.64%
AC/HP Diagnostic Bonus	\$11,100	424	0.33%	1.56%	99.58%	98.20%
Insulation Package	\$6,867	298	0.20%	1.10%	99.79%	99.30%
Energy Star Heat Pump	\$3,975	17	0.12%	0.06%	99.90%	99.37%
Efficient Gas Water Heater	\$1,470	48	0.04%	0.18%	99.95%	99.54%
Energy Star Hardwired Fluorescent Fixtures	\$765	21	0.02%	0.08%	99.97%	99.62%
2.5 gpm Showerhead	\$511	49	0.02%	0.18%	99.98%	99.80%
Energy Start Screw-in CFL	\$294	6	0.01%	0.02%	99.99%	99.82%
Pipe Insulation	\$240	48	0.01%	0.18%	100.00%	100.00%
	\$3,381,439	27,096				

Table 2-6: Voucher Totals By Measure Type: SDG&E

Measure	Voucher Dollars	Number of Measures	Percent of Utility's Total Dollars	Percent of Utility's Total Measures	Cumulative Percent of Funds	Cumulative Percent of Measures
SDG&E						
High Performance Windows (window area per Sq Ft.)	\$433,386.00	1409	38.39%	16.33%	38.39%	16.33%
Basic HVAC or AC/HP Diagnostic/Tune up	\$257,925.00	3184	22.85%	36.90%	61.24%	53.23%
Duct Testing	\$128,325.00	1666	11.37%	19.31%	72.61%	72.54%
Duct Sealing	\$121,525.00	953	10.77%	11.05%	83.37%	83.59%
Advanced HVAC Diagnostic/Tune up	\$63,750.00	182	5.65%	2.11%	89.02%	85.70%
Energy Star Central Air Conditioner	\$47,925.00	205	4.25%	2.38%	93.26%	88.07%
Attic Insulation	\$25,146.60	128	2.23%	1.48%	95.49%	89.56%
Energy Star Gas Furnace	\$16,000.00	61	1.42%	0.71%	96.91%	90.26%
Programmable Thermostat	\$11,350.00	412	1.01%	4.78%	97.91%	95.04%
Wall Insulation	\$10,360.98	84	0.92%	0.97%	98.83%	96.01%
Diagnostic & Duct Package Bonus	\$6,400.00	241	0.57%	2.79%	99.40%	98.81%
Energy Star Central Heat Pump	\$4,425.00	17	0.39%	0.20%	99.79%	99.00%
Insulation Package*	\$1,370.06	64	0.12%	0.74%	99.91%	99.75%
Screw In Compact Fluorescent Lamps	\$385.00	3	0.03%	0.03%	99.95%	99.78%
High Efficiency Gas Water Heater	\$300.00	10	0.03%	0.12%	99.97%	99.90%
Hardwired Fluorescent Lighting Fixtures	\$225.00	2	0.02%	0.02%	99.99%	99.92%
Water Saving Showerheads	\$56.00	4	0.00%	0.05%	100.00%	99.97%
Pipe Insulation	\$15.00	3	0.00%	0.03%	100.00%	100.00%
	\$1,128,869.64	\$8,628.00				

Table 2-7: Twenty Most Active Contractors: PG&E

Firm's Business Activity within RCP	Total Vouchers	Number of Vouchers	Percent Dollars	Percent Jobs	Cumulative Percent of Funds	Cumulative Percent of Jobs
Windows	\$451,007	1309	16.44%	14.09%	16.44%	14.09%
Windows	\$151,206	427	5.51%	4.60%	21.95%	18.69%
Windows	\$123,674	461	4.51%	4.96%	26.45%	23.65%
Windows	\$120,093	297	4.38%	3.20%	30.83%	26.85%
HVAC, Ducts	\$108,580	565	3.96%	6.08%	34.79%	32.93%
Windows	\$91,157	241	3.32%	2.59%	38.11%	35.53%
HVAC, Ducts	\$90,475	201	3.30%	2.16%	41.40%	37.69%
Windows	\$79,847	269	2.91%	2.90%	44.31%	40.59%
Windows	\$77,308	266	2.82%	2.86%	47.13%	43.45%
Window	\$75,520	234	2.75%	2.52%	49.88%	45.97%
Windows	\$66,983	257	2.44%	2.77%	52.32%	48.74%
HVAC, Ducts	\$60,680	261	2.21%	2.81%	54.54%	51.54%
Windows	\$57,692	193	2.10%	2.08%	56.64%	53.62%
Insulation	\$57,115	271	2.08%	2.92%	58.72%	56.54%
HVAC, Ducts, Windows, Insulation	\$56,826	260	2.07%	2.80%	60.79%	59.34%
Windows	\$56,323	166	2.05%	1.79%	62.84%	61.13%
Windows, Insulation	\$39,902	62	1.45%	0.67%	64.30%	61.79%
HVAC, Ducts	\$35,100	143	1.28%	1.54%	65.58%	63.33%
Windows	\$33,346	71	1.22%	0.76%	66.79%	64.10%
114 additional active contractors						

Table 2-8: Twenty Most Active Contractors: SCE/SoCal Gas

Firm's Business Activity within RCP	Total Vouchers	Number of Vouchers	Percent Dollars	Percent Jobs	Cumulative Percent of Funds	Cumulative Percent of Jobs
Duct Testing	\$1,043,525.00	6452	30.86%	37.07%	30.86%	37.07%
Windows	\$248,475.50	1104	7.35%	6.34%	38.21%	43.41%
HVAC, Ducts, Windows, Insulation	\$125,025.00	642	3.70%	3.69%	41.91%	47.10%
HVAC, Ducts	\$119,257.80	381	3.53%	2.19%	45.43%	49.28%
HVAC	\$88,510.00	185	2.62%	1.06%	48.05%	50.35%
Insulation	\$70,242.08	310	2.08%	1.78%	50.13%	52.13%
HVAC, Ducts, Windows, Insulation	\$68,501.54	175	2.03%	1.01%	52.15%	53.13%
HVAC, Ducts	\$63,905.00	419	1.89%	2.41%	54.04%	55.54%
Windows	\$60,494.00	234	1.79%	1.34%	55.83%	56.89%
Insulation	\$60,116.57	286	1.78%	1.64%	57.61%	58.53%
HVAC, Ducts	\$53,300.00	225	1.58%	1.29%	59.19%	59.82%
HVAC, Ducts	\$52,480.00	547	1.55%	3.14%	60.74%	62.96%
Windows	\$46,512.00	204	1.38%	1.17%	62.11%	64.14%
HVAC, Ducts	\$39,825.00	486	1.18%	2.79%	63.29%	66.93%
Windows	\$36,473.00	144	1.08%	0.83%	64.37%	67.75%
Windows	\$33,926.82	136	1.00%	0.78%	65.37%	68.54%
Insulation	\$33,481.33	158	0.99%	0.91%	66.36%	69.44%
HVAC and Duct Diagnostics	\$32,900.00	256	0.97%	1.47%	67.34%	70.91%
HVAC, Ducts	\$32,750.00	101	0.97%	0.58%	68.31%	71.49%
HVAC, Ducts	\$31,650.00	260	0.94%	1.49%	69.24%	72.99%
136 other active contractors						

Table 2-9: Fifteen Most Active Contractors: SDG&E

Firm's Business Activity within RCP	Total Vouchers	Number of Vouchers	Percent Dollars	Percent Jobs	Cumulative Percent of Funds	Cumulative Percent of Jobs
HVAC	\$161,300.00	1915	14.29%	31.22%	14.29%	31.22%
Duct Testing	\$140,300.00	939	12.43%	15.31%	26.72%	46.53%
Windows.	\$97,206.00	291	8.61%	4.74%	35.33%	51.27%
Window	\$71,582.00	278	6.34%	4.53%	41.67%	55.80%
Windows	\$56,140.00	186	4.97%	3.03%	46.64%	58.84%
HVAC, Duct Testing.	\$44,925.00	109	3.98%	1.78%	50.62%	60.61%
HVAC, Duct Testing	\$43,450.00	174	3.85%	2.84%	54.47%	63.45%
Windows	\$39,890.00	127	3.53%	2.07%	58.00%	65.52%
HVAC	\$38,550.00	370	3.41%	6.03%	61.42%	71.55%
Insulation	\$33,075.97	130	2.93%	2.12%	64.35%	73.67%
Duct Testing, AC Tuning	\$25,950.00	129	2.30%	2.10%	66.65%	75.77%
HVAC, Duct Testing	\$23,825.00	84	2.11%	1.37%	68.76%	77.14%
HVAC, Duct Testing	\$23,600.00	79	2.09%	1.29%	70.85%	78.43%
Window	\$23,450.00	80	2.08%	1.30%	72.93%	79.74%
HVAC, Duct Testing	\$18,421.00	56	1.63%	0.91%	74.56%	80.65%
58 other contracts active						

2.2 Multi-Family Program Activity

The multi-family program underwent significant changes after PY1999, and the programs began slowly in PY2000. It takes considerable effort and time between when an original application is submitted to the utility, and the job is completed and the incentive check is mailed. Below is a summary of the year-end progress achieved by each utility's MF program. Not all of the data needed to fill all of the cells was made available in time for this report.

Table 2-10: Summary of MF Element Activity

	PG&E	SCE	SoCal Gas	SDG&E
Number of projects:	238	57	98	65
Number of projects installed and paid	17	9		
Incentives Approved:	\$1,600,920	\$1,136,915	\$1,506,436	\$678,646
Incentives Paid	\$116,000	\$29,765		
First Year Kilowatt-hours Saved		6,035,741 kWh	481,507 kWh	2,727,000 kWh
First Year Therms Saved			1,542,658 therms	231,891

3. Geographic Information System Analysis of SF Element Participation and Benefits

3.1 Overview and Methodology

One of the goals of the RCP program was to expand the market for contractor services. In the PY1999 evaluation, a geographic information system (GIS) was developed to determine the coverage of contractors across the service territories and to measure the distribution of benefits across different ethnic, income, and population density characteristics. We follow up that work with additional analysis of the PY2000 program, with particular emphasis on the later factor: the distribution of benefits across the service area population.

An examination of the characteristics of the RCP participant households reveals that participants are much more likely to be white, non-Hispanic, rural/suburban living, and higher income participants. The graphs and maps presented below show clear differences in participation across these population characteristics. For each utility, the census tracts that have a higher-than-average percentage of the population that is Hispanic are more likely to have lower-than-average voucher amounts per household. Similarly, the lower the median income, or the higher the population density, the lower the average voucher amounts received per household. We present the results in two ways: as a correlation of vouchers versus other variables and as maps showing the spatial distribution of the vouchers overlaying census tract median income and the percentage of population that is white.

A detailed analysis was made of the distribution of vouchers across the three service territories. To accomplish this analysis, a geographic information system (GIS) was constructed that was able to merge data on the location of each participant with the 1990 US Census data. The GIS software, ArcView is able to locate the exact coordinates of more than 95 percent of the program participants by matching their street address to the underlying street data contained in the year 2000 TIGER data set. The remaining households were placed at a point that represented the centroid of their zip code.

Once the exact location of each site is determined, the GIS assigns to that location the underlying census tract information on the population's racial composition, median income, and housing type. At the time of this report, the new 2000 Census demographic data by census tract was not available. These overlays use the 1990 census information. In the ten-year period, California saw large increases in overall population growth especially among Hispanics. In addition, there was significant growth in population in many of the more rural areas. Because of this, the population count and the composition of some census tracts have changed. This creates a few anomalies in the analysis, such

as the occasional rural census tract that appears to have received over \$50 per household in voucher funds. For this reason, it is suggested that this analysis be repeated when the new census data are available.

For each of the three utility service territories, an analysis of the vouchers received is compared to the median income of the census tract, the percentage of population that is white, and the percentage of population that is Hispanic. In each case, correlation statistics measure the strength of the relationship between the voucher amount per household and each of the other variables. In the 1990 Census, the designation of race was a separate question from whether or not a household was of Hispanic origin. A household could be white and Hispanic, white and non-Hispanic, non-white and Hispanic, or non-white and non-Hispanic. The data are not reported in a way that produces a combined category that develops the percentage of households that are either non-white or Hispanic.

It is important to remember that voucher amounts are presented as voucher amounts per household. This statistic eliminates the bias that would be expected in that larger census tracts could be expected to have higher total voucher amounts. By expressing all activity on a per household basis, the issue of absolute size of the tract is eliminated. A check was made to see whether there is any relationship between the voucher amount per household and the number of occupied households in the tract. That is that the size of the vouchers was either larger or smaller in households in more populated census tracts than were the voucher sizes in the less populated census tracts. The analysis reveals no such relationships are evident.¹ For this reason, it is probable that census tract size has no effect on the voucher-distribution correlation results. Small tracts do have a larger effect on the results as some tracts have few households, including several with less than 10 households. Voucher activity in these small tracts creates large voucher amounts per household. For this reason, for all of the graphs and statistics presented below, small census tracts containing fewer than 100 occupied households are dropped from the analysis. For PG&E, SCE, and SDG&E this resulted in 68 tracts (<3%), 8 tracts (0.5%), and 0 tracts being eliminated, respectively.

3.2 Correlation Analysis of Voucher Data

The information from this analysis is presented both spatially and statistically to exhibit significant trends in participation, as reflected by the distribution of vouchers across each utility's service territory. Figures 3-1 through 3-4, and Table 3-1 include:

¹ Pearson coefficients were -0.19 with significance of 0.334 for PG&E, -0.011 with a significance of 0.665 for SCE, and -0.049 with significance of 0.330 for SDG&E

- Voucher Distribution by Median Income of the Census Tract
- Voucher Distribution by Percentage of Population of the Census Tract that is White
- Voucher Distribution by Percentage of Population of the Census Tract that is Hispanic
- Voucher Distribution by Density of Census Tract
- Home Ownership as an Explanation of Voucher Amount Differences

3.2.1 Voucher Distribution by Median Income of the Census Tract

The analysis finds a strong, statistically significant correlation, (at 0.05 percent for SCE/SoCal Gas and less than 0.0001 percent for PG&E and SDG&E), between the amount of vouchers per household and the median income of the census tract. For all three service territories, the voucher levels increase as the median income of the census tract increases.

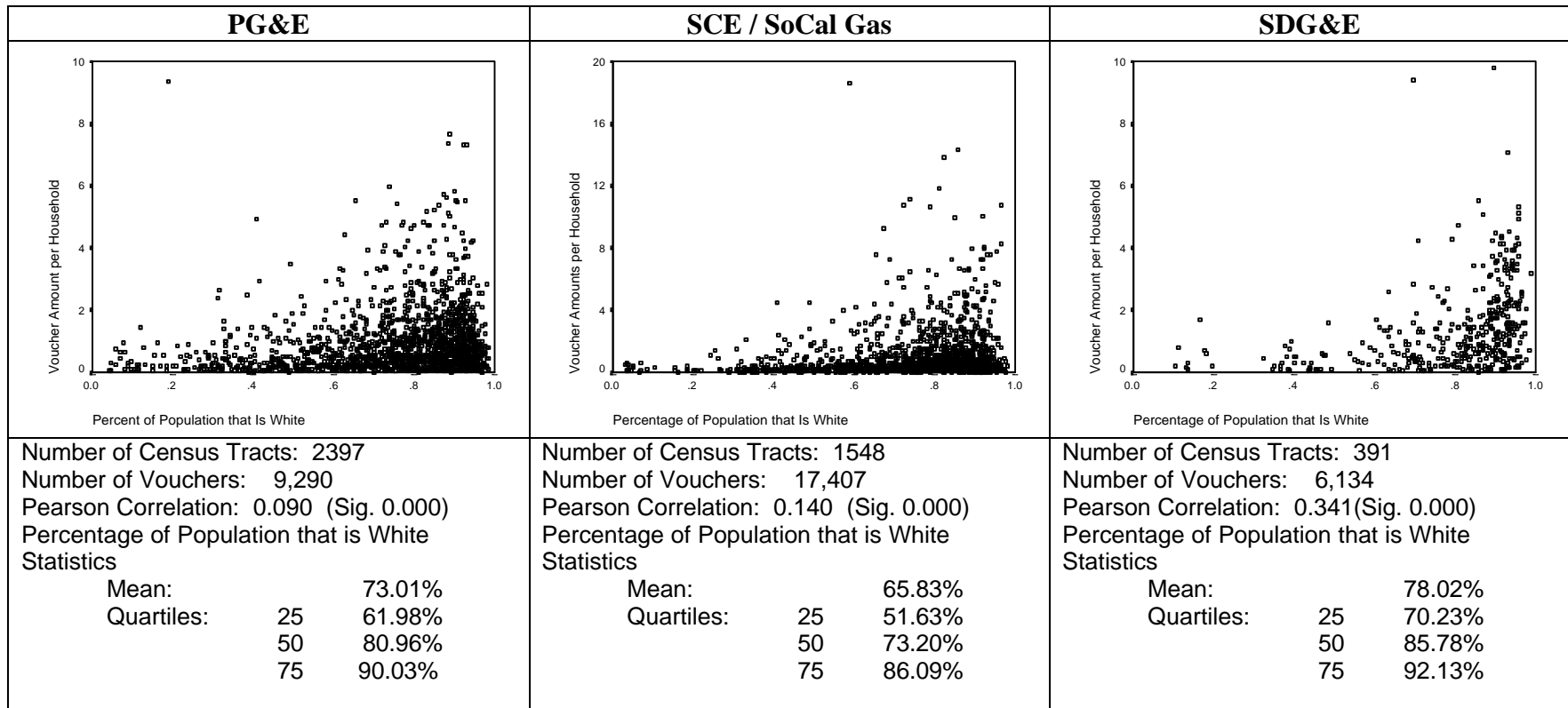
Figure 3-1: Voucher Amount Per Household vs. Median Income

PG&E	SCE/SoCal Gas	SDG&E
Number of Census Tracts: 2397 Number of Vouchers: 9,290 Pearson Correlation: 0.278 (Sig. 0.000) Voucher Amount per Household Statistics Mean: \$0.64 Quartiles: 25 \$0.00 50 \$0.25 75 \$0.88 Median Income Statistics Mean: 37,708 Quartiles: 25 26,111 50 35,056 75 45,688	Number of Census Tracts: 1548 Number of Vouchers: 17,407 Pearson Correlation: 0.036 (Sig. 0.154) Voucher Amount per Household Statistics Mean: \$1.01 Quartiles: 25 \$0.18 50 \$0.44 75 \$1.06 Median Income Statistics Mean: 39,014 Quartiles: 25 26,969 50 36,008 75 47,474	Number of Census Tracts: 391 Number of Vouchers: 6,134 Pearson Correlation: 0.428 (Sig. 0.000) Voucher Amount per Household Statistics Mean: \$1.38 Quartiles: 25 \$0.40 50 \$0.95 75 \$1.91 Median Income Statistics Mean: 38,807 Quartiles: 25 27,793 50 36,391 75 46,791

3.2.2 Voucher Distribution by Percentage of Population of the Census Tract that is White

The results show that census tracts that have a higher percentage of non-white persons are receiving less program voucher funds on a per household basis.

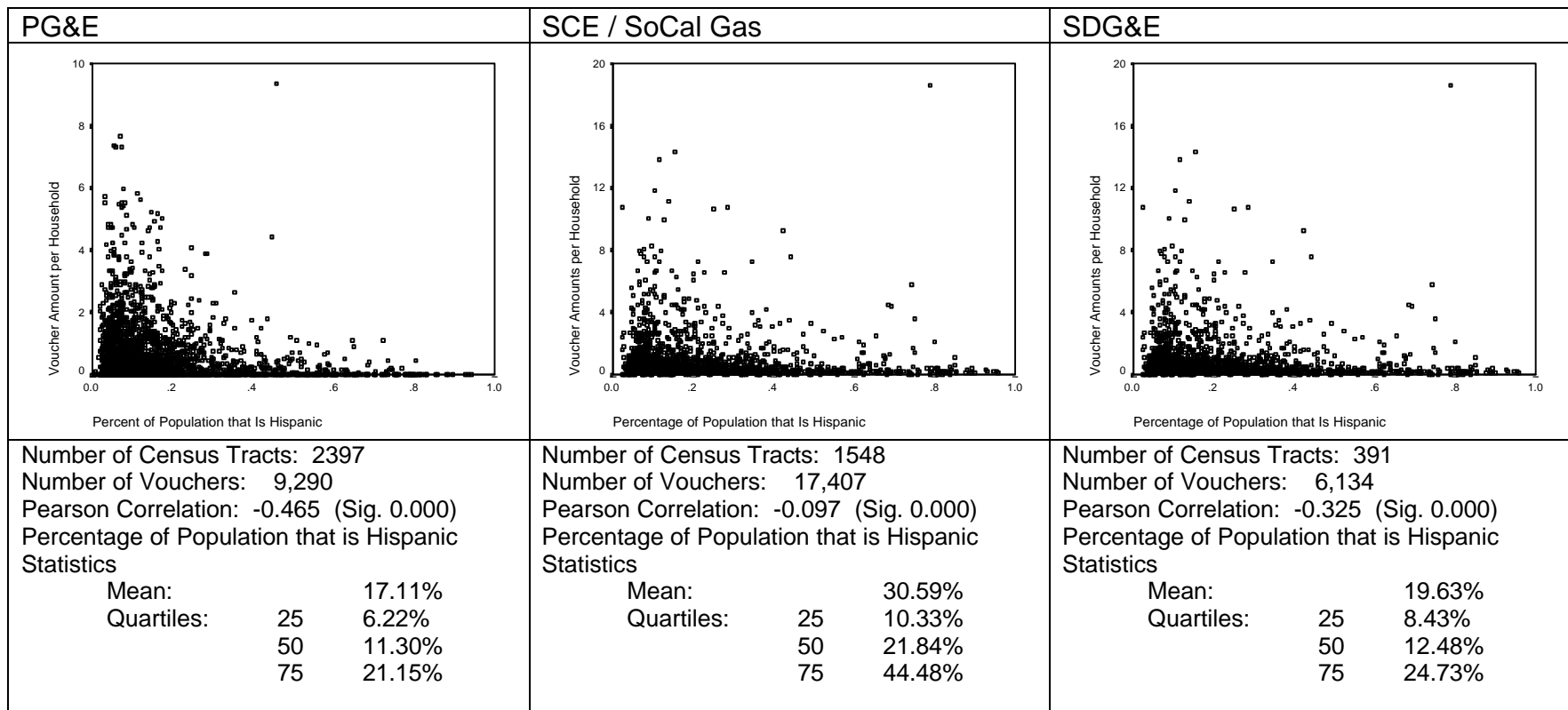
Figure 3-2: Voucher Amount per Household Vs. Percentage Population that is White



3.3.3 Voucher Distribution by Percentage of Population of the Census Tract that is Hispanic

The results indicate that, for all three service territories, the more Hispanic a census tract is, the lower the amount of vouchers received per household.

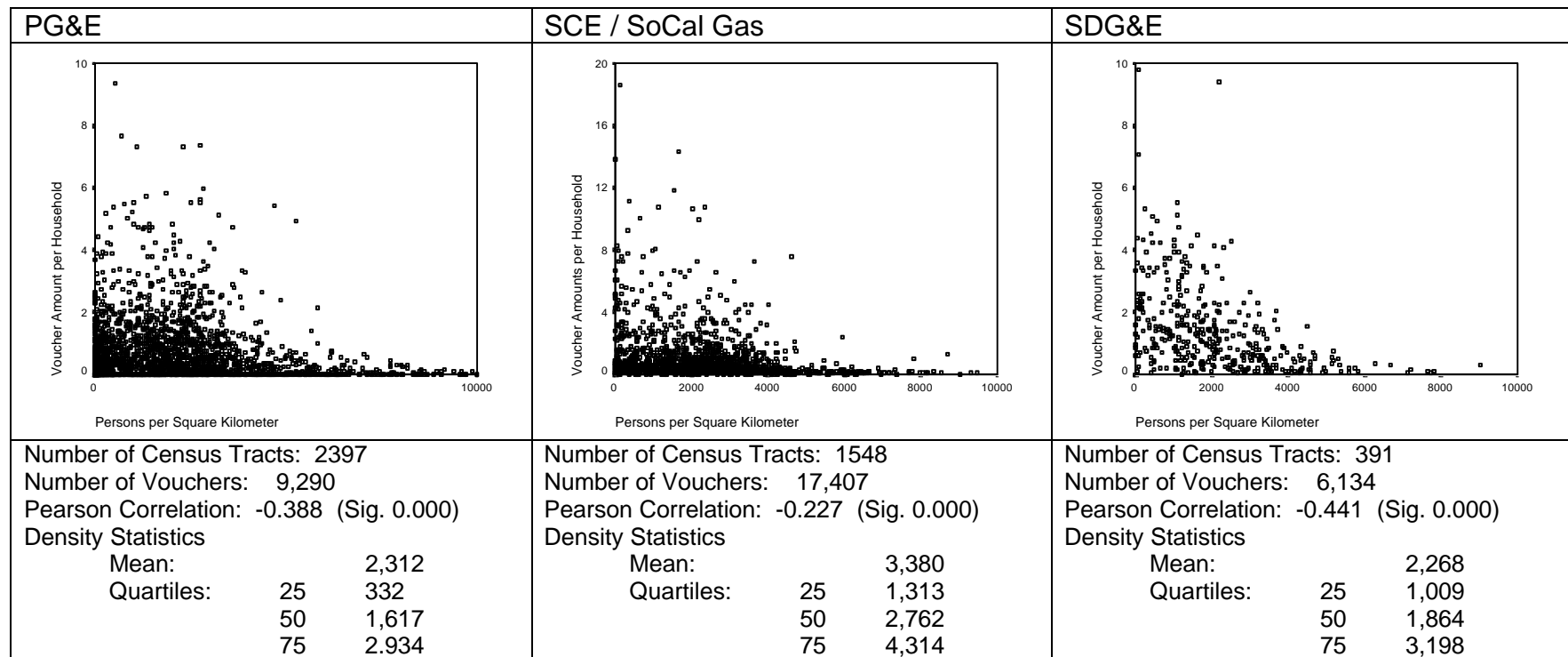
Figure 3-3: Voucher Amount per Household Vs. Percentage of Population that is Hispanic



3.3.4 Voucher Distribution by Density of Census Tract

A clear relationship appears in each of the service territories between the amount of vouchers per household in a census tract and the population density of that tract. As density increases, the amount of funds goes down proportionally on a household basis.

Figure 3-4: PG&E Voucher Amount per Household Vs. Persons per Square Kilometer



3.3 Home Ownership as an Explanation of Differences in Voucher Amounts

The existence of correlations between voucher amounts and demographic characteristics warrants further explanation. There are numerous reasons why voucher amounts appear to be higher in areas with higher white populations, and many of these possible explanations have little to do with program design or operation. One of the most probable explanations is that areas with lower white populations are also more likely to have a larger percentage of renters and multi-family units, sub-sectors of the population not targeted by the single-family RCP program.

To test this theory another index of program activity, Voucher Amounts per Number of Owner Occupied Households was developed. This index may represent the potential target audience better than using all occupied households. The results presented in Table 3.1 show very surprising and different results depending on which service territory one examines.

Table 3-1: Comparison of Correlations Using All Occupied and Owner Occupied Households

	PG&E		SCE/SoCal Gas		SDG&E	
	Voucher Amount per Household	Voucher Amount per Occupied Household	Voucher Amount per Household	Voucher Amount per Occupied Household	Voucher Amount per Household	Voucher Amount per Occupied Household
Median Income	0.278	0.032	0.036	0.071	0.428	0.153
Percentage of Population that is Black	0.090	-0.017	0.140	0.170	0.342	0.265
Percentage of Population that is Hispanic	-0.465	-0.026	-0.097	-0.115	-0.325	-0.232
Density	-0.388	-0.021	-0.227	-0.168	-0.441	-0.287

For SDG&E, using the owner-occupied index has a small dampening impact on the correlation results. Part of the explanation for why SDG&E's program has reached less non-whites, Hispanics, and less affluent is because more of these people live in non-owner occupied units, and are thus normally missed by the single-family program that tends to be more attractive to persons who own their dwellings. In each case, the correlations for the owner-occupied statistics are lower than when all occupied homes are used, however in each case the correlations still are significant at less than the 0.0001 level. This generally

means that other factors besides owner occupation are affecting who gets vouchers in this program.

For SCE/SoCal Gas, the use of the owner-occupied index actually increases the correlations for median income, percentage of population that is white, and percentage of population that is Hispanic. Only the correlation value for density is reduced, though it too remains significant at 0.0001 percent. It is possible that the SCE/SoCal Gas results improve when the owner occupied statistic is used because a larger portion of the Los Angeles housing stock is rental. Dropping these rental houses also drops many of the homes that are also served by the Los Angeles Department of Water and Power and therefore only eligible for gas saving measures.

It is only for PG&E that the switch to the owner-occupied index has the effect of making the correlations non-significant. When the owner-occupied index is used none of the demographic characteristics tested remain significantly correlated with voucher amounts per owner-occupied household. Much of the reason for this impact is that the correlations for PGE were not as strong to begin with. As the next section explains, some of the explanation for the lower correlation has to do with the large size of the service territory, the large number of census tracts with no participation, and the preponderance of activity surrounding the Stockton training site.

The levels of owner-occupied versus total occupied provide some of the explanation for why vouchers are lower in census tract with lower incomes and/or a larger percentage of the population is non-white or Hispanic. For PG&E and SCE/SoCal Gas at least, it appears that part of the reason that these programs are not as successful in reaching minorities and the less wealthy stems from the fact that many of them live in areas with a lower percentage of owner-occupied housing. If this is true, then efforts to market the RCP to minorities may be less successful, unless the program can begin to attract landlords and renters.

3.4 Maps of Vouchers per Household Versus Percentage of Household that is White

A series of maps have been generated showing the spatial relationship between voucher amounts and percentage of the population that is white. These maps show distribution patterns that help explain variations in participation rates.

To show the distribution of vouchers by percentage of households that are white, we first divide the population into census tracts into three categories:

- Least white census tracts—those with percentage white population of less than 65.57 percent—*this group is represented by gray to black colors.*

- Middle range census tracts—greater than 65.57 and less than 85.638 percent white—*this group is represented by yellow to brown colors.*
- Most white census tracts—those tracts with greater than 85.638 percent white population—*this group is represented by pink to magenta colors.*

Within each color range, as the voucher amount per household rises, the color of the track intensifies, moving from a low of gray, yellow, or pink to a high of black, brown, or magenta. As one can see if one looks at the color versions of these maps, there appear far more magenta tracts than there do black colored tracts.

The PG&E map shows a clear pattern of participation in the central part of the service territory, and light participation in the exterior portions. This is probably reflective of the fact that until recently, all of the training sessions were held at their Stockton facility and thus the program attracted more contractors within a few hours of the Stockton. More than 41 percent of the PG&E's census tracts have had no program activity at all. The strong correlation of proximity to Stockton and the large number of non-participating census tracts is the predominant determinant of participation in the PG&E service territory. These factors tend to overshadow income and non-white bias as major factors influencing who is participating. This explains why the correlations between vouchers and income and population that are white are lower in the PG&E territory.

In contrast SDG&E's program has reached all but 17 percent of its census tracts. Figure 3.9 shows the highest participation among the wealthier communities living inland from the milder coastal climate. In these areas, which are mostly white, voucher amounts exceed \$2 on a household basis. This result corresponds with the high correlations between voucher amounts and percentage of population that is white and median income levels

In SCE/Socal Gas's case, there are also 42 percent of the census tracts that do not have any participants. These tend to be both the areas on the periphery and in central Los Angeles, where because electricity is supplied by Los Angeles Department of Water and Power, homes are only eligible for gas saving features. The gas eligible measures do include both windows and ductwork, but many of the older Los Angeles homes have wall heaters and no ductwork. Additionally, the high price for new windows is a likely deterrent to many Los Angeles homeowners.

Figure 3.5: PG&E—Voucher Amount per Household by Percentage of Census Tract that is White

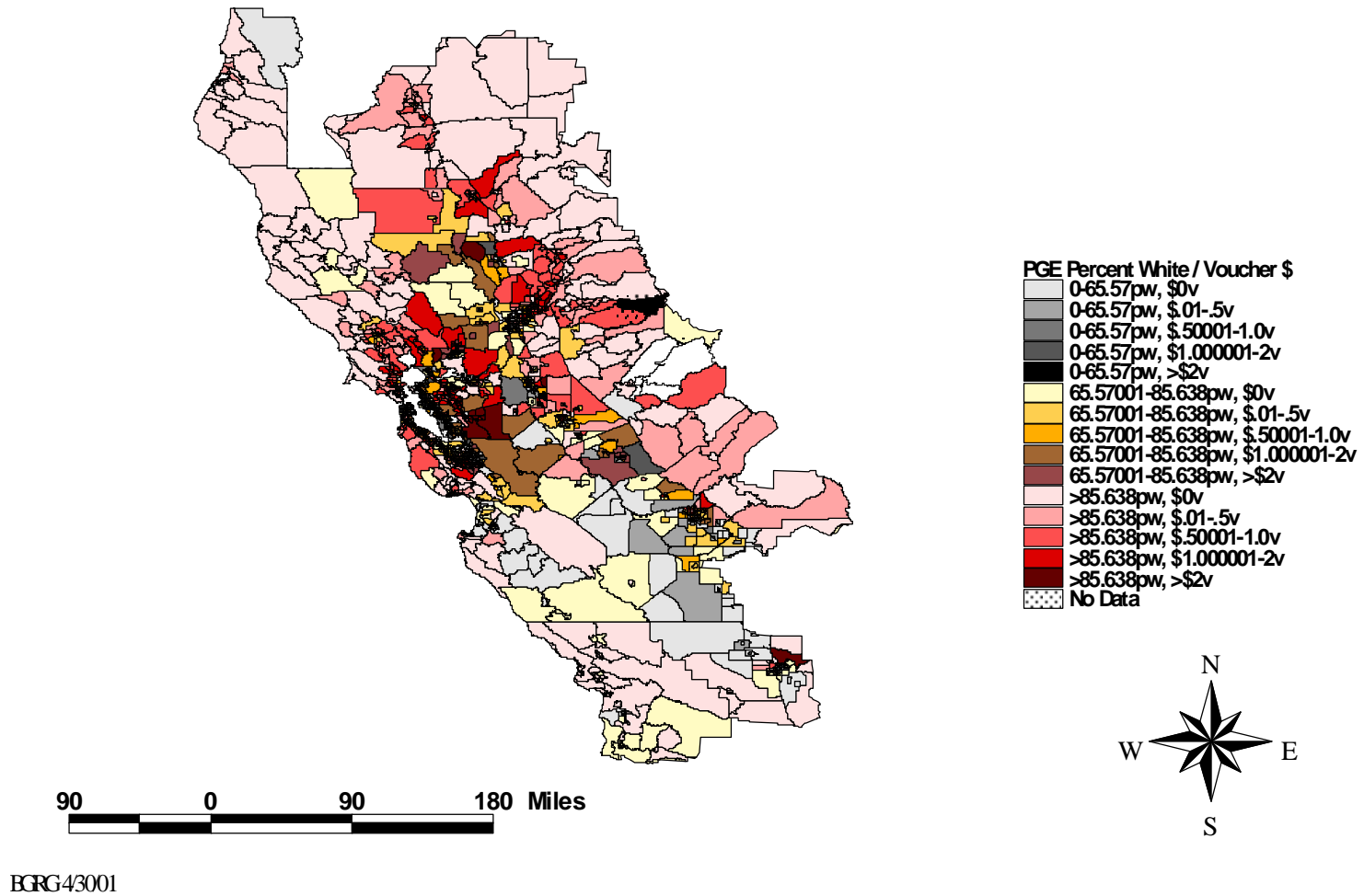


Figure 3.6: PG&E Bay Area—Voucher Amount per Household by Percentage of Census Tract that is White

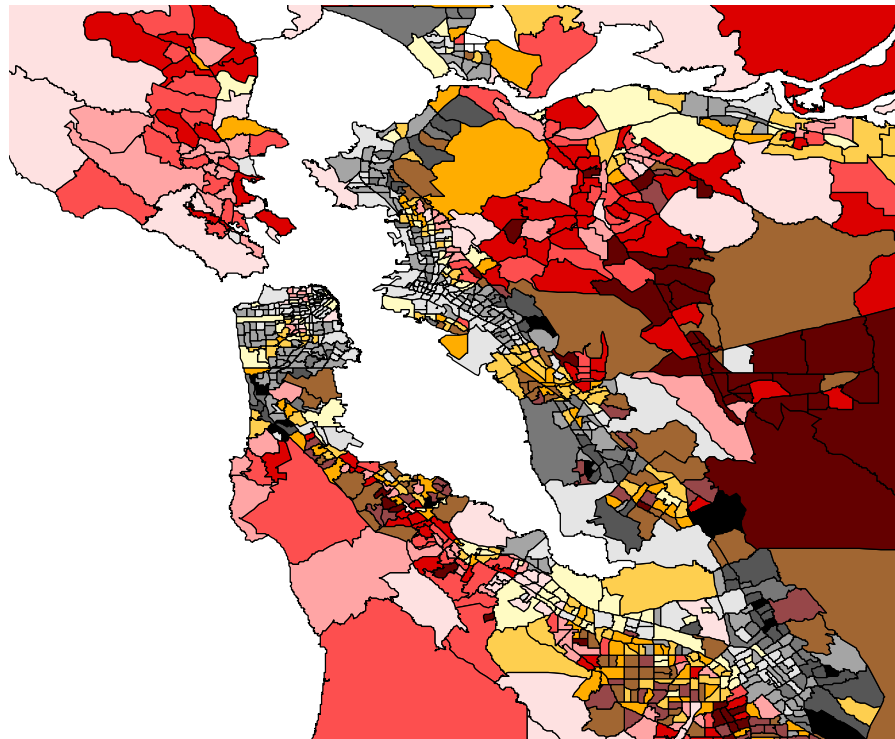
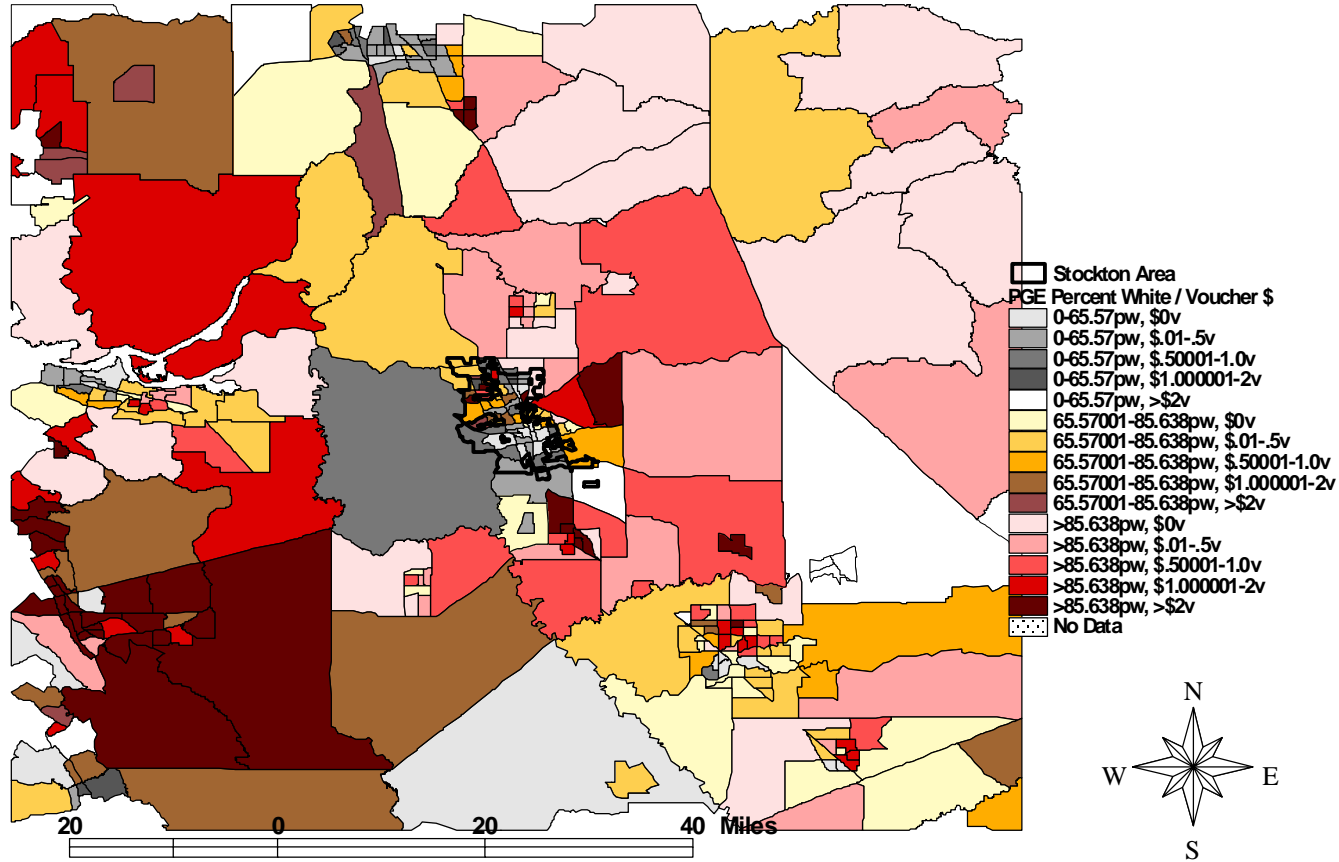
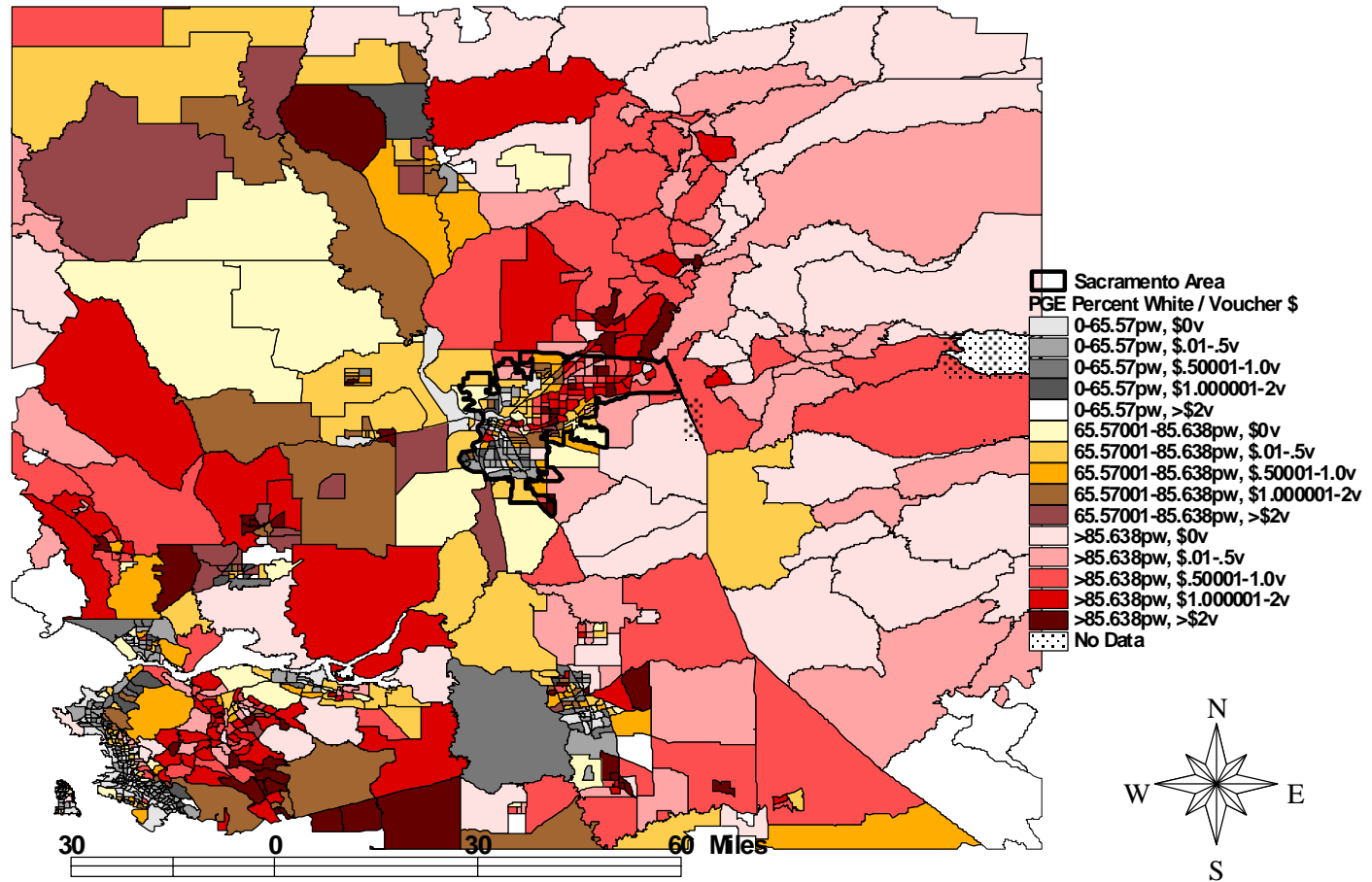


Figure 3.7: PG&E Stockton Area—Voucher Amount per Household by Percentage of Census Tract that is White



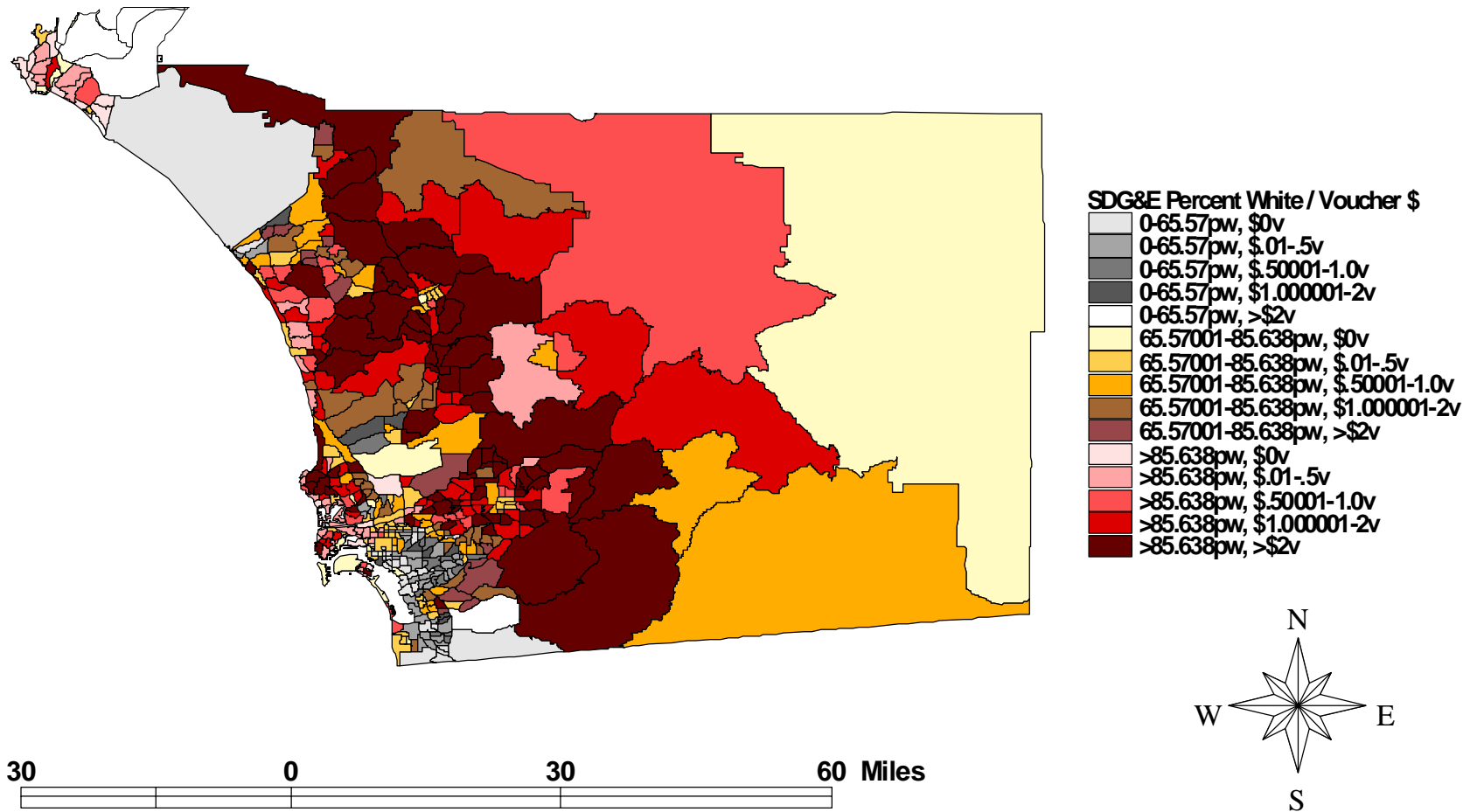
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Figure 3.8: PG&E Sacramento Area—Voucher Amount per Household by Percentage of Census Tract that is White



BCRG43001

Figure 3.9: SDG&E —Voucher Amount per Household by Percentage of Census Tract that is White



ECRG43001

Figure 3.10: SCE/SoCal Gas—Voucher Amount per Household by Percentage of Census Tract that is White

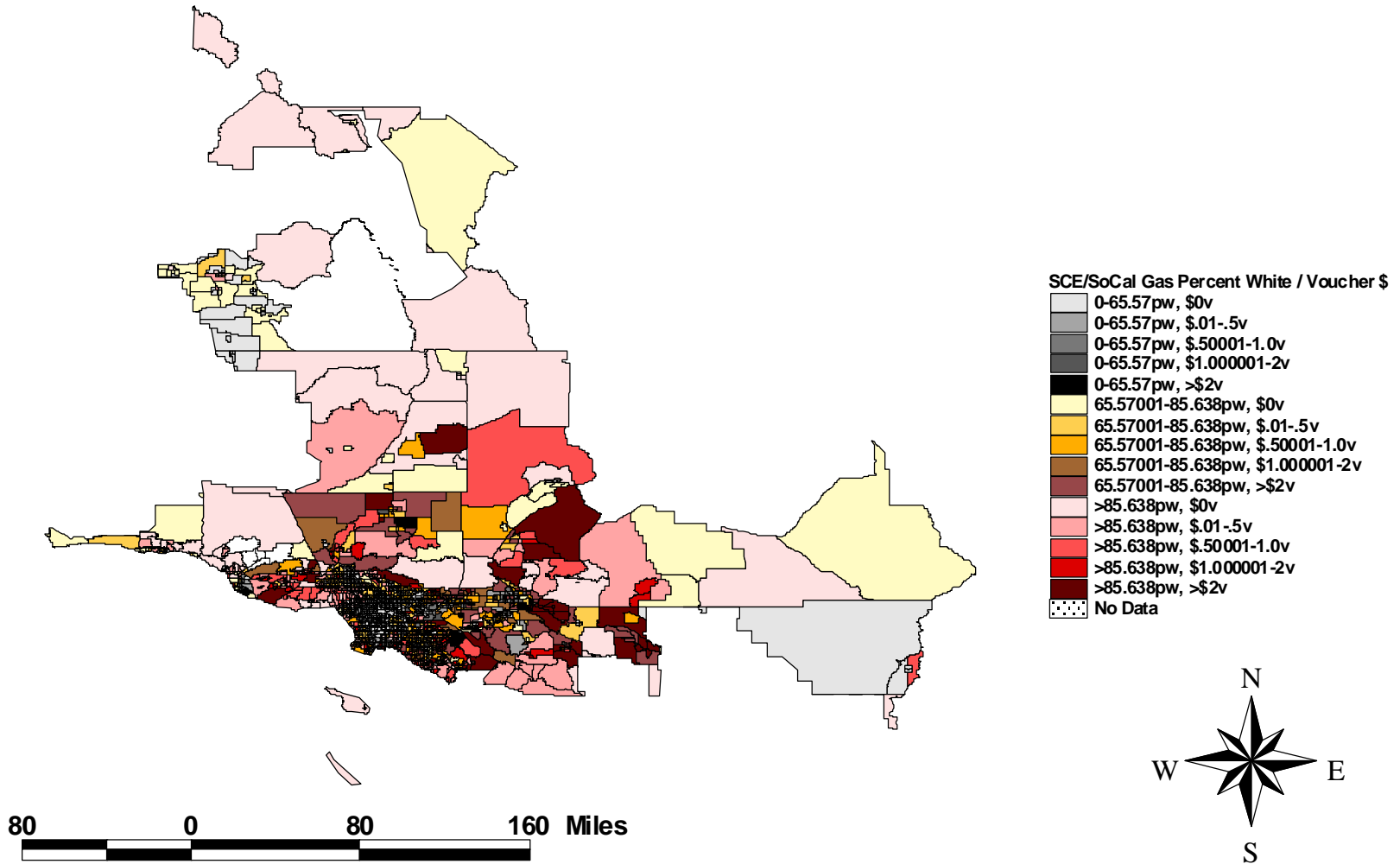
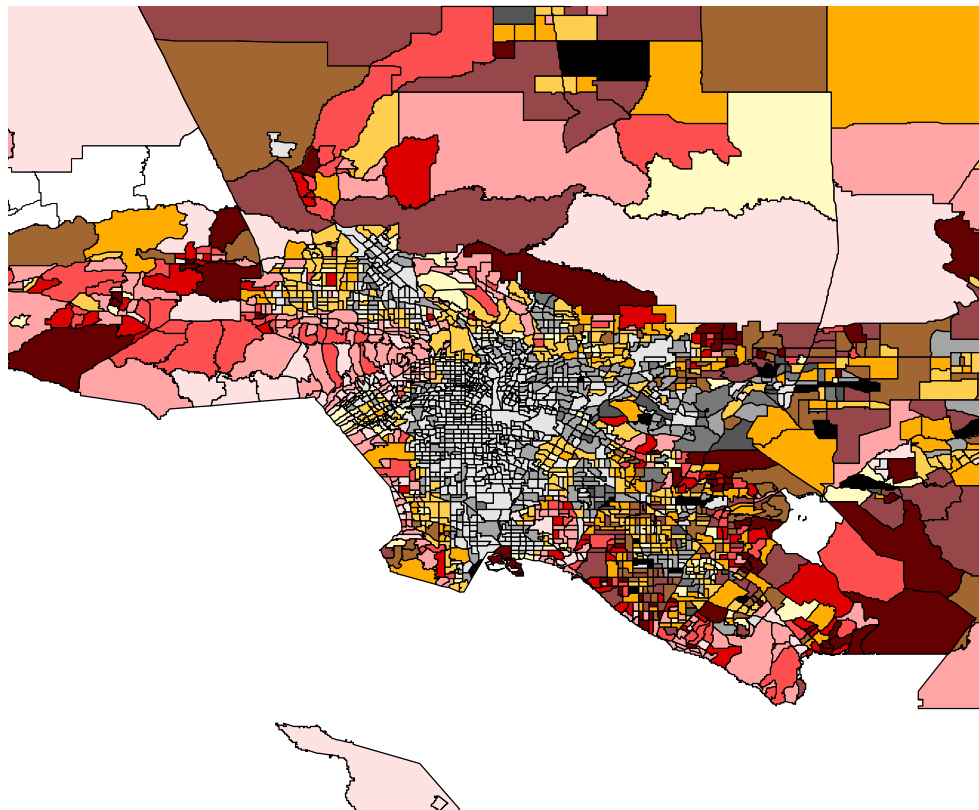


Figure 3.11: SCE/Socal Gas Los Angeles Area—Voucher Amount per Household by Percentage of Census Tract that is White



3.5 Maps of Vouchers per Household Versus Median Income of Census Tract

In Figures 3.12 to 3.18, maps are shown of the distribution of incentives overlaid by the median income of the census tract. These maps show a similar pattern to the percentage of white population maps above because median income and percentage white are highly correlated for each of the three service territories. The correlation coefficients are 0.340 within the PG&E area, 0.483 within SDG&E's service territory, and 0.532 for SCE/Socal Gas's area.

For this set of maps, the census tracts are first divided into three groups based on median household income of the census tract.

- Lowest median income group—census tracts with median household incomes less than \$30,115—*cells represented by colors yellow to red-orange.*
- Middle median income group—census tracts with median incomes greater than \$30,115 and less than \$42,061—*cells represented by shades of blue.*
- Highest median income groups—census tracts with median household incomes greater than \$42,061—*cells represented by shades of green.*

The higher the voucher level, the more intense the coloring so that low voucher levels are represented by least darken cells. Again those viewing hard copies may wish to view maps using the available pdf versions where map view can be enlarged to see specific census tracts.

Figure 3.12: PG&E—Voucher Amount per Household by Census Tract Median Income

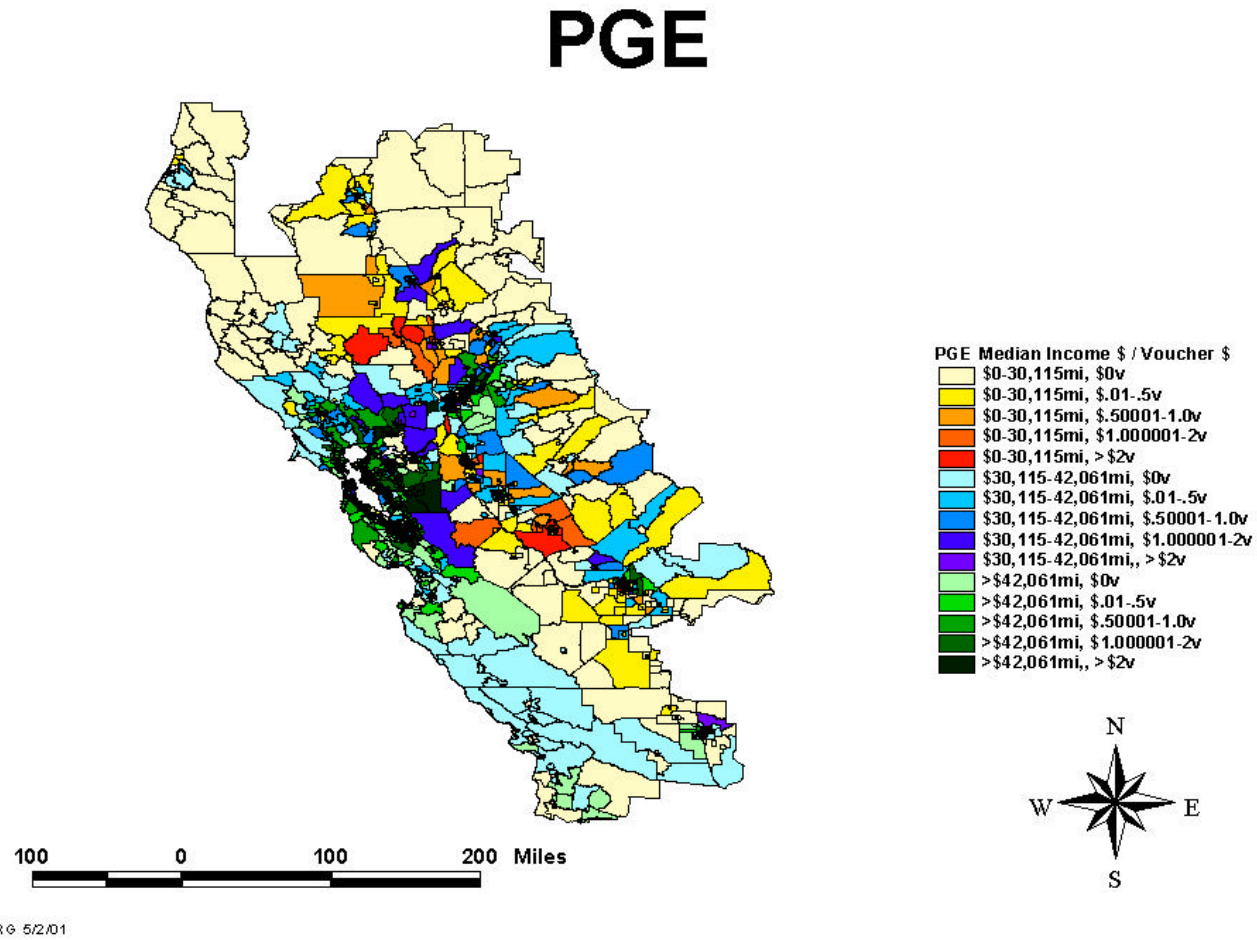
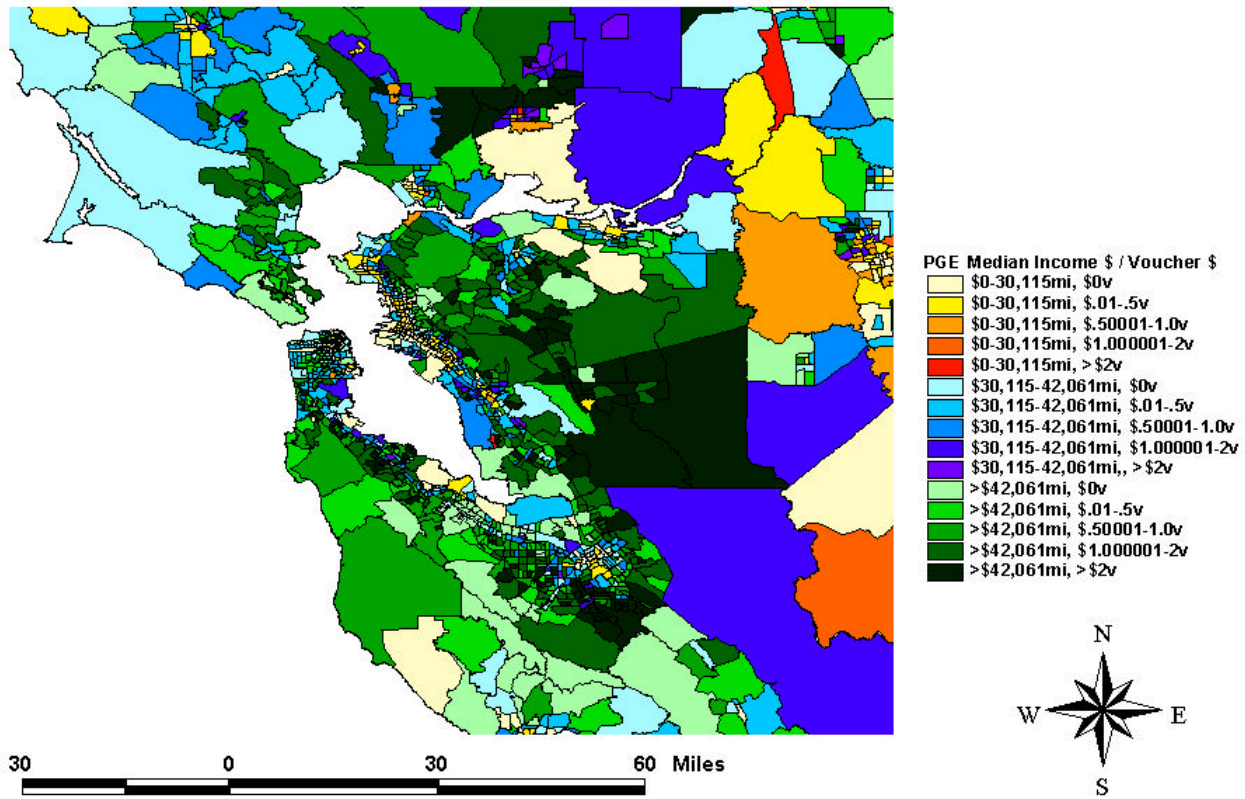


Figure 3.13: PG&E Bay Area—Voucher Amount per Household by Census Tract Median Income

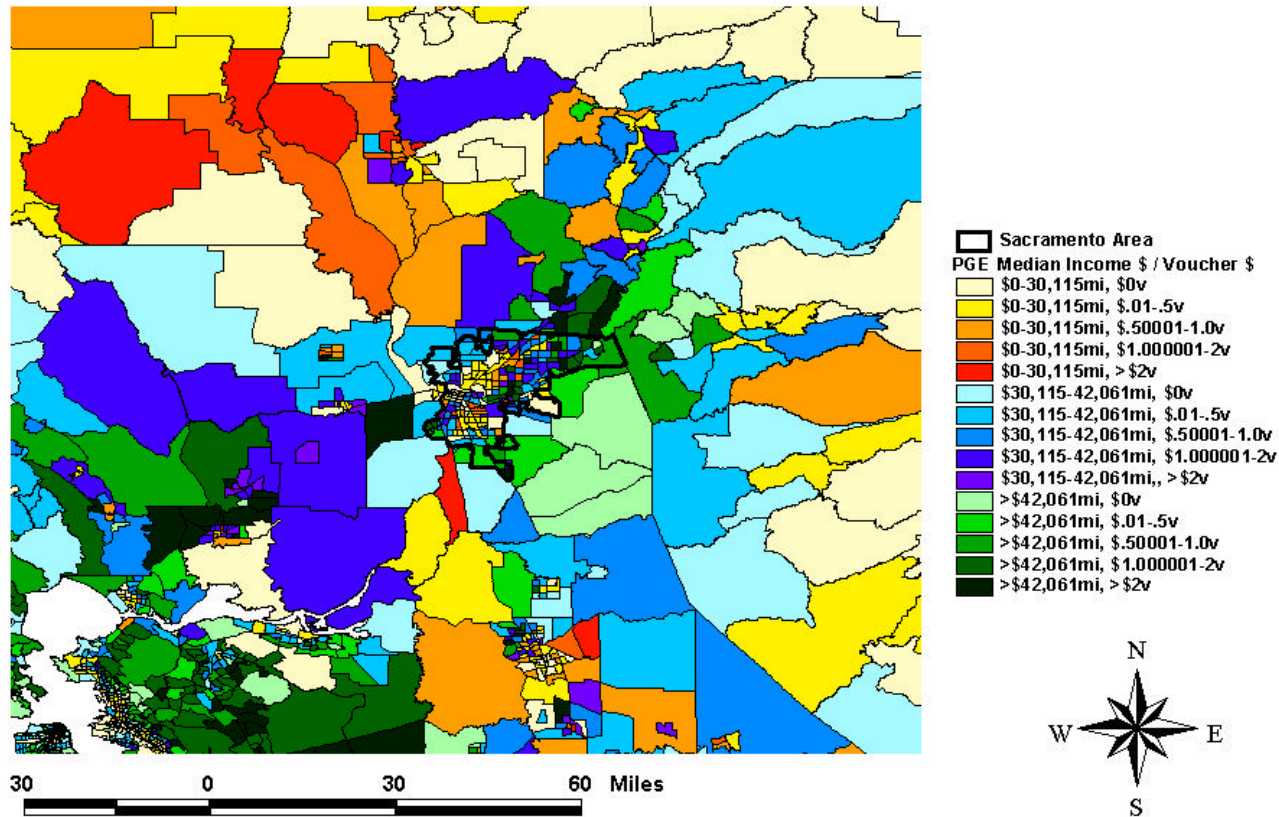
PGE (Bay Area)



BGR 6 5/2/01

Figure 3.14: PG&E Sacramento Area—Voucher Amount per Household by Census Tract Median Income

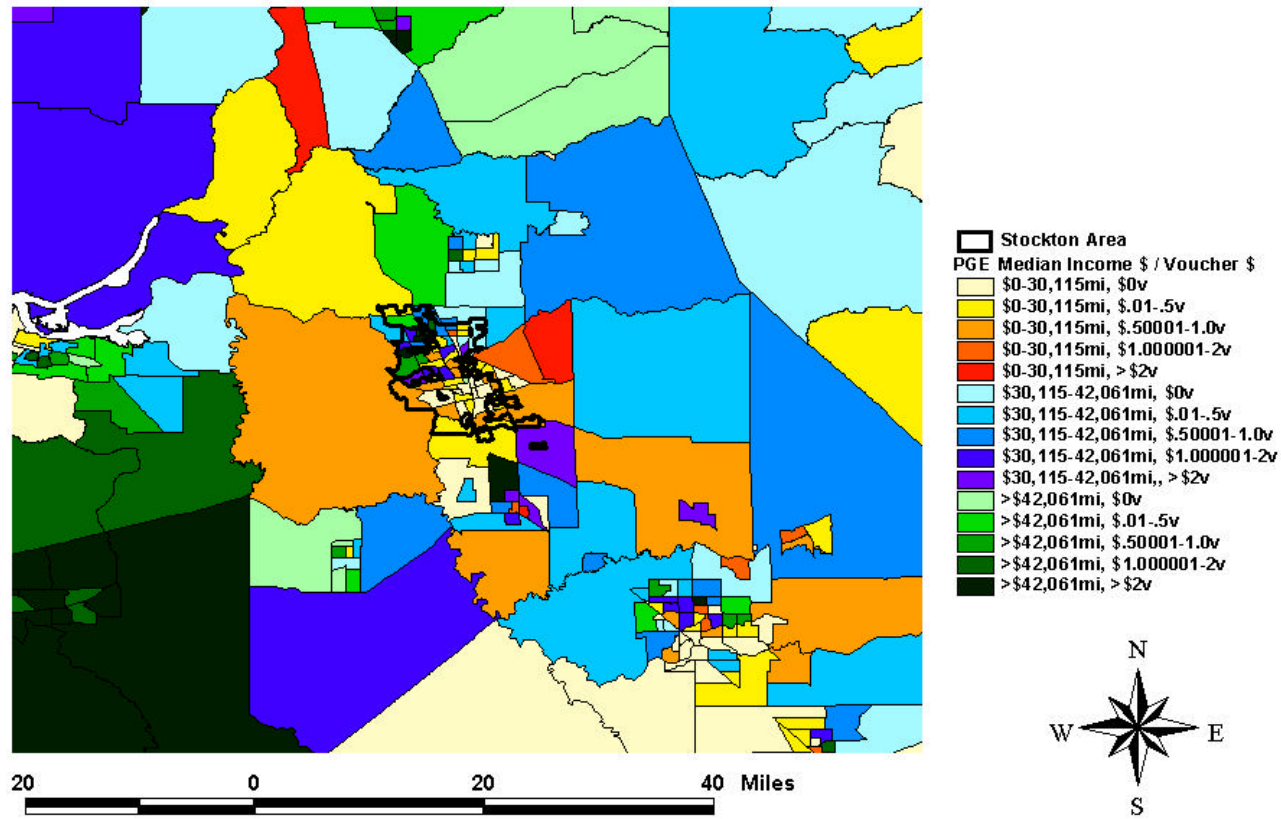
PGE (Sacramento Area)



BGR 5/2/01

Figure 3.15: PG&E Stockton Area—Voucher Amount per Household by Census Tract Median Income

PGE (Stockton Area)



BGRG 5/2/01

Figure 3.16: SDG&E—Voucher Amount per Household by Census Tract Median Income

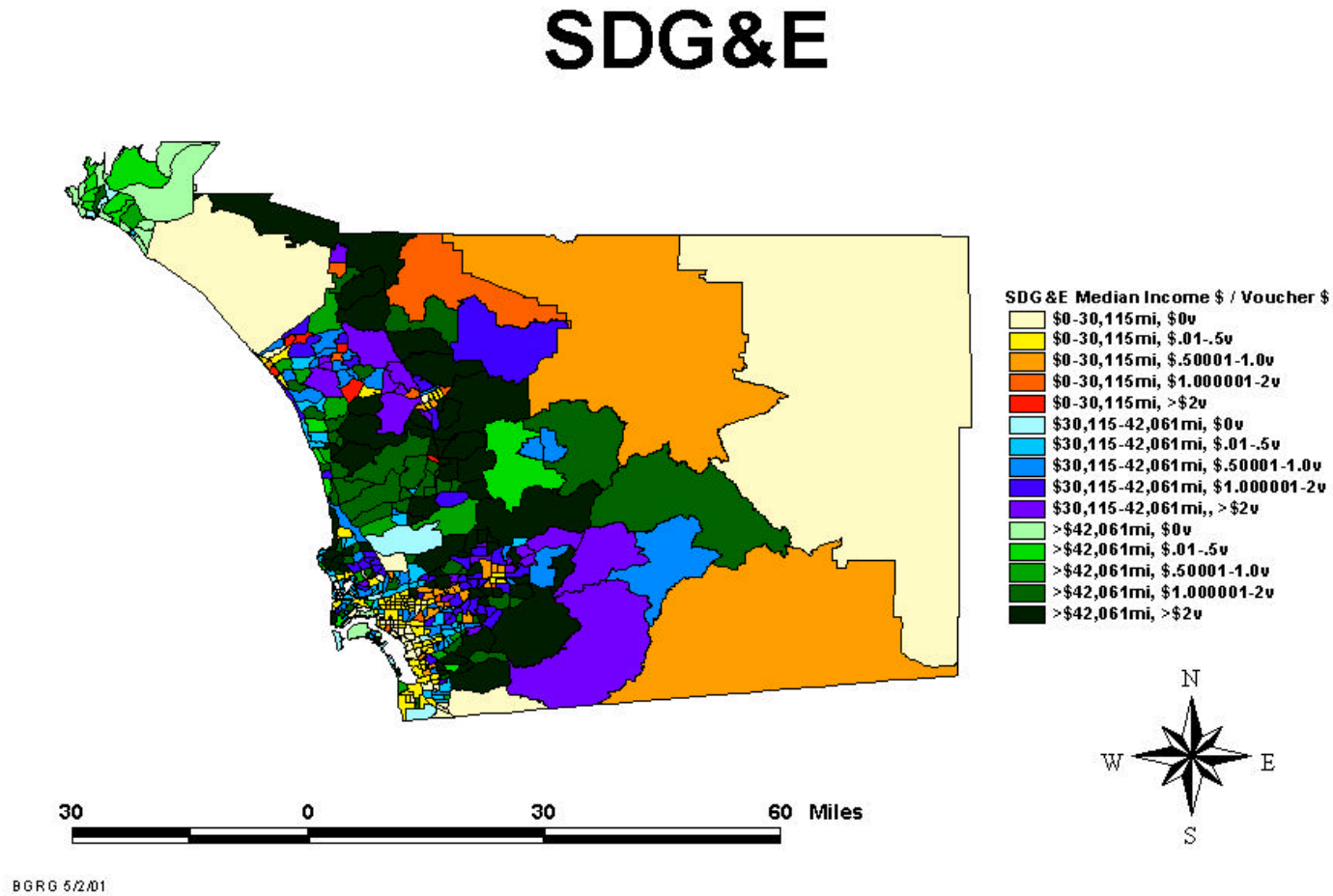


Figure 3.17: SCE/SoCal Gas—Voucher Amount per Household by Census Tract Median Income

SCE/SoCal Gas

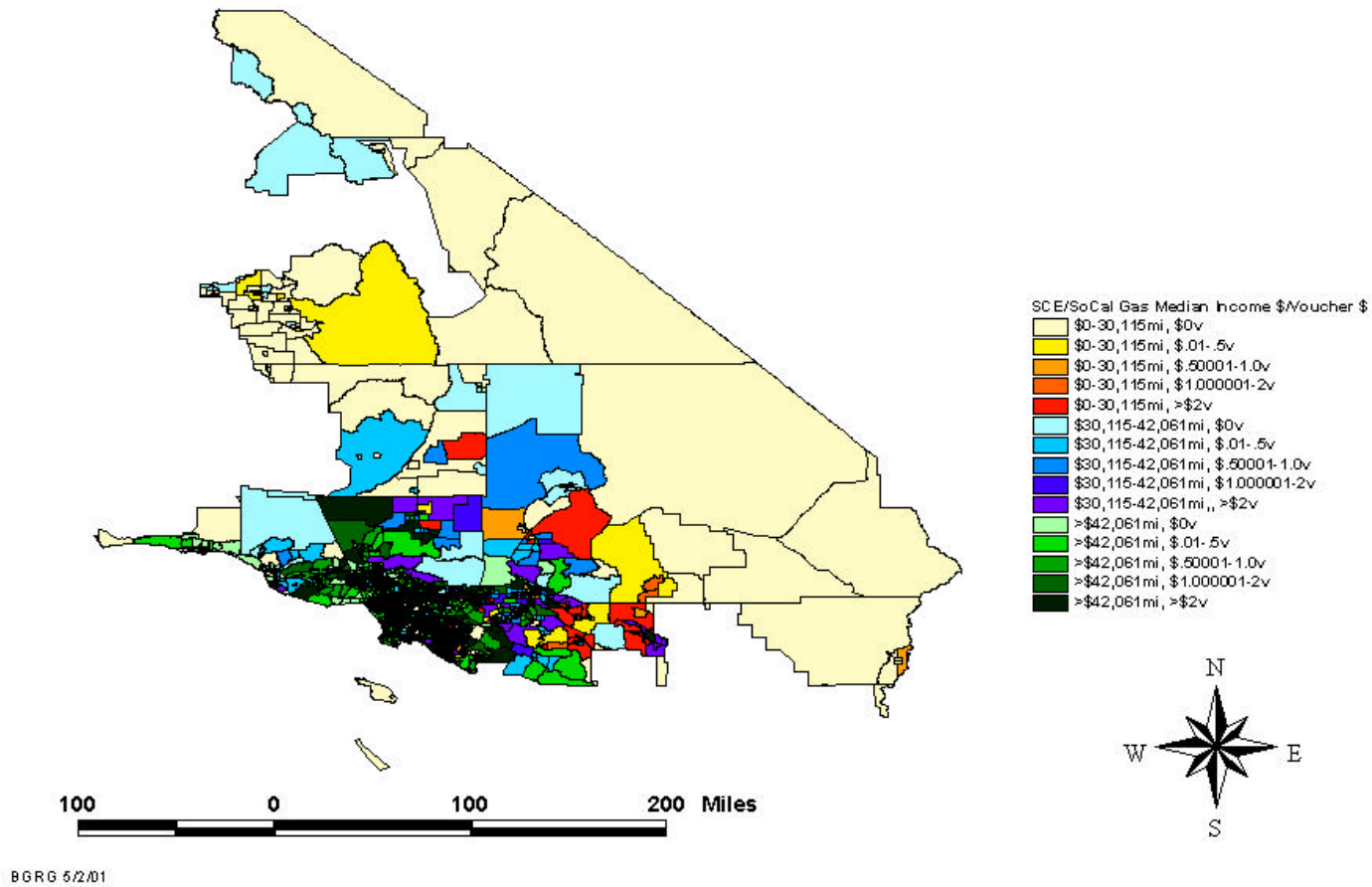
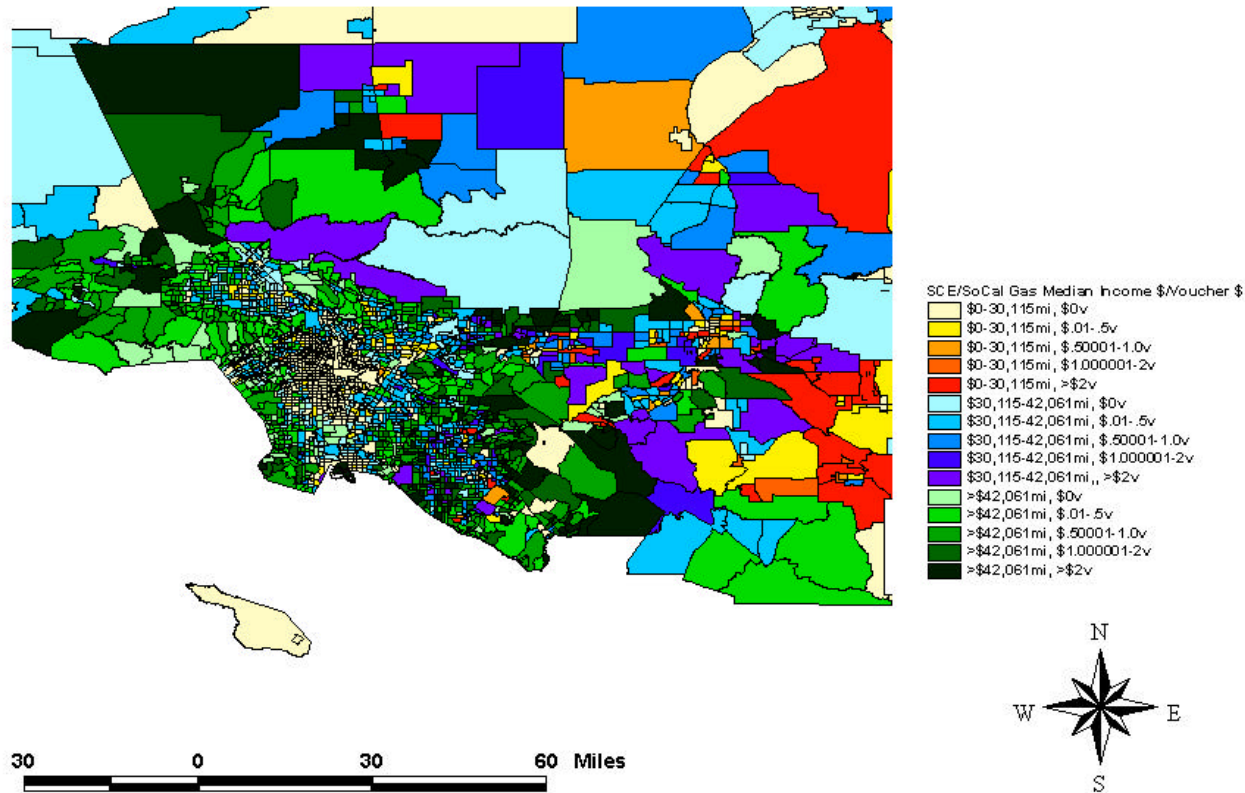


Figure 3.18: SCE/SoCal Gas Los Angeles Area—Voucher Amount per Household by Census Tract Median Income

SCE/SoCal Gas (LA Area)



BGRG 5/2/01

4. Contractor Feedback: Single Family Element

This section summarizes key findings from market research addressing participant reaction to RCP. Results reported here are a compilation of findings developed from telephone interviews as well as focus group research with participating contractors. This research covered a range of topics including program administration and marketing, incentives, training, market dynamics, and intentions to continue participation. The contractors contacted do not represent a statistical sample of the entire population of participant and non-participant households.

4.1 Program Administration

In many respects, administrative issues, particularly those surrounding open, responsive communications and trouble-free processing of vouchers or applications, hold the key to the long-run success of the RCP. This has been the area with the greatest difficulties during the Year 2000 program, and this is the area with the greatest potential for precipitating contractor drop out problems. Based upon feedback received from contractors, we cannot emphasize strongly enough the importance, in particular, of timely, responsive communications with contractors and EESPs. We analyzed the following three aspects of program administration: turn-around time, voucher requirements, and communications.

4.1.1 Turn-around Time on Payments

During focus groups and the telephone interviews, contractors consistently highlighted the difficulties created by long payment times as well as the dampening effect this has upon participating contractors' enthusiasm for the program. From the perspective of the evaluators conducting these interviews, the feedback provided in this regard was not as severe as that received in previous evaluations of the SF RCP.

During telephone surveys with contractors, we asked how long, from their perspective, was the elapsed time to receive payment on vouchers that they had submitted. Typical waiting times for payment on vouchers in SF element, as reported during these interviews, are shown in Table 4-1.

Table 4-1: Reported Payment Time for SF Vouchers

Typical Elapsed Time	PG&E	SCE/SoCal Gas	SDG&E	Total
0-30 days	1	1	2	4
30-60 days	6	3	2	11
60-90 days	6	2	2	10
90+ days	3	2	0	5

As shown from this data, experiences have been mixed in terms of average turn-around times on vouchers submitted for approvals. Half of the contractors still report that repayment takes 60 days or more. Feedback from the focus groups with participating contractors also indicated mixed experiences with payment processing times.

As a follow-up, contractors were asked to rate their satisfaction with the elapsed payment time on vouchers. Table 4-2 summarizes these satisfaction levels with payment periods in RCP during PY2000. (Note that during the interviewing process we probed to ensure that responses reflected as much as possible recent experiences with RCP and not simply the worst experiences remembered).

Table 4-2: Satisfaction with Payment Time for SF Vouchers

Utility	Average satisfaction rating <i>(scale 1 to 5, 5 being most satisfied)</i>
PG&E	2.5
SCE/SoCal Gas	2.4
SDG&E	3.2

Although the sample size for this research was small, the consistency of the feedback we received suggests that allowing payment processing times to exceed 60 days does negatively impact participating contractors' views of RCP.

Discussions with program managers highlighted steps that have been taken to address payment turnaround times. Each of the programs has assigned additional personnel in order to be able to make a thirty-day turnaround target. The program managers recognize that the breakdown occurs when incorrect or incomplete applications are submitted. As a result, the programs have given considerable attention to this matter in the last year, including:

- Emphasis on rapid return of voucher materials to contractors,
- Additional training sessions for contractors' office staff, and
- Additional full-time inspectors to speed up the time needed to complete this component.

Based upon feedback from both contractors and utility staff, training sessions on how to submit forms, improved in-house support, and the concerted effort to speed up the internal processing have all helped. However, while there are noticeable improvements over last year (when complaints about payment times were more universal) there remains a gap in perception among contractors and the utility administrators as to whether payment times are now acceptable. We suspect that contractor payment issues may be a major reason for dropouts and non-participation. Larger contractors who are active in the program have adapted to deal with these delays. It is the newer contractors, and especially the smaller ones that work on a cash basis, that have the most difficulty with the process.

As long as this gap remains, payment processing must remain a key area of management attention for this program, as residential contractors are keenly sensitive to payment delays. Processing within 30 days of submittal should remain as a performance target.

4.1.2 Voucher Requirements for SF Program

The contractors have appreciated simplifications and consolidations made thus far, particularly in the area of windows. There remains, however, a lingering perception among participating contractors that the paperwork requirements are duplicative. While few specifics were offered when asked, participants typically cited the number of forms required, particularly in HVAC-related measures.

Training or re-training on paperwork requirements can be helpful in mitigating processing delays due to improper submissions. Where this type of training has been initiated, it has received a favorable response from participants. We recommend continued or expanded efforts in this area to eliminate an avoidable problem and minimize drop out issues among participating contractors. Where this is not yet being done, making vouchers directly available to contractors would simplify the job process for contractors. Misunderstandings sometimes arise when customers, rather than contractors, receive the voucher forms.²

The utilities should possibly consider sending the voucher check to the homeowner if both the contractor and the homeowner agree. This approach

² For example, in one of the focus groups, one participant homeowner accused the contractor of stealing her vouchers. The homeowner became confused because the package received from the utility included vouchers for over \$700 covering all of the measures that could have been installed at her home. She was under the impression that her contractor made off with all of this voucher money even though he only installed one item.

would lessen the cash burden on contractors and shift it to the homeowners. Nevertheless, some of the homeowners we spoke to in the focus groups would have preferred that they receive the voucher payments.

4.1.3 Communications on Pending Vouchers and Applications

Good communications with contractors is vital to address individual contractor issues, to inform contractors of program changes, and to provide new information on techniques and materials. Prompt notification to participating SF contractors about shortcomings in their submitted vouchers is important to enable the contractors to initiate the necessary steps for rectifying problems. All of the program managers report that they immediately fax back to the contractor any incorrect forms received.

The use of broadcast communication with all contractors, or all contractors working in a specific sub-field, still needs refinement. To a large extent, program managers have relied on direct contact to communicate with contractors to date. As the program expands, this will be a less viable option. Several of the programs have established a batch faxing process by which they can reach all but a few of the contractors. Program managers need to use this process to inform contractors of program changes and fund availability.

From the contractors' point-of-view, experiences with returning of incomplete voucher applications were mixed. Some SF contractors reported good follow up by the utilities on missing information, while others had unjustifiably long waiting times without any notification on needed actions. If not already being undertaken, we suggest a computerized tracking database for date stamping actions taken on vouchers received, with weekly management follow-up to monitor backlogs and enforce corrective actions as needed.

Some participants in both the Multifamily and SF elements mentioned the communications via e-mail and fax initiated during 2000. This was viewed as a very useful improvement in communications and these respondents urged that such communications be continued. Being able to check on the status of applications submitted and feeling assured of being kept informed of program updates were emphasized. Communication timeliness was raised on numerous occasions by contractors some of whom reported learning about the program being closed (due to depleted funds) via a letter that was received after the closure took effect.

4.1.4 Communications on Program Changes

Participants in the SF element reported differing experiences with respect to the quality of the communications from the utilities. In at least one service area there were deficiencies in the notification given to participating contractors. Retroactive notifications of changes caught participants in a bind of having completed jobs using measures that were being dropped. One owner reported

that he found out about several program changes solely when his personnel returned from training classes.

In addition to program administration, we also examine issues regarding incentive levels, contractor screening, training, measure-specific issues, and contractors' willingness to participate in the future.

4.2 Incentive Levels

4.2.1 Contractor Satisfaction with Incentives

Table 4-3 shows the satisfaction level (*scale 1 to 5, 5 being most satisfied*) of the contractors by type of SF contractor.

Table 4-3: SF Contractor Satisfaction with Incentive Levels

Utility	Satisfaction - Insulation	Satisfaction - Windows	Satisfaction - HVAC
PG&E	3.6	3.3	3.4
SCE/SoCal Gas	N/A	3.5	3.4
SDG&E	N/A	4	2.6

Overall, satisfaction with incentives offered is quite good. Feedback offered relative to specific measures is highlighted below.

4.2.2 Heating and Cooling Measures

A stepped or scaled incentive for higher efficiency air conditioning systems should be considered. The incremental costs of SEER 14 equipment are larger than those for SEER 12 systems. For most homes, additional retrofit to the piping system is needed to move above 12 SEER (i.e., this is not a simple replacement of the AC unit). Given past evidence that the residential air conditioning market has trended toward lower first cost options, as well as the fact that moving from SEER 12 to SEER 14 resulted in only small incremental savings for most consumers, it is possible that SEER 14s will have trouble establishing a market on their own. Therefore, because the change does have a greater effect on peak energy use, higher incentives may be justified. Where SEER 14 units are or will be cost-effective, it is important that the delivery infrastructure be set in place. This means getting the units built and stocked at local distributors.

Also, it was mentioned that the incentives for heat pumps could be increased. The \$250 incentive for heat pumps was seen as low given that an efficient furnace plus an efficient air conditioning system would qualify for \$475.

4.2.3 Window Incentives

The doubling of the incentives for high efficiency windows during PY2000 clearly made the program attractive to windows contractors. Participation among this trade increased dramatically. We see no indications that there is a need to consider further incentive increases in this measure group.

4.3 Contractor Screening and Training

4.3.1 Screening

The contractors with whom we spoke typically had favorable comments about the League of California Homeowners (the League) or Electric and Gas Industries Association (EGIA) with respect to their roles in RCP. These organizations were characterized as being helpful and professional, and the interactions with them generally were not problematic. A few focus group participants reported difficulty reaching personnel at these organizations, but other feedback suggested smooth interactions and an absence of problems.

Participating contractors take no issue with the existence of screening requirements for program eligibility. In fact, a number of them feel it is important to establish such criteria and are supportive of stringent standards on contractors.

One respondent felt that greater policing or oversight of participating contractors was needed. Another reported hearing through the grapevine that one of the opinion leaders in the contracting industry felt the program had qualified some low caliber contractors and refused to be associated with it for that reason.

To address this concern, we recommend continued examination of complaints data and related indicators as the League has been doing. However, it is possible that problems are arising with non-enrolled contractors who are misrepresenting their services to consumers. We had a report that there has been fraudulent activity of this sort during 2000 in which contractors represent to the customer that they are doing RCP work, but they do a lesser quality job and simply throw away the voucher later. This possibility could be investigated by sampling customers who requested but did not submit vouchers and interviewing them about any work they may have had performed at their homes.

4.3.2 Training

All of the programs have made additions to their training offerings. The program managers also spoke of additional plans for increased training, new courses, additional locations, and use of a portable training facility. Of particular importance are efforts to increase on-site training, training for office staff on voucher submission, and business training on how to sell energy efficiency. We encourage the program managers to continue to expand their training as this is

key to achieving market transformation and is also highly valued by many participating contractors.

Table 4-4 illustrates contractor satisfaction (*scale 1 to 5, 5 being most satisfied*) with the training and workshops.

Table 4-4: Satisfaction with Training and Workshops

Utility	Average satisfaction rating
PG&E	3.9
SCE/SoCal Gas	3.3
SDG&E	4.1

If done properly, training is a very major asset for RCP. Many contractors we spoke with felt the training was the best aspect of the SF element of the program. They felt that the training provided would have had value even in the absence of RCP per se, and that the training courses offered by the utilities were generally worthwhile for their employees.

We were unable to examine in any detail contractor reactions to some of the more recent changes made in training activities. A number of the contractors interviewed had attended training prior to the implementation of some of the newer training features. Comments from these contractors suggest that the types of training changes made in Year 2000 were on target and addressing needs recognized by the contractors themselves.

The occasional respondent indicated that more training would be beneficial, either by increasing the length of the sessions or by having follow-up with the contractors after the training workshops. This comment usually was addressing classes where new diagnostic and/or installation skills were covered [as opposed to discussions of new products or product features].

HVAC contractors were almost unanimous in their praise for the training provided through RCP. Duct servicing training was especially valued for the new information it conveyed and the new skills taught. Field training seems to be especially valued. One interesting observation offered from the League was that they had noticed lower complaint rates and greater voucher activity for duct services where field training had been available as opposed to areas where only classroom training had been offered. Some focus group attendees who had participated in both forms of training also commented on their feeling of the superiority of training conducted in the field. Field training was felt to be more effective due to the greater relevance to real-world situations, the better coverage of different in-home situations, the smaller class sizes, and the more extensive, in-depth training sessions.

4.3.3 Training in Business Development and Marketing Energy Efficiency

We applaud PG&E's efforts to provide contractors with training to help them develop their businesses and, especially, how to sell energy efficiency work. This is a much needed and much appreciated support element for market transformation and we encourage the other utilities to introduce similar kinds of training. We also suggest that PG&E consider follow-up sessions, or a mentoring approach, to help contractors who have been through this training. The concepts introduced in the training book are new and complex, and may be too much for the contractors to absorb in one session. Contractors may try to use the new approach, but may not have the right answer for a customer or be able to craft a response to a particular issue raised. In these circumstances, unless immediate support is available, many contractors will just revert back to the old methods and equipment they have already learned to sell.

4.4 Trade-specific Issues

During the course of conducting these interviews, there were a few notable issues that came up concerning specific trades. These are discussed below as they correspond to the contractors within the target market.

4.4.1 HVAC Contractors

RCP is increasing the market availability of duct sealing and duct diagnostic services. Many of the HVAC contractors we spoke with indicated that they have broadened the range of services they offer as a result of RCP. Typically these contractors reported that they were offering duct services for the first time because of the influence of this program. A number of participants commented on the effectiveness of the training in increasing their awareness of more energy efficient opportunities for residential properties.

Contractors report experiencing some problems with equipment availability. However, paperwork problems comprise a particularly dominant issue for this group. The required forms are reported to request the same information repeatedly. This is particularly an issue for full change-outs, especially those involving split systems.

The climate-zone-defined incentive amounts add a degree of complication for some contractors working in areas where there are multiple zones and therefore multiple incentive levels to track.

A minority of the respondents in this research had experience using the CheckMe software. This limited feedback was positive, characterizing the software as a useful tool for diagnostic work.

4.4.2 Insulation Contractors

Insulation contractors, in particular, have reported substantial customer interest in retrofit insulation that was not otherwise occurring. Utility marketing, where undertaken, was quite noticeable in this market.

4.4.3 Window Contractors

Window contractors have seen a considerable increase in program activity since incentives were increased from \$1/sq ft to \$2/sq ft in the spring of 2000. However, there is a downside to this from the perspective of these contractors. Basically, the contractors view these as sales that would have likely been made even without the incentive. Many contractors are of the view that they have to offer the incentive since many of their competitors offer it. However, with the incentive, contractors report that they effectively have to finance the customer portion of the voucher payment for the period of time that it takes for the utility to make a payment. With the increase from \$1 to \$2, the amount financed has effectively doubled.

4.5 Intentions to Participate in Future

The large majority of the participants we spoke with in the telephone interviews indicated that they intend to continue to participate in RCP. Interest in participating in the SF element is linked to expectations that being in RCP will generate additional business for the firm, enable it to better compete, or to a perception that the program offers a good deal to customers and the contractor is happy to promote it. The contractors we spoke with in the focus groups also mentioned the same types of benefits.

Issues that led to drop out among single-family contractors include:

- the inability to get follow up from utility personnel when the contractor had questions about the paperwork requirements or the technical requirements
- long waiting periods for payment
- perceived lack of communications to contractors about voucher status
- perceived lack of communications to contractors about program changes or late communications with retroactive enforcement of changes, and
- gap between higher program standards and practices used by much of the competition.

Among contractors who never participated in the program, key reasons given include, again, fears about competitive disadvantages, difficulty justifying the requirements of the program, and a feeling that qualifying (heating) equipment is not justified given the mild climate they serve.

5. Consumer Feedback: Single Family Element

In addition to the research into contractor reaction to RCP, a limited investigation of customer satisfaction and experiences was also undertaken. The findings

reported here are based on commentary provided by focus group participants and may not be representative of the entire population.

5.1 Educating Customers on Contractor Selection

One of the early objectives of the program was to educate consumers on selecting energy efficiency contractors. To this end, consumers are urged to obtain multiple bids and some receive a guidebook on how to select a contractor. Several participants obtained multiple bids and conducted reference checks.

Input from the focus group participants indicates, however, that there remains a wide variation in the level of sophistication and savvy that consumers have in selecting contractors. Consistent with earlier research, consumers prefer to rely upon word of mouth referrals whenever possible.

One participant highlighted the fact that bidding out work for duct testing is more difficult than other measures, primarily because they (the consumers) have less direct experience with this type of work, and because the benefits are less tangible from a "shopping" perspective.

5.2 Educating Customers on Efficiency Measures

Several focus group participants (especially non-windows participants) were relatively unaware of the nature of the work that was undertaken in their homes. To the extent that the program participation experience provides an opportunity for consumers to learn more about the systems in their homes and influence future decisions related to energy efficiency, there appear to be some missed opportunities. Requiring that participating contractors at least leave consistent information with customers describing the work completed and the benefits that should be expected could address this education opportunity.

5.3 Participant Satisfaction

The majority of participants reported that they had positive experiences with the program. Feedback suggested that for many participating customers, there were no problems procedurally or with their contractors, and the discounts were a nice bonus. Poor experiences typically related to either dissatisfaction with the selected contractor or expectations not being met. There was a preference expressed for having contractors removed from "approved" lists in the event that their customers are not satisfied. In terms of addressing participant expectations, clarity and consistency in how the program is represented by contractors will go a long ways toward ensuring that expectations are met.

5.4 Recommendations for Improvement

Customers in attendance at the focus groups had three areas of recommendations for RCP. The first recommendation addressed educational

support for the program's activities, in particular with respect to explaining the benefits of duct services. Handouts explaining the types of services available and the benefits to be expected were suggested as aiding the consumer in determining what they might expect from ductwork in the home.

The second suggestion was for clarification regarding the customer's option to withhold the program voucher in the event they are dissatisfied with the work performed by the contractor.

Lastly, it was suggested that a follow-up satisfaction survey be instituted to collect information pertaining to their satisfaction with participation in RCP.

6. Contractor Feedback: Multi Family Element

Findings summarized in this section are based on feedback gathered through telephone interviews with participating contractors and property managers. We contacted thirty individuals: 14 EESP/contractors, and 16 property owners. This represents 70 percent of the entire list of active participants in the MF, and thus the results are probably representative of the entire population. Given the small number of completed projects, no GIS is created for the MF program.

6.1 Overall Satisfaction with MF Element of RCP

Participant satisfaction with the program was found to be mixed, with a majority of respondents giving the program positive ratings overall, but with significant dissenting opinions from some respondents. Opinions of EESPs were modestly more positive than those for participating property managers interviewed in this study. Participants in the multifamily element of RCP gave it higher ratings, on average, than participants in the single-family element of the program.

Our research indicates that a number of participating EESPs have prior experience with other utility programs, including some commercial sector programs, and are therefore knowledgeable of some of the issues that arise and the rationale behind the program requirements. Whether or not the requirements pose significant barriers to participation among other firms remains to be investigated.

Positive comments on program experiences suggest that the deemed savings option is an important improvement, making participation simpler and providing property owners with greater certainty on their expected returns. In addition, the incentives are perceived to be attractive for certain types of measures (boilers, water heaters, and lighting). Where participants' experiences with RCP had been good, we found that supportive communications from utility personnel and timely project approvals were vital to instilling and maintaining participant satisfaction. Conversely, negative feedback focused on unresponsive personnel or lack of communications generally, duplicative paperwork, the burden of measured savings requirements, slow approvals, and desires for larger incentives for some measures and facilities (e.g., appliances, selected lighting applications, and incentives for smaller multifamily properties). These matters are discussed more fully in the following sections.

6.2 Application Processing and Payment

The payment system used in MF element of RCP in 2000 was somewhat problematic for participants. Of all the program features examined in this

research, the program payment system received the lowest ratings.³ Negative comments indicated that the program's payment system creates cash flow burdens to participants. Problematic aspects included slow approvals and the withholding of 30% of the incentive payment. In addition, some participants expressed fears that program funding could be depleted during the course of a year, leaving them unable to recover the incentives for qualifying projects.

6.2.1 Feedback on Payment Turn-around Time

Participants desire quick initial approvals and quick inspections. Many have found program performance to fall short in this regard. This was one of the most commonly voiced complaints heard in the telephone interviews. Some respondents reported significant differences across the utilities in the time required to obtain initial approvals. One contractor working in two service territories reported a five-fold variation from one utility to another on just the initial approval step.

Long turn-around times on the initial approvals can create difficulties between EESPs and their customers. Once the EESPs have successfully marketed a concept to the MF building owners or managers, these customers are ready to move forward, but participants have often been faced with a delay of several months or more before work could begin. Sometimes, additional contractors were brought in to perform related work, compounding the sensitivity to payment delays. When caught in this bind, participating contractors feel that the program is making them look bad to their customers and to the other contractors involved.

6.2.2 Feedback on 70 / 30 Split Payment

Under PY2000 guidelines, 70% of the incentive was paid following measure installation and inspection, with the remaining 30% held for one year pending verification results. The modifications to the payment schedule made for PY2000 (which reduced the proportion of funds withheld initially) were appreciated and cited as improving cash flow for participating firms. While these changes have been welcomed, the payment delay is still problematic for some participants. Many contracting firms are accustomed to payment in full at the completion of the project and thus find the withholding unsatisfactory. Furthermore, the direct competition offered by the Summer Initiative Program, with its full payment arrangements, fuels contractor arguments that RCP should likewise offer full payment upon installation.

6.2.3 Other Processing Issues

One respondent indicated that the payment process is much more acceptable at those utilities where they are allowed to submit projects on a site-by-site basis,

³ When EESPs were asked to rate their satisfaction with this program feature on a 5-point satisfaction scale, responses averaged 2.94. Property owners and managers were not asked to rate this element of the program due to the fact that their EESPs typically handle the applications.

as opposed to bundled applications including multiple sites. When required to submit a bundled application comprising multiple sites, the financial impacts are much more difficult. Cash flow issues are compounded in this situation, in part because it delays participants' ability to submit an application, possibly for a period of months at a time.

A number of respondents indicated that there were difficulties in getting information in a timely manner from the utilities. Most often this involved information on the status of pending applications or questions about the application requirements. One property management firm reported very negative experiences with the MF program with respect to communications with the utility regarding pending applications. Repeated calls were reported to have been left unanswered or answered with a request to call back at another date. The inability to get information on their pending applications has convinced this particular firm to forego further participation in the program until they see evidence that this situation has improved.

6.3 M&V Requirements

EESPs large and small are very aware of the availability of deemed savings options and explicitly attribute key program participation decisions to this feature of the MF program. Steps taken by the utilities to ease the application process (by allowing use of deemed savings) have had notable positive effects: measures where deemed savings were available were much more frequently submitted for approval than were measures where measured savings were required. Several respondents we interviewed indicated that the program was easy to work with now as a result of the changes made. One respondent indicated that they began participating in the RCP multifamily element *because* the deemed savings option had been introduced. (Importantly, this firm began offering installations in the multifamily sector for the first time because of their interest in participating in the simplified multifamily program).

Measured savings requirements are considered onerous by the majority of participants who provide a large volume of efficiency services. To be responsible for monitoring numerous sites is a very unattractive prospect. On the other end of the continuum, some smaller projects are viewed as not being valuable enough to justify the expense of measuring savings. These comments suggests that the lack of deemed savings options for certain measure groups is a substantial participation barrier; if so, continued lack of deemed savings as an option will prevent significant program activity for these measures in the future as well.

One respondent who does not object to measured savings per se [his firm routinely performs this as a service for their customers] still plans to avoid using the measured savings option in RCP because of concerns the process will lead to additional delays in collecting payment for their projects.

6.4 Incentive Levels

Participants we interviewed seem accepting of the available incentive levels for the types of work that they have chosen to submit for reimbursement. (The respondents interviewed were involved with projects involving water heating, boilers, furnaces, or lighting applications). Ratings of the perceived effectiveness of RCP incentives averaged 3.73 on a 5-point scale among EESPs. Property managers gave the incentives somewhat higher ratings: 4.15 on the same five-point scale.

It should be pointed out that there quite plausibly could be issues with incentive size for other measures not represented in this sample. In fact, the lack of applications for these other measures provides indirect evidence that there is a barrier to program participation here. Furthermore, one respondent discussed at some length the need for higher incentives for appliances and room air conditioners, providing direct, if limited, evidence that EESPs find these incentives to be inadequate. Consequently the reader is cautioned that findings about the adequacy of incentives should be interpreted on a measure-by-measure basis as the data permits.

Within the MF element, incentives for water heating measures were quite acceptable to the respondents we interviewed, with all respondents rating them either a 4 or a 5. The incentives for water heating measures in PY2000 were seen as an improvement over those available in PY99. No requests were made for increased incentive amounts and no additional measures were recommended to be made eligible for incentives in the future.

Firms installing lighting measures were more likely to articulate desires for increases in incentives, especially for interior lighting. Respondents indicated that they could be influenced to increase their emphasis on interior lighting if the incentives for these measures were increased. Another firm specializing in lighting applications indicated that the differences in incentive levels across the utilities were significant enough to make participation very attractive in one service area but less attractive in other areas. They reportedly had to scrutinize their costs versus the program benefits quite closely before making a decision to go ahead in the latter two service areas.

As mentioned above, the feedback on appliance incentives was that they were too low. Requirements for measured savings compound this perception, but we heard that even if deemed savings were available the low incentive coupled with the application process was excessive for refrigerators.

6.4.1 Impact of SIP 2000 on Multi-family RCP in 2000

The availability of higher incentives through the Summer Initiative Program did not go unnoticed by the EESPs participating in RCP. The larger reimbursements – paid in full after installation – attracted more applications earlier in the year. Logically, EESPs prioritized their activities to maximize their gains from the two programs, with the result that RCP submissions were held back while the Summer Initiative money was still available.

6.5 Program Marketing

The property owners and managers interviewed in this study felt that program marketing should include direct marketing to the property management population, especially direct mail. One quarter also suggested outreach through trade associations.⁴ While virtually all participating property managers we interviewed had learned of the program from their EESP used on their qualifying project, not all were satisfied with this arrangement. Where preferences were expressed for notification from the utility, the reasons focused on the credibility of the information and a desire to go out for competitive bids.

Participating EESPs had few suggestions for changes to program marketing.

6.6 Future Intentions to Participate

EESPs participating in the MF element intend to continue with the program next year. All respondents felt that the program increased the number of energy-efficiency-related jobs they complete annually. For lighting installers, efficiency retrofits typically increased by 20% or more; for those installing DHW measures the increases were 65% or more. However, the more attractive incentives and payment structure of S.I.P. led several respondents to indicate that they would focus first on participating in the S.I.P. in 2001

⁴ For specific suggestions, refer to Appendix C: *Findings from Research with Multifamily Property Owners and Contractors*.

7. Summary and Recommendations

7.1 Summary of Findings

7.1.1 Single Family Element

Participant satisfaction was examined for the RCP program overall and for individual elements of the program. Table 6-1 provides a summary of these satisfaction levels (*scale 1 to 5, 5 being most satisfied*).

Table 7-1: Satisfaction with Program Elements

Element	PG&E	SCE/SoCal Gas	SDG&E
Overall	2.66	2.25	3.85
Voucher system	2.47	2.62	3.57
Payment time	2.47	2.38	3.14
Training	3.94	3.33	4.14
Incentives	3.47	3.44	3.42

N=30 participant contractors

It is important to note that these results are not intended to be statistically representative of all participating contractors but rather represent the responses received from thirty contractors selected at random.

The most important process related findings for the SF element include:

- Participating contractors are, on the whole, more satisfied with the program this year than they were last year.
- There remains a substantial level of dissatisfaction with certain elements of program administration.
- Where contractors are dissatisfied with the program administration and payment processing, this appears to adversely affect their overall impressions of the program.
- Training is viewed very favorably in all service areas.
- Contractors would like to have substantial advance notification of any program changes, and especially anything affecting incentive levels or the ability of their customers to participate in the program.
- The program has given a real boost to the development of an infrastructure to provide duct diagnostic and repair services.

7.1.2 Multifamily Element

The most important process related findings for the MF element include:

- Participating multifamily contractors are, overall, sufficiently satisfied with the program to continue participating, but a number of areas for improvement are seen.
- A survey of non-participant contractors has not yet been completed to ascertain whether any administrative or incentive level concerns exist within this group.
- Participating property managers as a whole are pretty satisfied with the program; many have minimal involvement with the program's administration or communications with the utilities.
- The deemed savings option is greatly influential in EESP's decisions about whether or not to participate in the program and about the types of jobs to submit to RCP. There is a desire to have deemed savings made available for other measures (such as appliances) as well.
- Simplifications in the required paperwork are desired, especially for large projects involving multiple buildings.
- The multifamily element of RCP operates in competition with the Summer Initiatives Program for applications from a relatively finite population of contractors.
- Advantages of the Summer Initiatives Program, as viewed by contractors, include more attractive incentives and, importantly, more attractive payment terms.
- Significant communications problems existed for several participants where difficulties were encountered in getting information to enable them to complete applications or to obtain information on the status of filed projects.
- Greater marketing to property managers is desired.
- EESPs intend to participate in PY2001.

7.2 Recommendations

7.2.1 Single Family Element

Based upon feedback obtained from contractors, several recommendations arise from this research that warrant consideration from the program managers.

1. Continue and increase training if at all possible

Training is valued highly by all contractors and is likely to have strong on-going energy efficiency benefits even in the absence of an RCP program. The inclusion of broader training opportunities involving form submission, on-site training, and selling energy efficiency are all positive enhancements and should be expanded.

2. Address budget shortfalls in ways other than suspending the program

The cutting off of the program that occurred this summer in the SCE/SoCal Gas program was a major source of discontent among contractors. Complaints about the program focused on both the suspension of the program and the communication of this suspension, which was reportedly received by most participants after the program was already suspended. Additionally, the suspension of funds appears to be creating an adverse effect -- hoarding of vouchers through the reservation of funds for potential jobs before customers have committed to having the work completed. Increasing the program budget alleviates some pressure on the program, but is not likely to solve the core problem but rather only postpones the inevitable.

We recommend that the utilities develop, in advance of running out of funds, a plan to deal with potential budget shortfalls during PY2001 and communicate this plan with contractors. Ideally, such a plan would include scaling back incentives rather than simply cutting these incentives all together. We feel that it would also be good practice to develop a rationing system that gives priority to newer participants. These contractors are less likely to have recouped their initial investment in time and money developing the new techniques.

Additionally, if any changes are to be made to the program in the future, it is important that the notification be made in writing to all contractors with a minimum of 14 days, and preferably 30 day forward effective date.

3. Establish and track payment times for payment to contractors

Data were not available to us to assess this issue in an objective fashion. Nonetheless we believe this is an important area of program performance that program management should be monitoring. If there is any element with which contractors are most dissatisfied, this is it. As there was some evidence that propensity to drop out of the program was linked to payment times in excess of ninety days, it is important that the program data systems provide for tracking of the time elapsed until payments are issued.

4. Continue fax and e-mail communications with contractors

Contractors appreciate notification on the status of the program and, in particular, expressed a desire to know that they have up-to-date information to give customers. Prior outreach using fax and e-mail communications were generally given positive reviews by participating contractors. Given the importance attributed to timely communications, we recommend expanded utilization of this communications channel. This avenue should be used to supplement, but not replace, timely responses to telephone inquiries from contractors.

7.2.2 Multifamily Element

Some of the recommendations offered above for the single-family element are applicable to the multifamily element as well. Monitoring timelines on individual applications and continuing to expand communication activities pertain to MF as strongly as to single family. In addition, we offer the following suggestions specific to the MF element of RCP.

1. Explore additional options for deemed savings

The availability of deemed savings appears to be greatly influential to the level of participation in RCP multifamily program as well as the selection of projects submitted for approval. EESPs are very aware of the availability of deemed savings options and explicitly attribute key program participation (and nonparticipation) decisions to this feature of the MF program. The possibility of expanding the deemed savings option to other measures should be taken up again, especially any measures where increased participation activity is desired. Any expansion of the deemed savings option should be highlighted in future communications to EESPs.

2. Pilot efforts to increase direct participation by property owners should be encouraged

This promises to allow greater breadth of penetration into this challenging market, capturing activities undertaken independent of the EESPs. It is possible that the participation of the property owners may also increase the diversity of measures submitted for approval. EESPs we interviewed mentioned the greater difficulties of performing work addressing measures in dwelling units due to access issues, yet one property manager we interviewed had targeted measures in dwelling units in their first application to the program. Additionally, these applications addressed energy efficient appliances, in contrast to the focus on lighting, boilers, and water heaters found among the EESPs we interviewed.

3. Increase marketing directed to property owners and managers

Property owners and managers encouraged the use of more direct marketing methods such as direct mail and communications through trade associations. Specific suggestions can be found in the appendix on the multifamily research.

4. Expedite application processing

Every effort should be made to reduce waiting periods for participants at each stage of the application process. Property managers and their EESPs rightly wish to move forward expeditiously with their plans. If necessary, staffing adjustments should be made to allow for speedier approvals and timely communications on project status. Where administrative delays are unavoidable, adroit communications can ameliorate some of the frustrations experienced by participants.

5. Re-examine incentive levels

Feedback from EESPs suggests that some incentive levels from PY2000 were not large enough to attract participation in the RCP program. In particular, it was recommended that incentives be increased for smaller facilities, and for appliances, room air conditioners, and selected lighting applications. We recommend that the utilities re-examine incentive levels to determine if any adjustments are warranted.

Appendix A: Focus Group Summary Participant/Non Participant Contractors

1. Overview and Key Findings

Description of the research

Three focus groups were held with contractors the week of November 27th, in Orange, Concord, and San Diego. At each session, active RCP participant contractors and contractors who attended a training session but had yet to return more than two vouchers were recruited.

Topics for the focus group included.

- Perceived benefits of the RCP program
- Reasons for participation
- Reasons for non-participation
- Importance of program components
- Program suggestions
- Program Issues

The overall goal of these focus groups was to understand contractors' attitudes regarding the RCP program, satisfaction with the existing program, and suggestions for improving the program.

Synopsis of Key Findings

Perceived Benefits

Contractors were asked to list the important benefits/features of the RCP from their perspective. The areas that contractors stated most often fell into three categories: sales generation, the value of the incentives, and the enhancement in reputation/quality assurance gained by involvement. Not surprisingly, the incentives offered by the program were thought by many to be the most important benefit of the program. Several others noted that having RCP was a positive sales generator for them. Other contractors felt that the utilities' involvement enhanced their reputation and added a level of quality assurance to the work that they performed.

Reasons for Participation

Many contractors participated because they saw the benefits themselves of participating, or attended a training session and decided to participate. Still others were drawn into the program in order to match their competition or to meet a request from a customer to get the incentive.

Reasons for Non-participation

There are several reasons why contractors choose not to participate. Several HVAC contractors find the requirements difficult to justify. In particular, several do not think it is right to require high efficiency in the real mild climates where the extra cost can never be recovered. Others are concerned that the requirements to seal ducts adds an unknown expense to their bids which non-participant bids do not include. Several HVAC contractors and an insulation contractor were not in the program, because they felt they could not compete with non-participants who would not have to do combustion safety testing or the additional safety related insulation installation, respectively.

Importance of Program Components

Contractors were very positive about the hands-on training offered by SDG&E. It was suggested by window contractors that training focus on how to sell the more efficient windows and less on filling out the forms. Contractors were mixed about the role played by EGIA and the League of California Homeowners. Several thought that they helped with lead generation and quality assurance, while others had difficulty contacting them.

Suggestions for change

There was an overall consensus that the utilities need to promote this program much better than they now do.

Several issues remain that the contractors would like to see changed. While the payment issue is no longer the universal problem that it once was, payment is still too long for many of the participants. Contractors expressed very different feelings about the communication links with the specific utilities. The larger utilities are having a more difficult time in both these issues. A major cause for concern was the shutting down of the program last summer when funds were used up in the SCE/SoCal program. This disruption in the program had major economic effects on some contractors. All of the focus groups expressed a need by the utilities to keep the contractors better informed regarding changes in program requirements and fund availability.

Greater detail on these key findings is summarized in the following discussion.

2. Program Benefits

Respondents were asked to list, on paper, some of the benefits they saw from the RCP program. For contractors, no single feature emerged; however, some contractors had very strong feelings about what were the program benefits, including the reputation of the utility for quality, sales generation, and the value of the incentives.

“I believe that customers still very strongly believe in those three letters [name of utility]. That carries a lot of weight with the customer. [Utility name], I think it was about ten years ago or so, they started out with a rebate program ... Customers loved it. They ate that up. Part of the deal was that [UTILITY NAME] made it a requirement that --- contractors had to make sure their work ... passed their inspections. If we had any failures we had to get back immediately and if we had too many failures they would kick us out of the program. So the benefit to the customer was that the contractors that were doing this work under the [UTILITY NAME] guys were contractors who were doing a very good job for the [UTILITY NAME] customer. That’s the whole emphasis behind this. It’s a [UTILITY NAME] customer. [UTILITY NAME] has always been very picky making sure that the customer is well taken care of. Their neck is on the line out there.”

“This [RCP] is the same type of thing. All of our work has to, of course, pass the building inspection. ... If we have too many failures they kick us out of the system. But they do give you a chance to recover.”

“It’s just like advertising dollars. I guess it really is. ... It’s like you can get in to the home. Even if you can’t sell them a system this year, maybe the furnace is going to go next year and they are going to remember Larry and call then. That’s what we kind of hope for too.”

“Credibility associated with the gas company. It legitimizes you aside from somebody else. It’s a sales tool to help motivate customers. Puts them over the edge with the rebate.”

“Well for the benefits, I look at the gas company program as essentially free advertising. It would cost a lot of money to reach the amount of customers that the gas company is contacting everyone. They are educating people more and more to do energy upgrades. Also, it is a motivation to buy so there is more sales. And another thing that I feel is an added thing is that most people don’t realize or think about is that it enables us to contract other contractors that are reputable.”

“It’s better than a yellow page lead.”

A number of contractors believe the program has generated increased business for their firms.

“We are able to have people buy now instead of later. If my price is the same and the other contractor isn’t part of the program, then they will go with me because it’s a lower price when they get the rebate. You don’t have to up sell the low E, it just sells itself.”

“Well I have more leads because the calls that are coming they say they see me on the list that the League or see me on the list of the power company or the gas company list so I know I’m getting more leads being on this program. ... it legitimizes among the approved list. They say well since you are on that list, you must be doing the job right.”

“It increased sales volume. It has helped us expand our product line and legitimacy. I don’t know that the leads that we get, some of the people that call in, they don’t know what the incentive is. ... They are good leads, but I don’t think

they are as good as a direct referral from another customer. But it's still a good cold lead."

"I wrote down, brought in more sales. Made homes better efficiency."

"I just put selling equipment made it a lot easier. I'm talking about high efficiency equipment."

"Where I'm at, it's a 50/50 mix, where their electric bills went up three times as much because they were deregulated. I've been selling a lot more energy efficiency equipment now since they've got that big bill than they have before."

An additional benefit was an increased comfort level about working with other contractors affiliated with the program.

"I've done networking with, especially HVAC contractors, air conditioning, because I'm not in competition with them. We actually can refer each other. I feel more comfortable with that."

"Absolutely. A lot more than someone just off the street. Because there are a lot of really disreputable, unreliable contractors. They don't know how to run their business so therefore they don't stay in business very long."

Reasons for Joining

Contractors were asked what motivated them to join the RCP program. Some contractors have always been active in utility efforts and saw this as another opportunity to participate. For several, however, it was the change in incentives for windows that brought them in, or competition from other firms already enrolled, or customer contact that influenced the contractor to join.

"We felt that it was time. I was concerned about the bureaucracy in the original go-round and the incentive for the homeowner was much smaller originally. It had been upgraded to \$2 a square foot. We felt that it was a reasonable incentive. We felt that the bureaucracy had been streamlined to do that."

"Occasionally a customer would ask. Probably prior to March or April we never ever had the question asked. But now we begin to hear that in the spring."

"A customer told me about it. The customer wanted to know how she got her rebate. ."

Reasons for Not Participating

Several contractors noted that they took the training and use the program to generate leads but do not put through the paperwork. They merely offer the customer a good price and absorb the rebate amounts that the utility might have offered. This approach avoids the expenses of meeting the strict installation requirements of the utilities, the extensive paperwork required, and the long wait for rebates.

In addition, contractors have rejected the program because they did not truly understand the program requirements. Others recognized that achieving the 15% or less leakage requirement would be an issue in many of the homes where

they were bidding on a new AC or heating unit. The unknown cost of fixing the ducts made the bidding price too hard to include in the estimate unless one did extensive observation as part of the bid. Thus these firms were spending too much money to price out estimates and found it cheaper to not participate. Several noted that the combustion safety test made it too expensive.

Several HVAC contractors found it difficult to justify selling the more efficient equipment given the mildness of the climate. One insulation contractor felt that the safety consideration that the utilities required were not necessary and made their bids non-competitive.

Pre-bid Requirements

One reason that some contractors were not participating is that they believed that they had to perform two-to-four hour of measurement in order to be able to bid the job. All of the observers were confused by this perception, because the duct diagnostics is paid for by the utilities. However, deeper probing into this issue clarified that contractors trying to sell a new AC unit want to give a fair bid to their customers. The old-program requirements for duct sealing required that homes have less than fifteen 15 percent leakage, so these contractors had to perform extensive testing to know how much duct repair would be needed.

“Right. But the thing I didn’t like about the [UTILITY NAME] program was that they wanted us to go in and do some preliminary measurements that would take us quite a few hours.”

“Yeah. I was gong to say about two to four hours to do these preliminary measurements and yeah, you need all the equipment. But the worst thing, well that’s bad enough. But for small contractors having to divvy up all this money for special equipment that they want is ridiculous. But what I didn’t like is you go in and do all the preliminary measurements. Only one out of the three contractors that visits that home is entitled to the voucher.” “Because according to the [UTILITY NAME] program, from the way I understood it, was that we had to go in separately. Well, they recommend that the customer call three different contractors at least. So three of us go in. All three of us are supposed to take our own measurements.”

Combustion Safety

Another reason contractors gave for not participating in RCP was the combustion safety requirements.

Unless you take care of the combustion properly. Even with the return air. Well you go and seal the return air anyway. It’s part of the program. But when you seal up that major leak, now you don’t have as much fresh air mixing with gas. All the gases are being made from the household appliances. So you have to take those measurements. Otherwise you are looking at a big old lawsuit.”

“In the program, you seal up the ducting. It is something if we go out on a job outside of the [UTILITY NAME] program and if we explain to the homeowner that we want to seal the ducts and do it the proper way so that you would have as close to 100% closure as possible. Then you are obligated as a contractor to make sure that the house is in safe working condition when you leave. You have to go in and you have to measure the other appliances that could cause problems. If you, don’t you are sticking your neck out with a big liability problem.”

Efficiency Requirement Too Stringent

For some trades, such as heating, there was a feeling that the measures promoted by RCP didn’t make sense given the mild climate of the region. Comments on this point included the following:

“They require 90% furnace... We are all in short sleeve shirts here. This isn’t Lake Tahoe or Truckee; you know what I’m saying?”

“They spend \$60-\$80 a month to heat the house anyway. Where are the savings? So that’s why, part of us, I don’t think any of us are in that program right now.... First of all we have to pay to get in to the program. Pay all that stuff to get the equipment. Spend the time to get investments out there and you’re not sure if you are going to get it back in the first place. There is no benefit.”

Strict Requirements not Included in Competitors’ Bids

Another concern expressed about RCP participation had to do with competitive pressures.

“Unfortunately I just felt that there was a lot of downside. No particular upside. Just to give you an example we got in and found it very bureaucratic. Lots of paper work to deal with.... When you are dealing with an individual homeowner it’s a pretty simple situation. You go. You give them a price and they say yes or no. You do the work. You come. You go. ... But there is a lot of paper work to deal with. A lot of administrative aspects of it that were just too much.”

“The first jobs I did - I mean the first six jobs I did – every one of them failed. Not because of anything we did. We did everything according to the rules and regs and put it in appropriate. In fact a couple of inspectors, or one inspector at least, said, ‘Boy, you guys really put in a lot of insulation.’ We play according to the rules. What I was being failed on was people from days gone by that had covered up doorbell transformers, covered up return air drills, things like that. Well, I don’t mind taking care of that stuff, especially a return air grill. For me to go back and dig out doorbell transformers, you know that was ridiculous. Somebody has to pay for that. It was me... I have no way of pricing for that. So I just realized that this was going to be a trend. I just said forget it. I don’t need it.”

“I’d figure I’d do it because it would benefit my customers and it would make it associated with this SDG&E program. It certainly lends you credibility. That would be helpful.”

“Another thing too - I had to go in and meet standards. For instance they wanted barriers on all recessed lights. Okay, that’s reasonable I guess. If your competition is not selling barriers and you have to provide barriers - I still have to compete. I don’t do barriers when I go out and do attics right now, I simply don’t over blow recessed lights. I had to go and put a baffle – in the vents..... That, aside from being very labor- intensive when you’ve got insulation that’s already in place or you’ve got an attic with alarm wires all over or whatever, the getting down there and doing that was creating liability for me. I had to have my guys go down and do this. I wasn’t getting paid for it. They are going down and taking a chance and my guy was cracking ceilings. I don’t need to do that.”

3. Importance of Program Components

Respondents were asked about the training, role of the League and EGIA, and the incentive levels.

Training

It was clear that contractors who had participated in more than one utility’s RCP program preferred the hands-on training offered by SDG&E. This approach allowed the training given real conditions and let the contractors ask questions as they occurred over the first several jobs.

“Now the one through Edison is a class where there was 20-30 people all at one time. They go through the procedure of how to seal ductwork. It’s not that informative. ... SDG&E they have a technician. They have a guy come up from Proctor Engineering. A two-day class and it was free. We work on four different systems and they go through the whole thing from start to finish. We still use that particular process. ... It was a lot more informative than Edison was.”

“We just work on four different type of systems and send out a teacher out there. We had our crew guys and went through the whole thing. They showed us how to set it up, what to look for, what not to look for and how to read the number and so on. It’s pretty informative.”

“They only gave us two hours over there and you are standing around with a whole group of people. They have the gates up and you are trying to watch the thing and it wasn’t even an actual, they just had a furnace in a room with ductwork spread out. It wasn’t like a real situation.”

“I went through the one in San Diego also. Proctor Engineering. Very good group of people. You go to four different customer’s houses and it’s not classroom training. You go there and you see something different.”

“He came down and he went through the house. We picked out the houses and he went with them when he tested it. Both my sons were doing it at the same time. That’s where you learn a lot more. Because the class was absolutely nothing. In fact when we came back from the class, they said why did we go there for, we didn’t learn a thing. But they learned it in the field when they did the testing.”

“I think really that the training for electric training as far as windows go, doesn’t get in to enough detail about the advantages of them. I took another training

called Helping your Window Initiative which was really an excellent training that went in to a lot of detail about cost comparison and just a lot more information they give the customer to sell them on the idea on getting high efficiency window. Because they really don't quite understand how that is so different. They understand dual glazes versus single glazes, but they don't quite understand vinyl frames are insulated or what low e is. I think it probably should be more in detail."

"I think the manufacturer could teach you that. Because Edison doesn't teach us anything about efficiency like that. The manufacturer we represent, Carrier, they are the ones that teach us on the payback on buying the more efficient versus a standard unit. This is where we get all that. But Edison won't tell us that. They don't know."

Role of EGIA and the League/ Certification

Respondents were asked specifically about the certification process to become eligible for the RCP program and how important was having League of California Homeowner's or EGIA certification. Results were mixed about the importance of these firms. Some members of the organizations felt they were good leads generators and a way of separating their firm from the less scrupulous contractors out there. Others felt the fee to join was too high. There was some concern voiced that reaching the EGIA and getting information was too difficult.

"So it just kind of provides legitimacy and then you get the letter from the League. I don't know if you guys do that. We photocopy that and show it to them. It puts you above the bottom feeders. At least in the window industry. The replacement window industry is not really mechanically difficult to do a replacement window. So as a result there is a lot of less-than-forthright guys doing it. Guys and girls. A little bit of legitimacy. A lot of legitimacy."

"I feel like that it does help the customer, helps people to have a better, more comfortable home. It sort of - not just legitimizes - but it also encourages people to do the right thing for them. Since the rates can be raised, it is helping the customers. It's sort of a win, win situation."

"The perception that we always had when we were dealing with it was you call EGIA and they don't know anything and PG&E didn't know anything. They would say well we would have to check into it."

Free-ridership and Windows

Window contractors were asked about the increase in the window incentive that rose from \$1/ft² to \$2/ft² during the spring of PY2000. Most felt that the additional rebate was a positive benefit, though one contractor thought otherwise. He noted that the increased rebate meant that twice as much money was now held by utilities, with little increase in sales. Several contractors confirmed that many of the window participants were likely to have purchased the same windows without the rebate.

"Because when it was a \$1 a square for energy efficient windows it wasn't affecting your cash flow as much as two bucks a foot and it's a big incentive for

the home owner and it's nearly a disincentive if we don't do nearly the window jobs these guys do. It's a lot of money."

"Yeah, we end up being the bank."

"You end up banking twice as much as you were before."

4. Program Issues

The vast majority of the respondents' comments revolved around operational complaints. Many noted that the paperwork and the payment turn-around had improved, though there was certainly room for improvement for most of the utilities. The contractors are not all pleased with the communication links between the utility and the contractors. They particularly want better communication of changes in the program. The shutdown of the program by SCE/ SoCal Gas was an area of major concern.

Paperwork

"Well one thing I noticed was when they changed the paperwork in the year and they didn't bother even telling us. So we submit all this paperwork and then they send it all back and say, "Oh, by the way, you didn't fill out this other form." That we were never trained in or anything. So, then we had to redo everything."

"We said that too and they said read your book."

"Well, they hadn't sent out that book with the new information. So we couldn't read our book."

"If you are doing a billing of 20 or 30 people and you had one signature out of the group that was missing, they took the whole package and sent the whole thing back, just for one signature. So instead of just calling you up and saying "Hey you're missing a signature and fax it back over" to them. They just package the whole thing up, it takes five days to send it back, you go through the whole thing, you sent it back. It's back and forth and back and forth. It wasn't fun."

"The paperwork process is certainly improved. They have made it easier to get an approval now. We have the vouchers on the vehicles. We can call in for an approval number. That's far better than it was. [SDG&E]

"Yeah. I would like to comment. I had trouble with the paperwork at first. Then they kind of changed a few things. That made it better. But it could have increased a bit. But I just think they are wonderful. The people that I've been involved with at SDG& have just been truly helpful. I think they are wonderful. They helped straighten me out and get me on track."

"I'll second that. The people involved in the program have been very, very, very, helpful."

Payment Turn Around

"We've done probably between \$20,000-\$25,000 since the beginning of the year, dollar-wise. On every job we do about 50 a month. We just cut way back. It was taking 120 days to get paid and, dealing with the office over there, it was not

worth the hassle. Back and forth. They seem a little bit better now, but it still takes work to get the benefit.”

“It’s down to 90 days now.”

“This one is really not that bad. I’ve been in other programs ...I mean this is the best program they’ve ever had. It’s the best one, there’s no question about it. Let the customer do the paper work. The customers know how to do the paper work. They’d screw up every other contract. This is really the best one.”

“The best one is Anaheim. You ... send the receipt to Anaheim and you get a \$100 a ton back and you don’t do one bit of paper work, except for give them the receipt.”

“But this one they want you to send their paper work which has three pages, your contract, plus an invoice, plus another sheet that fills out the same stuff just again. Four sheets that they want you to fill out, plus your separate invoice to them and a contract from the customer. Four forms you have to fill out.”

“One of the things that is constantly recurring problem, you send in the form that has all the incentive numbers on it Let’s say the girl who makes it out, forgot to put the incentive number on there, like about the programmable thermostat ... they send it back to you. They can’t turn the sheet and say, here’s the number for the thermostat. They put it in the mail and send it back to you and say you forgot to put this number in. So you turn over the master sheet and there’s the number and you run it again and send it back to them.”

“It’s like they have a staff that’s just looking over it to see if every dog-gone thing is filled out perfectly so that they don’t have to pay you for that length of time.”

“In the past we have had some signature redo. They did call us up and they faxed it over to us and we were able to fax it back, because we made such a stink about the whole thing. It was an on-going thing, going back and forth with paper work, from the beginning. Where it would take 120 days in order to get paid. Now they have a 90 right now. We’ve never seen anything sooner than 90. But they do call us up and we will fax over a signature and they will accept it that way.”

“In the beginning it was a trifle bit slow. It would probably depend on if you’re used to carrying paper, period. Like for instance, we do a lot a work for management companies and if you can get paid in 60-90 days it’s a miracle. So waiting 45 was no big deal. But if you were a C.O.D. person that could be a serious strain on you.”

Communications

“No one seemed to answer the phone. There is a recorded message. “ (PG&E) “The next day we get the letter that says ‘Oh, by the way, we are out of money.’ I’m telling you, we had to call several customers and tell them, ‘We don’t have the money. They didn’t let us know ahead of time.’ The day after they closed off the money, is a really bad time to notify you.”

“When the program started, it’s like they told everybody but the contractor. Other customers call us and they say ‘The program is over.’ or ‘I talked to them today; the program is back on.’ The customers know it before we do.”

“Have them put you on their fax machine. They fax us everything.”

“They had us on the fax. They were sending us the new rates, they didn’t bother to send us that one.”

“Meetings are fine, but that’s only if you have them after hours. ... Don’t go call a meeting at 2:00 in the afternoon on August the 5th. You know, we are kind of busy.”

Program Requirements

“One of the problems is the testing. Especially if you are putting in a high efficiency condenser. We had one particularly that the old compressor was bad. We couldn’t even start it up, so we replaced it. They kept insisting with us, “What were the pressure readings before you replaced the unit?” We finally had to get them out there, three weeks where they had to bring a technician to tell the girl, how could they test it, the compressor is no good.”

“We finally got our fee. But it was phone call after phone call. I don’t have time for phone calls. I’m out bidding jobs all the time.”

Shutting Down the Program

“Of course this left us 15-20 people who are very irritated that there was no more money so that they could get that \$525 back that we normally give. So we had to up the price \$525 and they ended up paying it and a lot of them didn’t go. ... So we don’t push it that much anymore. Unless people are really interested in it. Because we don’t like to explain, well you got it now, but you don’t have it tomorrow. So we have backed off of it.”

“We push it, but we tell them we have to do it right away. We have to reserve it right away. Because we are just not sure if it’s available or not. On that basis.”

“The only trouble we’ve had is credibility. It’s hard when you tell somebody it’s on, off; we are not sure than it makes us look a little bit suspicious. So we’ve actually had to present the letters.”

“Yeah, otherwise they don’t believe us.”

5. Program Suggestions

Respondents were asked to discuss issues they thought might make the program more effective. Many respondents wished that the utilities would better promote the program. Several also wished that the utilities would subsidize the cost of the duct testing equipment.

“I would like to see SDG&E try to promote it just a hair more. So more people know about it. I also think it would be good if they could possibly come up with some sort of incentive for a furnace, startups, like they have for air conditioning. I realize air conditioners use a lot more energy and they were going to target them first. There is a lot of money being wasted with improperly installed and forced air heating systems that are not working up to speed.”

“Yeah, a tune-up. Basically that’s all they are doing with the Check Me-- -- for air conditioners is the tune-up package to make sure it’s operating and it’s operable level. The same could be done for furnaces.”

“ I was really surprised at how much loss there really was going on there. How much opportunity to gain. But I was really taken aback at the cost of the equipment needed to get involved - even with the discounts they were offering. I just didn't feel comfortable about putting the risk out. And I never have got it. So I have been involved in it for the HVAC diagnostic. It's a \$75 rebate and that's a real good incentive for us to get work for us out there. Sometimes that's all we charged for going out and doing the service check on the air conditioner at the start of the season. On residential, we'd like to do the same thing for the heating side.”

Appendix B: Focus Group Summary RCP Participant Customers

1. Overview and Key Findings

Focus groups were conducted with participating customers in the RCP program. These focus groups were held during the week of November 27, 2000, in Concord, Orange, and San Diego.

Topics for the focus groups included:

- How participants learned about the RCP program
- Motivations for participating in the RCP program
- How participants selected contractors
- Type of work that was undertaken
- Overall Satisfaction with the RCP program
- Satisfaction with Inspections and rebates
- Suggestions for improving the RCP program

The overall goal of these focus groups was to understand customer experiences in the RCP program, including their overall satisfaction with these services received, and to identify any areas that may warrant attention in the future.

Program participants who attended the focus group meetings learned about the program in a variety of ways but were, overall, rather passive in the process. Some received letters from their utility and/or contractors, but the exact source of information was not always known. Additionally, in only a very few cases did consumers actually hear about the program and start with a list of contractors from the EGIA or League of California Homeowners.

Participants who had windows installed under the program often cited non-energy reasons for participating (e.g., aesthetics, comfort, noise abatement). Other participants were more likely to cite energy-related reasons for having work completed, but were not always clear on the nature of work performed. This is because several of these other services (i.e. duct testing, HVAC tune-up) are services with which typical homeowners are less familiar and have very little experience. There remains a clear need for additional consumer education in this regard if the program is going to influence long-term behavior in the marketplace. At a very basic level, for example, consumers will need to be able to recall the terminology for the services they received if they are to seek out such services in the future, or recommend services to a friend.

Similarly, there is little education for consumers in terms of remaining opportunities that are not addressed through the services they received under RCP.

Consumers are satisfied with the voucher process, although there is some confusion over how this is intended to work. Some consumers expressed concern that contractors may be getting more than they deserve in cases where the consumer initially requested a voucher for more work than was actually completed. Additionally, there was some confusion expressed over whether or not consumers are required to sign over the vouchers to the contractors even if they are not satisfied with the work completed, or if this is something that they can hold back pending full satisfaction (just as they might otherwise hold back monetary payment). Education in this regard, through a simple "Frequently Asked Questions" (FAQ) type of format may help eliminate such confusion.

Participants also suggested that the contractors be required to leave behind a customer-satisfaction postcard that the participant would mail back to the utility to indicate their level of satisfaction with the program and the contractor. This suggestion would be relatively easily implemented and could provide valuable on-going information to the utility administrators.

2. How Participants Learned About the RCP Program

Participants were asked how they learned about and enrolled in the RCP program. Several participants, especially in Southern California, recalled receiving information in the mail. Participants were not clear, however, whether they received this information from the utility, from the contractor, or from another party.

"Well, yeah I got something in the mail. I remember it was from the utility company."

"I got something in the mail but it was after the fact. I don't know if it came from the utility company or what."

"I got something in the mail, but I don't know who it was from. I called and somebody came out and serviced my place."

"I'm a little skeptical. I got the notice. I called it and checked it out with him and called my contractor."

"I knew vaguely that there was something San Diego Gas & Electric was offering. But I don't remember. I usually read the little blurb that comes in my bill. I don't ever remember seeing that. It's kind of buried in their website."

Many of the participants may be characterized as being somewhat passive in their participation. That is, very few heard about the program and sought out contractors specifically to participate in the program.

“I had the window people come out and give me the bids and they explained the rebate program with PG&E. I had to contact PG&E and in the process of contacting them they sent me a large packet that explained all of their programs for insulation and heating and so on and so forth.”

“I had my air ducts cleaned. He told me about this program which I didn’t know about. I went ahead and got the vouchers. Signed the vouchers over. He came back and he sealed up everything. He checked my gas stove the furnace and my air conditioner. Everything was extremely efficient. He was excellent. He told me about everything. Answered all my questions. Did the work promptly. I’m very pleased.”

3. Motivations for Participating in the RCP Program

Participants reported a variety of reasons for participating in the program.

“To save money, energy.”

“My primary objective was to save energy. From an environmentalist point of view more than anything else does. So that’s what prompted me to do it. Not to the point of thinking how long I would get my money back out of my investment. But that it made more sense in terms of my money and being responsible, reducing the amount of energy I use...”

In addition to savings money and energy, consumers, especially with respect to windows, referenced a variety of attributes. These included both aesthetics and sound reduction -- items that have been mentioned in other consumer focus groups as well.

"It was aesthetic on my part. The program was an added bonus. We would have chosen these windows anyway.”

“[The old windows were] kind of ugly. So that was a factor too. We wanted to get rid of those and get in to some double-paned windows that had the energy efficient coating on it that blocks out some of the sunlight. In addition to keeping it cooler”

"The decreasing of the sound was big enough for me to buy it. We are not far from BART and before these windows, I thought I was on my way in to the city, but now you really don’t hear them.”

"...Home Depot. ...we had just got an advertisement for a free estimate so we called them out. He held up a heat lamp to the window and clearly there was no

heat coming through that window. So that's why we were hell bent on getting windows after that demonstration."

4. How Participants Selected Contractors

One of the early objectives of the program was to educate consumers on selecting energy efficiency contractors. To this end, consumers are urged to obtain multiple bids and some receive a guidebook on how to select a contractor. Several participants obtained multiple bids and conducted reference checks.

"Actually my family, they are all builders, so I kind of knew how to find us a good contractor. Then I called the State Contractors' Board and ran the number through for the State of California and you can see is it an active license, are there any complaints pending, closed, is their bond current ... and that's how you go about it."

"One of the companies that came out and did the bidding is the one who told us about the program. It was the company I decided to go with.

"I checked on them. I had three different people come."

"Three. I've learned to get at least three or four bids before letting anybody do anything."

"I got the list from PG&E. They sent a list. Everybody on that list was supposed to be okay to contact. So I got three estimates from three different people on that list."

Input from the focus group participants indicates, however, that there remains a wide variation in the level of sophistication and savvy that consumers have in selecting contractors. Consistent with earlier research, consumers prefer to rely upon word of mouth referrals whenever possible.

"I received a list of the different companies that you could use. My sister-in-law had already used this particular company and she recommended him. So I used him and I recommended him and he did several homes in our neighborhood. I heard no bad complaints at all."

One participant highlighted the fact that bidding out work for duct testing is more difficult than other measures, primarily because they (the consumers) have less direct experience with this type of work, and because the benefits are less tangible from a "shopping" perspective.

5. Type of Work that was Undertaken

Surprisingly, many participants (especially non-windows participants) were relatively unaware of the work that was undertaken in their homes. This is not

altogether surprising since many of the HVAC and duct measures are not issues that consumers have a tremendous amount of experience with. However, to the extent that the program participation experience provides an opportunity for consumers to learn more about the systems in their homes and influence future decisions related to energy efficiency, there appear to be some missed opportunities. This education opportunity could be addressed by requiring that participating contractors at least leave consistent information with customers describing the work completed and the benefits that should be expected.

"I don't remember about the program too much. I just remember them saying something about a rebate and something. And after they installed everything they tested the ducts out and said. 'Man, I can't believe this house is that good.' They were really excited about it. And that's about it. There were no problems at all in our duct system."

"He put some special thing up to the heater to see if there was any leakage coming out. There was. So he went and checked out all the ducts. All but one needed to have to be sealed up."

"He replaced something. I don't know what it was. I'm so bad at mechanical things."

6. Overall Satisfaction with the Program

The majority of participants reported that they had positive experiences with the program.

"Very well. I had no problem. They were accommodating for the times that I could have them come in to my home. They all did. As a matter of fact, the people I got to do the job, they were like in the middle as far as the price, but I liked them."

"So I called a couple of companies, got some bids and replaced it and the furnace and the entire air conditioning system. SDG&E gave me a rebate. I'm real happy with the way it's working."

"The manager of our park told me there was this certificate available. A \$75 certificate that you could use for having them check over your air conditioning system. They came out and they did a great job. There were no problems. Several of my neighbors had the same thing and they were very pleased with it."

"I thought it was wonderful."

"I replaced a very large window in the front of the house above the garage. I had a small rebate back from SDG&E on their program which was applied against the

bill by the installer. I was pleased. It was a nice little discount. It was a welcome part of the sale.”

“I think the concept of what they are proposing is a very good program. It gives you long-term results. I knew I had problem with my ducting in the attic.”

“The contractor was very good. He did an excellent job on the air ducts. So I am very pleased with it.”

"So she showed me that and she took a bucket of material up there to seal it. I went up, took the insulation away as she hadn't. She just put the insulation up around it. Hadn't sealed it.”

"They took some readings beforehand and they were having some difficulty getting readings and keeping the tape that they put on all the ducts and the return air ducts to stay on. He said that it's an unacceptable reading. We've obviously improved it because we couldn't get a reading at all before. Which didn't give me a lot of confidence because - not getting a reading at all before - how does he know, anyway.”

“He had three people listed on there that I could call. Which is excellent.”

Poor experiences typically related to either dissatisfaction with the selected contractor or expectations not being met. With respect to contractor selection, participants generally acknowledged responsibility. However, there was a preference expressed for having contractors removed from "approved" lists in the event that their customers are not satisfied. In terms of addressing participant expectations, clarity and consistency in how the program is represented by contractors will go a long ways toward ensuring that expectations are met.

“Unfortunately, I was not real pleased with the services received from the company who did it. Essentially what most of them I think said, We'll come out and test it, if we have to do anything we are going to charge you extra money for it. Except for the one company that said they would fix it. But they unfortunately didn't.”

"The one that I chose, I was displeased. It wasn't a good experience and when they came out they told me they would go in to the attic and check my ductwork. Because I told them that's where I thought I was having a problem. They said no. He didn't have the equipment, the ladder. Then they wanted an extra \$25 for when they got there. Plus they took all the vouchers and they didn't tell me about that when I was making my appointment. --- -- so I wasn't happy about that.”

"I got cheated. I think SDG&E got cheated. In terms of what they got for their \$300 and definitely when they went to my mom's house. They didn't do anything except for to come out and collect the money."

"So the bad will now travels back through the contractor to SDG&E. Which surely was not part of the design. The question is, why did they want to create a list of so-called 'approved contractors?' Apparently there is some training involved here. But it doesn't seem to have transferred down to the retail transaction in some cases."

7. Satisfaction with Inspections and Rebates

Overall, participants were pleased with the inspection process, and with the rebate approach for the program that allows them to present the voucher to the contractor to collect from the utility.

"The guy was very prompt, very courteous. He went up in there and looked around and while he was there, I climbed up on the ladder. You get to my attic from a closet in my house. For the first time I looked up there to see what the difference was and it looked pretty neat. It went fine as far as I'm concerned. The inspection's no problem whatsoever."

"When SDG&E came out to verify it ...it was all positive. He just showed up at my door and all I could say is he was fast. He checked it really quick."

"...there was some confusion as to who got the rebate."

"That was definitely a great thing when they did the work for us. They just took a copy of the bill and then they deal with waiting for the check form them, the utility company. That was definitely a benefit to me."

8. Suggestions for Improving the RCP Program

Participants had suggestions for improving the program that were particularly relevant. The first was to focus more on consumer education. This is an area that appears to be left un-addressed by the current program design.

"Ortho (garden products) makes some really good gardening books, how-to books on how to care for your plants they say spray with insecticides. These are books made by Ortho. If you go out there and educate people on this is what it is and how your ducts are. You educate them on what the whole system is and how to take care of them and by the way PG&E can offer some of these services to help you. Then it makes you start to think, 'Oh okay, they can help me do that.' "

The second suggestion arose from confusion that was expressed about whether or not participants had to sign over their voucher if they were not satisfied with

the quality of the work. Assuming that the voucher is equivalent to payment for service, and assuming that the utility does not want consumers paying for less than satisfactory energy services, the utilities may want to make it clear to consumers that they should only relinquish their vouchers if they are entirely satisfied.

"That should be very clear. If you're not happy with the results, you could refuse to sign off on the voucher."

The last suggestion involved implementing an on-going survey of consumer satisfaction.

"One thing they could do would be to have a simple postcard that the contractor, or whoever it was, would just leave with you as a matter of protocol. Just a quick three questions to gauge your satisfaction with the services. You just drop it in the mail, postage paid, to SDG&E and then they can call through that."

APPENDIX –C: FINDINGS FROM RESEARCH WITH MULTIFAMILY PROPERTY OWNERS AND CONTRACTORS

Contractors serving multifamily properties

Background on Contractor Research

Fourteen interviews were completed with contractors serving the multifamily market. Thirteen respondents in this research were participating in RCP, having submitted at least one application. The nonparticipant respondent had seriously looked at RCP, and was knowledgeable about program specifics.

Project Characteristics

Many of the respondents indicated that their firms had submitted applications to more than one of the sponsoring utilities. The breakdown of program activity among respondents was as follows:

<u>Utility</u>	<u># of respondents</u>
Edison	5
PG&E	6
SDG&E	6
SoCal Gas	9

The predominant type of project undertaken by respondents involved water heater controls, boiler changeouts, or lighting retrofits. Although some firms installed more than one type of measure in their RCP projects, many respondents reported that they had focused on only one of these measure types.

<u>Type of Equipment</u>	<u># of respondents</u>
Boilers/furnaces	5
Water heater controls	6
Water heaters	3
Lighting	5
Appliances	0

The nonparticipant firm interviewed is interested in installing refrigerators and room air conditioners in dwelling units of multifamily properties.

Reasons for participating in RCP

Generally, the reasons for participation related to expectations of greater revenues for the firm. In some cases, participants saw the program as addressing their core business, in other cases it was viewed as providing an opportunity to broaden the business. Selected verbatim comments are listed below to illustrate the perspectives of the firms interviewed.

“We’re an ESCO. This is what we do.”

“This provided another venue for us. We had been working strictly on the commercial side; this gave us an opportunity in multifamily.”

“It [RCP] fits with our line of work.” “It’s a perfect match.”

“We wanted to be on a level playing field with our competitors.”

“This will help our customers save money and it will help us make a profit.”

“This provides us an opportunity. It primes the pump.”

“We saw this coming. We thought it was time to get in.”

Overall Satisfaction with RCP

Respondents were asked to rate their level of satisfaction with RCP on a five-point scale based on their experience in 2000. The following question was used:

“On a scale of 1 to 5 with 1 being ‘not at all satisfied’ and 5 being ‘very satisfied’, how satisfied are you with your firm’s experiences in the RCP program during 2000?”

The average score was 3.79. Ratings were distributed as follows:

<u>Rating</u>	<u># of responses</u>
1	1
2	1
3	2
4	6
5	4

Comments explaining these ratings included:

“This is good for the consumer.”

“Everything went smoothly, there was no ambiguity. The response was great, the people were good.”

“It’s very slow.”

“The program managers are easy to deal with. This is a very easy program.”
[respondent’s firm’s primary focus – and prior program experience - is in the commercial sector].

“I give it a 4 for the way it is structured now. Measured saving gets a 3; deemed savings gets a 5. The complexity of the paperwork gets a 2.”

“It’s been successful for us. The people we work with are really cooperative. We get quick clarification.”

“The program itself is pretty good. I’d like to see more stipulated savings on the M&V. Some projects are not cost-effective to do M&V.”

“There has been a lack of response in general. ... No-one called back. ... There was turnover in their people ... It has gotten better but it’s still hard.”

“The people we work with are very easy to talk to and helpful. This if my first round with a utility program – I don’t know anything. The utility people help at each step.”

“It is essentially a good program, just cumbersome, with a significant learning curve. The goals are fantastic and the flexibility is good.”

“The forms are cumbersome. This is the only drawback of the program.”

“It’s a great idea to get the contractor involved and use his consumer base to influence owners. “

Experiences with RCP

After rating the program, respondents were asked to comment further on their experience with the program during the prior year. Various comments were provided including the following:

“It’s hard to get information on the status of funds available for the rest of the year. We can submit projects and we don’t get funded. They could have a web-site with the status on the number of projects submitted and the remaining funds available.”

“Communications on the status of each job has improved during 2000. This wasn’t there at first.”

“[Regarding a job involving water heater controls and storage water heater], We had a customer installing storage water heating tanks. This involved another contractor. Our customer had to wait a long time for the money to pay this other contractor. This makes us look really bad [because we recommended the program].”

“Do more in terms of mailing out program information. Don’t make us be proactive in seeking information. ... We’ve gotten occasional faxes and e-mail, but this was in response to my calling.”

“We got involved with RCP because we lost a customer to a competitor who was in the program. The customer switched because they could get the job for free from this other firm. ... We got into RCP to level the playing field.”

“The format last year [2000] was extremely cumbersome. We had a project at a 600-unit condominium involving 9 or 10 water heaters and 3 solar pool heaters. The standard forms totaled 300 pages. Each project required three separate submissions. For a boiler, the first submission is five or six pages each, the next is ten pages per boiler, and the third four or five pages per boiler. Then we had additional pages for the pools. ... I’ve been told it has been greatly reduced for this year.”

“There is a mountain of paperwork. Oodles and oodles of it. They can do away with some of it.”

Sources of awareness of RCP

Most frequently, the participating contractors learned of RCP directly from the utilities, either through a meeting or some other contact with utility personnel. One respondent indicated they learned of the program through a utility mailing. One mentioned the League of California Homeowners; outreach for the single family component led to awareness-building on the multifamily component as well.

Several channels for word-of-mouth effects were identified. Two respondents indicated they had learned about the program through the manufacturer they work with (in this case RayPac). Three firms indicated they learned of the program through other contractors/EEPs. In some cases, this communication involved a subcontracting arrangement, with one firm promoting the program to their partners/lead contractor. One respondent indicated that their firm learned of the program through a customer who opted to go with a competing contractor that was using RCP to offer a more attractive deal to the customer.

“The utilities had notified only some firms. This hurt others.”

Recommendations on marketing to contractors

A majority of respondents had no specific suggestions on the subject of how to effectively market the program to contractors. Several suggested direct outreach to EEPs. Other suggestions focused on trade groups and industry partners. Among these were local apartment associations and their annual trade shows. Ads in specialty trade journals such as Reeves Journal were also suggested. Another suggestion was to market RCP through equipment manufacturers. This suggestion was made by more than one installer of boilers, suggesting that these manufacturers are currently a source of information on market opportunities for their contractors. With respect to this point, one respondent indicated that his firm is working with RayPac to take the program to other RayPac dealers and contractors to get them involved.

Satisfaction with application/payment process

Respondents were asked to rate their level of satisfaction with the program’s payment system using the same five-point scale.

“On a scale of 1 to 5 with 1 being ‘not at all satisfied’ and 5 being ‘very satisfied’, how satisfied are you with the payment system used in the multifamily element of RCP?”

The average score for the program’s payment process was 2.94. Ratings were distributed as follows:

<u>Rating</u>	<u># of responses⁵</u>
1	2
2	5
3	3
4	4
5	2
No response	3

One respondent reported that the timeliness of payments varied significantly from utility to utility. In this firm’s experience, one utility had paid immediately, one’s payment was “immediate to okay”, and the other had not yet paid on a job installed 7 months earlier. These performance variations dramatically affected satisfaction with each program: the utilities were respectively given ratings of 5, 4, and 1 on this attribute. Another contractor also reported large variations in approval and payment times across the two utilities he had applied to. Again, the worst case experienced by this contractor involved delays of more than 7 months. Understandably, this was quite problematic to the participant.

Another respondent would like to see uniformity across the programs in allowing contractors to submit paperwork on a site-by-site basis. This is allowed at some utilities but at another the respondent has been required to submit project

⁵ One respondent gave three rating scores, reflecting variations in performance across the utilities.

applications as a batch. This requirement, coupled with the lack of full funding up-front, created a “tremendous cash flow issue.”

Additional comments regarding RCP’s payment process included:

“When you get paid it’s fine.”

“The new program is much better on cash flow. This has been the biggest drawback [of the program].”

“They need to continue to communicate with us on the status of each job, maybe e-mail us a list of jobs and where they stand.”

“The standard contractor loses money because of the delays. ... We’re now installing jobs that we proposed to our customer a year ago. ... We make promises to the customer and then we can’t perform. This makes us look bad.”

“Most of the problems ... are not with the program staff, they’re with the accounting and legal departments. [The program manager] handles it right away; the delays come after.”

“It takes quite some time to get receive payment. Customers would like to see shorter approval times.”

“We’d prefer 100% of the payment up front.”

“[The people at the utility] have been very helpful to us when we had questions [about the application process.]”

“It takes a little time. It’s not impossible.”

“I don’t like it at all. It takes a long time to get all the paperwork in. We submit the required papers and then they request something else. We were in the program and then they came back to us and asked for auto insurance. We have a submission sent in July that hasn’t been paid yet. They should tell me what they want up front. Get it on a fast track.”

Satisfaction with M&V

Respondents were also asked to rate their level of satisfaction with the program’s M&V requirements: “On a scale of 1 to 5 with 1 being ‘not at all satisfied’ and 5 being ‘very satisfied’, how satisfied are you with the monitoring and verification requirements used in the multifamily element of RCP?”

The average score given to M&V requirements was 3.38. Ratings were distributed as follows:

<u>Rating</u>	<u># of responses</u>
---------------	-----------------------

1	1
2	2
3	4
4	5
5	1
No response	1

Reasons given for these ratings included the following:

“The calculated savings approach is great. This is why we got into the program. It doesn’t make sense for us to do monitored saving approaches. We had about 100 projects in 2000 – between two utilities – it would be a nightmare to monitor this.”

“[Reason for 5 rating] Lighting is probably the easiest for monitoring.”

“Measured approaches lead to more complexity, but it’s within the parameters of the program so it’s fine.”

“So far it’s fine, but we haven’t gotten to the end yet, so I’m not sure.”

“We have no problems with the requirements per se ... we do our own monitoring anyway ... but we’ll be doing deemed savings in the future. We don’t want to produce a large document and then have payment held up again. We will go for the retention report on future projects.”

“We used the calculated savings. It’s fairly simple. I don’t have any recommendations – it’s working fine.”

“It’s reasonable... [but] a lot of these measures have well-documented M&V histories. This is reinventing the wheel; it’s counterproductive. ... You could monitor run times to estimate savings... skip the persistence.”

“Use pre- and post-bills instead of meters. It is possible to rig monitoring equipment but not to rig gas consumption.”

“It remains to be seen. They have been unclear about how they want to do it.”

“Keep it simple. The projects aren’t big enough to merit the expense of metering.”

“Make it easier. In small buildings with less than sixty units have a flat fee and no M&V, which is too costly.”

“Deemed savings work better. They’re more cost-effective for everyone. There is enough information on appliance usage to justify deemed savings for them.”

Perceived effectiveness of incentives

Respondents were asked to rate the effectiveness of the RCP multifamily component incentives on a slightly different five-point scale:

“How effective would you say the incentives offered through RCP multifamily program are in terms of changing the likelihood of facility owners deciding to choose higher efficiency options for multifamily properties? Please use a scale of 1 to 5 where 1 is ‘not effective’ and 5 is ‘very effective’.”

The average score on effectiveness of the incentives was 3.73. Responses were as follows:

<u>Rating</u>	<u># of responses⁶</u>
1	1
2	2
3	2
4	5
5	5

Comments on the incentives included the following:

“The incentives in 1999 get a 3. The incentives in 2000 get a 5.”

“We’d like to do in-dwelling-unit jobs [involving lighting] but the incentives don’t make it attractive now.”

“The program could use some improvement on incentives for common area lighting.”

“I liked the doubling of the incentives this year.”

“The incentives for appliances, for refrigerators, are so limited even without the M&V, it would be easier for the customer to get a rebate.”

⁶ The number of responses on this question is 15 because one respondent gave separate responses for interior and exterior lighting.

“Overall, the incentives are reasonable for large ticket items like boilers. The program’s not quite there for all measures.”

“The incentives are extremely effective.”

“Not bad. They’re better than nothing.”

“There is not enough in the calculated savings for small facilities. These incentives need to be doubled or tripled.”

“The owners see this as a wonderful opportunity – once they look at it. That’s the challenge, getting them to look at it.”

“Our analysis of the incentives finds them to be too low. We are involved in S.I.P. because the incentives for refrigerators were high enough to make it work for us.”

Barriers to efficiency improvements in multifamily facilities

Respondents were asked their opinions on what factors stand in the way of greater investment in energy efficiency measures in multifamily facilities. Key barriers identified were equipment cost and lack of information, including lack of awareness of program availability.

Impact on business

Participants were unanimous that RCP had increased the number of efficiency-related jobs their firm performed in the course of a year.

Percentage increase in business	# of responses
Less than 10%	1
10% - < 20%	3
20% - <50%	5
50% or more	4

Comments on this topic included the following:

“It creates more opportunity for us. Customers are more willing to go forward.”

“The program seals the deal. ...[But] we don't know with any precision who would have installed measures without the incentives.”

“They moved people who were on the fence.”

In contrast to the clear effect on business volume, RCP's multifamily component had minimal effect in changing the types of services offered in the market. One respondent indicated that they had adjusted their marketing strategy in response to RCP, targeting facilities with larger boilers for changeouts than they would have otherwise. All other participants indicated that the program had had no effect on the types of services they offer.

Plans to participate again in the future

Twelve of thirteen participants indicated that they plan to continue with the program. The one firm that indicated they were not planning to submit additional applications simply had no additional projects that they could identify.

Participation in RCP will be affected by the availability of Summer Initiative Program funding. The large degree of overlap in qualifying equipment, combined with the higher incentives and simpler payment approval process of S.I.P. make this competing program more attractive.

“Everything that is S.I.P.-qualified is submitted to S.I.P. first.”

The nonparticipant we interviewed indicated that they had no plans to utilize RCP unless the incentives for appliances were increased and the M&V requirements for the same simplified. [They were, however, participating in S.I.P.]

Recommendations for RCP

Several respondents were pretty comfortable with the program in its current form and had few or no recommendations:

“I don’t have any recommendations. The program seems pretty equitable.”

“I made my suggestions earlier. They have made my changes.”

“Keep it going for 5 years.”

“They’re doing a good job.”

Those who were strongly urging for changes tended to have had problems with getting paid. These participants were most likely to be waiting to see program improvements before submitting any additional projects.

Among the recommendations offered by respondents were the following:

Payment and approval process

- Speed up the internal processes for project approval
- Add staff to expedite processing of applications
- Process remains unwieldy; streamline further, simplify the paperwork

Incentives

- Change the 70-30 split on payments to 100% up-front.
- Rather than capping the amount of funding allowed per firm, place a cap on the number of pieces of equipment installed. Allow for more installations of measures that save more energy.
- Re-evaluate the economics of the savings and the size of the incentives
- Increase incentives for installations in dwelling units.
- Increase the amount of incentives.
- Incentives for refrigerators should cover more than the incremental costs.

M&V

- Allow deemed savings for appliances

Promotion

- Increase the amount of promotion targeted to property owners
- Develop a better targeted marketing campaign using local, not national, publications
- Provide simple promotional materials the contractors can use to market the program to customers

Measures

- Add recirculation line controls

Other

- Clean up minor problems in the software for the electronic applications.

Firm characteristics

The average number of offices in California for the respondents was 2; the maximum number of offices in California was 3. Three firms have offices in other states; the remainder are based only in California. The number of employees in the California offices ranged from 1 to 90, averaging 37. Some respondents subcontract all of their work; as a result, the number of employees is not correlated with the level of activity in the marketplace.

The number of multifamily facilities served per year averaged 551. This ranged from a low of 18 to a high of 2500.

Property Owners and Managers

Telephone interviews were completed with 16 property owners participating in the RCP program's multifamily component. This research investigated several topics including participant satisfaction with the program, sources of information and recommendations for program marketing, reasons for participating in RCP, influence of the program on the equipment installed, and suggestions for the program. The interviews were completed during January 2001.

Most respondents were participating in only one of the four utility service areas at the time of the interviews. A few had submitted applications to more than one of the sponsoring utilities. Of the sixteen interviews completed, participation across the programs was distributed as follows: 4 participants in the PG&E program, 3 participants in the SDG&E program, 7 participants in the SoCal Gas program, and 5 participants in the Edison program.

Project characteristics

Respondents were asked what types of equipment were installed in their RCP projects. Boilers/furnaces, lighting, and control equipment were the most common project types among the respondents in this study as shown by the figures below.

<u>Type of equipment</u>	<u># of respondents</u>
Furnaces/boilers	6
Lighting	6
Controls	5
Water heaters	2
Appliances	1

Half of the respondents indicated that their installations had been completed. Nearly one-third indicated that their installations were partially completed; the remainder indicated that they were planning to go ahead with their installations. None of the respondents indicated that they were dropping out of the program with respect to the projects submitted to date.

Probability of installing measures without program

One half of the respondents indicated that it is unlikely their efficiency upgrades would have been undertaken in the absence of the RCP program. One-fourth of the respondents indicated that their installations probably would have been undertaken absent the availability of RCP; the remaining respondents were unsure whether or not the installations would have been made. In some cases this uncertainty was attributed to the fact that other individuals in the firm's

management determine whether or not to proceed with specific investments in equipment and the respondent had inadequate knowledge to say what would have occurred without the RCP program.

Not surprisingly, several respondents indicated that recent increases in the price of power will lead to greater amenability to investing in efficiency upgrades. Payback periods that previously looked unattractive may now meet company criteria for investments in new equipment.

Reasons for participating in RCP

Property managers were asked to identify the main reasons that they chose to install their efficiency improvements as part of the RCP program. The two primary reasons given by respondents were that they were attracted by the lowered cost of the equipment investment and/or the monetary savings on their utility bills (eight respondents and 7 respondents, respectively). Saving energy was also mentioned by 3 respondents. Four respondents gave a variety of other reasons such as feeling that the equipment upgrade would be beneficial to their property or mentioning that environmental requirements were going to necessitate equipment upgrades anyway. This last point was brought up with respect to boilers. While the investment was going to be required in any event, at least one respondent indicated that the program accelerated the change-out of equipment on their properties.

Plans to participate again in the future

Approximately one-third of the respondents indicated that they are likely to submit additional projects in the future. Seven out of sixteen were unsure whether or not they would submit additional applications. In two cases, the respondents indicated that they were treating the first batch of applications as a trial run. If satisfied with their experiences with RCP they would submit additional projects in the future. One quarter indicated that they would not be making additional applications to RCP. Half of this group seemed to feel they had no additional work to be done, the other half were dissatisfied with their experiences with RCP. Complaints centered on lack of responsiveness and communications from the utilities and the complexity of the process.

Sources of awareness of RCP

The large majority of property owners/managers – 75% - learned of the RCP program through the contractors that they used on the RCP applications. Two reported learning of the program through the utilities and the remainder were unsure how their organization became aware of RCP.

It was noteworthy that several respondents indicated that they would have preferred to have learned about the program through direct outreach on the part of the utilities. For one or two respondents this was a matter of giving greater credibility to information from the utilities. For more respondents the reasons were linked to the manner in which jobs were awarded to contractors. These respondents indicated that they chose to go ahead with a certain vendor because that was how they had learned about the conservation opportunity. None indicated dissatisfaction with their current vendor, but they indicated they would have preferred to use a competitive bid process rather than a sole-source contract. Apparently, these actions implied the existence of an information barrier to competitive bid for the efficiency retrofits.

Recommendations on marketing to property owners/managers

Respondents were asked for their views on effective means for promoting RCP to property owners and managers. The majority recommended direct marketing to the target audience. The most commonly mentioned vehicle was direct mail. One quarter recommended outreach through trade associations, using either their publications or their meetings to reach members. Several specific suggestions were offered on this topic, including:

- IREM (Institute of Real Estate Management)
- BOMA
- Multifamily Housing Council
- State and local [county] apartment associations
- Multi-housing News
- *Energy Decisions*

One respondent thought that the current approach used, of having the contractors market the program to their customers, was very good. Other respondents (3) wanted to see the utilities market directly to property managers. One felt the information was more credible from the utilities, the others indicated that more program information would lead them to a more competitive bid process.

“The utilities should deal directly with the property owners. Then we will go out to get complete bids. As it was, the contractor brought us the information so we went with them. “

“It is important to make property owners aware of RCP so we can have the ability to comparison shop among the vendors. We would have inquired about services and pricing if we had known that the utility was behind the program.”

Overall Satisfaction with RCP

Respondents were asked to rate their overall satisfaction with RCP on a five-point scale, using the following question:

“On a scale of 1 to 5 with 1 being ‘not at all satisfied’ and 5 being ‘very satisfied’, how satisfied are you with your experiences in the RCP program during 2000?”

The average score was 3.64. Ratings were distributed as follows:

<u>Rating</u>	<u># of responses</u>
6	0
7	2
8	3
9	7
10	2
No response	2

Comments explaining the ratings given to the program included the following:

“It took an awful long time.”

“The utility has been on the ball. “

“I don’t really have an opinion on the program. Our contractor handles the contact with the utility.”

“It’s a waste of our time. We submitted applications two months ago and cannot get an answer from [the utility]. We call every week or two and we either can’t reach anyone or are told to call back. This has been going on for two months!”

“We were excited about the program at first. We feel the focus is good. But the utility’s handling of the program is horrible. The contractor we worked with initially was really helpful, but we get no response from [the utility].”

“The combination of low front-end exposure plus savings is outstanding.”

“It has been seamless so far.”

“Everything seems to be falling in place.”

“It’s too early to tell if we’ll see the savings. ... I’m only giving the program a 3 because of the merchandise. I’m not too pleased with the light bulbs. They have a short life span and I don’t understand why.”

“There have been delays. The delay raises questions: ‘Am I doing the right thing?’ We get no answers.”

“I’ve had two bad experiences in programs with bad lighting equipment. One program before and this program.”

“We’re very satisfied. We find the illumination is better and we see lower usage.”

“There is no follow up.”

“The payback was shorter than estimated.”

“It’s working. I hear of no negatives. ...The program is complex. We’d like to see greater simplicity. A contractor can handle it but we are not experts.”

Perceived effectiveness of incentives

Respondents were asked to rate the effectiveness of the RCP multifamily component incentives on a five-point scale.

“How effective would you say the incentives offered through RCP multifamily program are in terms of changing the likelihood of facility owners deciding to choose higher efficiency options for multifamily properties? Please use a scale of 1 to 5 where 1 is ‘not effective’ and 5 is ‘very effective’.”

Responses were as follows:

<i>Rating</i>	<i># of responses</i>
1	0
2	0
3	2
4	7
5	4
No response	3

Comments regarding RCP incentives included:

“It was a no-brainer for us. They were more than ample.”

“The incentives were the reason we were interested in the program. To be able to use the incentives rather than borrowing the funding for the equipment. This was a major consideration for us.”

“I don’t know how much the incentives are. I believe it will be based upon the savings we get. ... Any rebates or savings are great.”

“They’re generally good. They picked the right items to cover. The dollar levels are fair.”

“M&V programs are less interesting. These programs become very complicated, involving us with another party on a long-term basis. This type of arrangement is more difficult to sell to management.”

“That was the main factor behind our decision to move forward.”

“This question is difficult to answer. My understanding is that the contractor gets the money. The program money plus our bill savings covers the installation cost for us.”

“It makes a lot of economic sense when you run the calculations.”

“New regulations were going to necessitate replacing the boilers anyway. The incentives allowed us to take action earlier.”

“Cost is the biggest barrier. We like to get incentives. We’re looking for savings on the bills too. Bottom line is - we’re looking to save money.”

Barriers to efficiency improvements in multifamily facilities

Opinions regarding key barriers were split between financial considerations and information barriers.

Financial barriers

Limited cash for investments/equipment cost	4
Payback too long	2

Information barriers

Lack of knowledge about opportunities	3
Lack of awareness of program	3

Recommendations for RCP

Recommendations about the program involved promotion and communications, timeliness and responsiveness, and qualifying equipment. The single most common recommendation was to increase advertising about the program generally.

Promotion

More advertising and information	7
Info directly to facility managers	4
Provide technical/educational info	3

Responsiveness

Be responsive to calls, inquiries	3
More timely approvals of projects	3

Qualifying measures

Eliminate unreliable lighting options	2
---------------------------------------	---

More lighting measures – wall sconces	1
Add solar options	1
<i>Other</i>	
Simplify applications and process	2
Provide advance notice of inspections	1
Make available to smaller facilities	1

Characteristics of participant facilities and organizations

The large majority of the facilities represented by this research are apartment buildings (14 out of 16). The remainder are senior citizen housing complexes. None of the facilities covered in this research were condominium complexes. The size of these facilities ranged widely: the number of dwelling units served per application ranged from 38 to 6000.

Three-fourths of the respondents reported that their organizations had made earlier investments in efficiency improvements at one or more of their facilities. Utility programs have been influential in this past investment activity: three-quarters of this group indicated that utility programs had been used in past conservation installations.