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Evaluation of the 2001 SDG&E Residential Single Family RCP Program Performance Indicators

Prepared for:
San Diego Gas & Electric

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Creators of CheckMe!®

INTRODUCTION & PERFORMANCE INDICATORS

Introduction

Proctor Engineering Group (PEG) was retained by San Diego Gas & Electric (SDG&E) to evaluate the effectiveness of a program aimed at changing the way residential contractors "do business" to a more comprehensive and energy efficienct model known as "the house as a system". This report details the findings of this investigation.

Previous years the evaluations addressed whether the contractors and technicians had "taken in" and acted on the information presented in the training sessions that relate to the "house as a system". This year the evaluation included an indicator concerning whether the customer was becoming more aware of the house as a system and the interactions between energy related systems in their homes.

The program consisted of contractor training and customer rebates in all areas. In the HVAC areas the program included additional features designed to contribute to the proficiency and effectiveness of the contractors. These additional items included:

- Classroom training in seven areas relating to specific diagnostic tests and interactions.
- Hands on field training in small groups regarding;

⇒ Duct testing and sealing (two day training with two crews)

⇒ Air conditioner testing, diagnosis and tune-up (one day with three to four technicians)

- Immediate error checking, problem solving, and diagnosis confirmation through the CheckMe!® system that receives data via telephone directly from the technician on-site.
- Confirmations of proper repair through the CheckMe!® system.
- Customer communication including a certificate of pre-repair, post-repair equipment performance.
- Educational material and customer satisfaction card mailed to the customer with the certificate.
- Analysis and follow up with contractors, technicians, and customers based on performance as recorded in the central database.

Performance Indicators

San Diego Gas and Electric Company has three Residential Single Family PY2001 Performance Indicators:

1) " Number of contractors trained or certified by third parties on techniques/practices as defined in the Residential Contractor program standards manual."

2) " Increase in customer awareness of the interaction among energy related systems in their homes"

3) " Number of contractors trained or screened by third parties on proper installation and diagnostic procedures"

The first and third performance indicators are related to training and certification/screening of contractors. The techniques and practices described in the Residential Contractor program standards manual overlap with proper installation and diagnostic procedures. These two indicators are considered together and the numbers of contractors are reported.

The second indicator measures the program's effect on the customers. This performance is demonstrated through a customer survey after their participation in the program.

TRAINING PERFORMANCE INDICATOR METHODOLOGY AND RESULTS

Proctor Engineering Group devised a training result measurement plan with the input and cooperation of San Diego Gas and Electric Company. The research question addressed was:

How many contractors were trained or trained and certified in the program?

The contractor and technician training results are presented in Table 1.

Table 1. Contractors and Technicians Trained – SDG&E 2001

Training Type	# Contractors	# Technicians
Air Conditioner Diagnostics and Repair, Field Training	22	81
Duct Diagnostics and Repair, Field Training	24	69
Combustion Safety, Laboratory Training	29	40
Title 24 Revisions, New Diagnostic and Installation Requirements for Replacements, Classroom Training	18	26
Proper Air Conditioner Installation, Classroom Training	32	51
Proper Air Conditioner Sizing, Classroom Training	12	18
Diagnosing Low Airflow, Causes, and Repairs, Classroom Training	12	17
Proper Duct System Design, Sizing, Installation and Interactions, Classroom Training	12	17
Selling High Efficiency Equipment, Diagnostics, Proper Installation, and Service, Classroom Training	6	9

CUSTOMER AWARENESS PERFORMANCE INDICATORS METHODOLOGY AND RESULTS

Proctor Engineering Group devised a customer awareness measurement plan with the input and cooperation of San Diego Gas and Electric Company

The research questions addressed were:

GENERAL CUSTOMER AWARENESS

1. What was the level of awareness of customers prior to the SDG&E program with respect to the interactions between energy related systems in their homes?

2. What was the level of awareness of customers after the SDG&E program with respect to the interactions between energy related systems in their homes?

SPECIFIC CUSTOMER AWARENESS

3. Has the program increased the customer's awareness of interactions between the duct system and the efficiency of the air conditioning/heating in their home?

4. Has this program drawn the customer's attention to the interaction between air conditioner sizing and efficiency?

Customer Awareness Survey

The customer awareness indicator was measured using a postage-paid mail back postcard survey. The survey was designed, reviewed with San Diego Gas and Electric Company, and pre-tested. No changes were necessary from the pre-testing. The results of the questionnaires were entered into a database and reviewed for accuracy by the supervisor.

Surveys were sent to 980 customers. Survey response was extremely high; 369 surveys were returned (36.6%).

Two questions on the survey addressed a change in customers' awareness of interactions between energy related systems in their homes. The customers ranked themselves from 1 (low awareness) to 5 (high awareness) before and after the training.

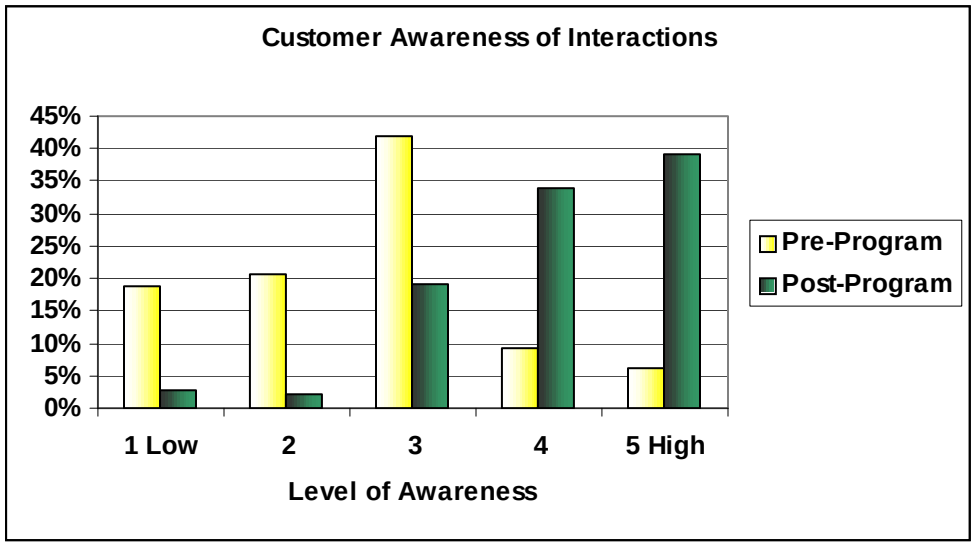
Two additional questions addressed specific interactions between the heating/cooling system and ducts as well as between air conditioner sizing and efficiency. The customers reported how much the program brought the two specific interactions to their attention (none, some, quite a bit).

Customers' Increase in Awareness of Energy System Interactions

The customers ranked their awareness before and after the program intervention on a scale of 1 (low awareness) to 5 (high awareness) there was a significant shift to higher levels of awareness. as shown in the table and figure below.

Table 2. Change in Customer Awareness of Interactions – SDG&E 2001

Customer Awareness		pre-Program	post-Program
low	1	19%	3%
	2	21%	2%
	3	42%	19%
	4	9%	34%
high	5	6%	39%
No Response		3%	3%
Total		100%	100%



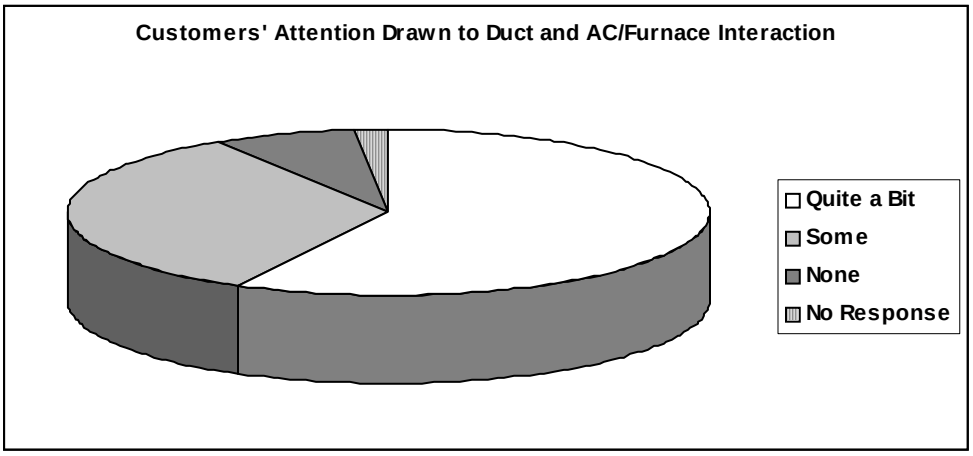
Customers' Increase in Awareness of Specific Interactions

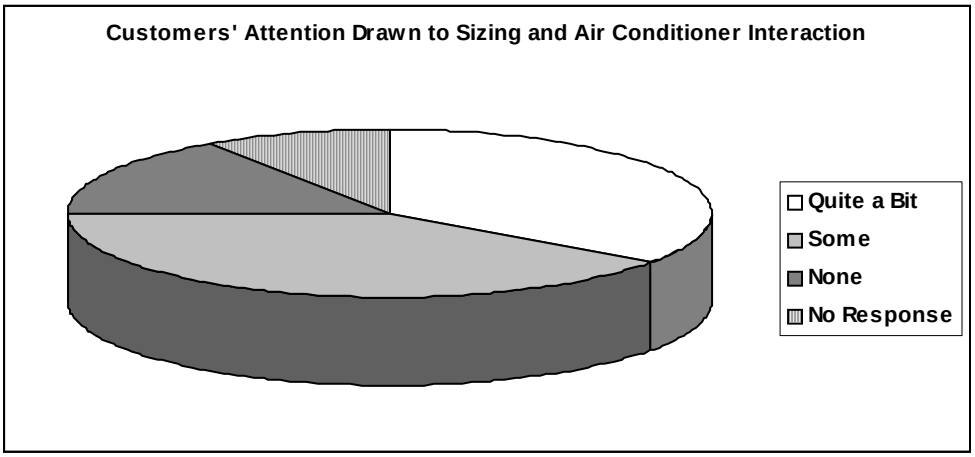
The customers ranked whether the program brought their attention to the interactions between the duct system, the sizing, and the overall heating/cooling system efficiently. They chose between three categories (none, some, quite a bit). The results of these questions are shown in Table 3 and the figures below.

Table 3. Specific Customer Attention to Interactions – SDG&E 2001

Customer Awareness	Duct, AC and Heating	Air Conditioning and Sizing[1]
none	7%	16%
some	33%	40%
quite a bit	58%	35%
No Response	2%	9%
Total	100%	100%

Note 1: Some customers were duct only customers whom did not have air conditioners.





CONCLUSIONS

Proctor Engineering Group concludes that:

Considering the PY2001 CPUC Performance Indicators:

1) " Number of contractors trained or certified by third parties on techniques/practices as defined in the Residential Contractor program standards manual."

2) " Increase in customer awareness of the interaction among energy related systems in their homes"

3) " Number of contractors trained or screened by third parties on proper installation and diagnostic procedures"

The SDG&E Single Family RCP program showed a very high level of performance in all three areas.

VERIFICATION

This study constitutes the required study of the PY2001 program. It identifies the number of contractors and technicians trained and certified in the SDG&E program as well as an increase in customer awareness of interactions between the energy systems in their homes.

APPENDIX A – SURVEY

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1) Has this program increased your awareness of interactions between the duct system and the efficiency of the air conditioning/heating in your home?

Quite a Bit **Some** **None**

2) Has this program drawn your attention to the interaction between air conditioner sizing and efficiency?

Quite a Bit **Some** **None**

3) Please rate your level of awareness about the interactions between energy related systems in your home.

Before the Program					**After the Program**				
Low		Medium		High	Low		Medium		High
1	2	3	4	5	1	2	3	4	5