

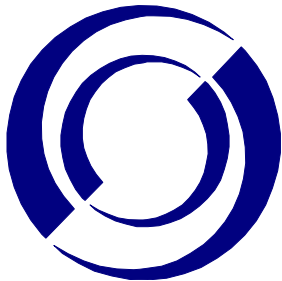


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1997 Fuel Substitution Program

Ninth Year Retention Evaluation

March 2006



Study ID No. 1018

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**1997 FUEL SUBSTITUTION:
NINTH YEAR RETENTION EVALUATION
STUDY ID NO. 1018**

Program Description

SDG&E's Program Year 1997 (PY97) Fuel Substitution Program was designed to help customers reduce energy costs and increase energy efficiency at their facilities while providing positive resource value to society.

A customer who participated in SDG&E's Fuel Substitution Program received a rebate upon completed installation of the equipment. Information regarding customer name, address, phone number, installed measures, measure costs, energy savings and participation date were kept in SDG&E's project tracking system. The retention sample for this study was drawn from this database.

Sampling and Data Collection

The M&E Protocols require that retention studies evaluate the top 10 measures or 50% of the estimated resource value, whichever number of measures is less, excluding miscellaneous measures. In PY97, two measures in the Fuel Substitution Program, natural gas humidifiers and natural gas catalytic thermoforming heater, accounted for 62% of program TRC and thus require a retention study.

SDG&E contracted with KEMA-Xenergy, Inc. to conduct an on-site survey of the two participating customers to verify that the measures were still in place and operable – the definition of effective useful life (EUL) per the M&E Protocols.

A copy of the survey is provided at the end of this study.

Measures/"Like" Measures

In order to apply any changes in EUL to measures not studied, M&E Protocols require that the utility identify any "like" measures within the program. For SDG&E's PY97 Fuel Substitution Program, there are no "like" measures, since no other measures in the program have

characteristics similar to the natural gas humidifiers or the natural gas catalytic thermoforming heater. The *ex ante* estimated EUL for both measures is 15 years.

Econometric Framework

Both measures in the Fuel Substitution Program, 21 natural gas humidifiers and 1 natural gas catalytic thermoforming heater, were all found to in place and operable during the on-site verifications. Subsequently, there are no “failures” in the database and therefore an attempt to model EULs is not useful.

Results

Since both measures in the study were found to be in place and operable, SDG&E will retain the *ex ante* EULs estimate. The natural gas humidifiers and the natural gas catalytic thermoforming heater both have an *ex ante* EUL of 15 years.

M&E PROTOCOLS TABLE 6
RESULTS USED TO SUPPORT
PY96 FOURTH EARNINGS CLAIM
FOR
FUEL SUBSTITUTION PROGRAM
NINTH YEAR RETENTION EVALUATION
MARCH 2006
STUDY ID NO. 1018

TABLE 6 for RETENTION STUDIES
PROGRAM: Fuel Substitution
YEAR(S): PY97

1. Enduse	1. Measure	2. ex-ante EUL	2. ex-ante EUL Source	3. ex-post EUL from Study	4. ex-post EUL for 3rd & 4th claim	5. Standard Error	6. Upper & lower bounds @ 80% Conf Int		7. P Value	8. Realization Rate	9. "Like" Measures to be Adjusted
Fuel Sub	Gas Humidifier	15	****	NA	15.0	NA	NA	NA	NA	1.00	None
Fuel Sub	Natural Gas Catalytic Thermoforming Heater	15	****	NA	15.0	NA	NA	NA	NA	1.00	None

**** Custom Job: Engineering Judgement

Note: NA indicates that no failures were observed

M&E PROTOCOLS TABLE 7

DATA QUALITY AND PROCESSING

DOCUMENTATION

FOR

FUEL SUBSTITUTION PROGRAM

NINTH YEAR RETENTION EVALUATION

MARCH 2006

STUDY ID NO. 1018

M&E PROTOCOLS TABLE 7

DATA QUALITY AND PROCESSING DOCUMENTATION

For Fuel Substitution Program

Ninth Year Retention Evaluation

March 2006

Study ID No. 1018

B. Retention Studies

1. OVERVIEW INFORMATION

a. Study Title and Study ID:

1997 Fuel Substitution Program – Ninth Year Retention Evaluation, March 2006, Study ID No. 1018.

b. Program, Program Year(s), and Program Description (Design):

Fuel Substitution Program for the 1997 program year. The Program was designed to help customers reduce energy costs and increase energy efficiency at their facilities while at the same time providing positive resource value to society.

c. End Uses and Measures Covered:

Fuel substitution. The measures are identified in Table 6.

d. Methods and Models Used:

N/A

e. Analysis sample size:

Program Year	Measure	# of Customers in Program	# of Installations in Program	# of Measures Installed in Program	# of Measures in Sample Frame	Date of Retention Studies
1997	Gas Humidifier	1	21	21	21 21 21 21 21	July 2001 July 2002 July 2003 June 2004 Oct 2005
1997	Natural Gas Catalytic Thermoforming Heater	1	1	1	1 1 1 1 1	July 2001 July 2002 July 2003 June 2004 Oct 2005

2. DATABASE MANAGEMENT

a. Data sources:

The data came from the following sources:

- Customer name, address, phone number, installed measures, and participation date from the program tracking database
- Measures were determined to be in place and operable by the on-site data collection described in the section of the report entitled Sampling and Data Collection.

The data were merged together to form the dataset for the analysis leading to the estimated Effective Useful Life

b. Data Attrition:

There was no data attrition. On-site audits were successfully conducted annually on all program participants from 2001 through 2005.

c. Data Quality Checks:

The data sets for the analysis were merged in SAS by the appropriate key variables. Counts of the data sets before and after the merges were verified to ensure accurate merging.

d. Data collected

All data for this analysis was utilized.

3. SAMPLING

a. Sampling procedures and protocols:

A census was attempted and successfully completed.

b. Survey information:

A copy of the Survey is attached at the end of the report. The survey completed response rate was 100% each year.

c. Statistical Descriptions:

N/A

4. DATA SCREENING AND ANALYSIS

a. Outliers and Missing Data Points:

N/A

b. Background Variables:

N/A

c. Screened Data:

N/A

d. Model statistics:

N/A

e. Specification:

1) Heterogeneity: N/A

2) Omitted Factors: N/A

f. Error in Measuring Variables:

N/A

g. Influential Data Points:

N/A

h. Missing Data:

N/A

i. Precision:

N/A

***MEASURE RETENTION SURVEY
FOR
FUEL SUBSTITUTION PROGRAM
NINTH YEAR RETENTION EVALUATION
MARCH 2006
STUDY ID NO. 1018***

SDG&E Fuel Substitution Survey

July 2001

July 2002

July 2003

June 2004

Oct 2005

**SDG&E PY97 Fuel Substitution Program
 Measure Retention Survey**

Site_nbr: Site_sec: PART:
 Site_nm:
 Rank: Address:
 Site_Cty:
 Bldg_sz: Bldg_lgt:

Site Contact (DB): _____
 Contact Ph: _____

Alternate contact name: _____

Alternate contact phone: _____

Surveyor: _____

Survey Date: _____

ENDUSE:

Contract	MSR #	NEWDESC	kWh Sav	kW Red	Th. Sav	MSR LOC	Ins. Qty	Run Hrs	Ver. Schedule (incl. date of change in schedule)

SDG&E PY97 Fuel Substitution Program
Measure Retention Survey

Site_nbr: Site_sec: PART:
Site_nm:
Rank: Address:
Site_Cty:
Bldg_sz: Bldg_lgt:

Site Contact (DB): _____
Contact Ph: _____

Alternate contact name: _____
Alternate contact phone: _____

Surveyor: _____
Suvey Date: _____

ENDUSE:

SURVEY DISPOSITION

Audit Completed?: [] Yes [] No (check one)

Reason for not completed: []

- 1 = Unable to reach/contact.
- 2 = Changed mind about participation in study.
- 3 = Premise closed/not operating.
- 4 = Site/contact info incorrect and could not find alternate contact.
- 5 = Requested to call back, could not complete call.
- 6 = Rescheduled upon arrival at site.
- 7 = Other: Describe:

DISCREPANCIES

Reason for discrepance in counts (check one and describe if necessary)

- [] =Removed, not replaced (include date of removal,)
- [] =Never installed
- [] =Exceeds tracking system counts (describe reasons for additional eqmt, eg, retrofits part of SDG&E Program in
- [] =Removed, replace with more efficient
- [] =other, describe situation fully

Description/Comments:

SDG&E PY97 Fuel Substitution Program
Measure Retention Survey

Site_nbr: Site_sec: PART:
Site_nm:
Rank: Address:
Site_Cty:
Bldg_sz: Bldg_lgt:

Site Contact (DB): _____
Contact Ph: _____

Alternate contact name: _____
Alternate contact phone: _____

Surveyor: _____
Suvey Date: _____

Facility Tenancy/Ownership:

Have Tenant and Owner remained the same? Yes No (check one)
If NO, what best describes the situation (select one, describe below)

1. New tenant-same owner.
2. Same tenant-New owner
3. New tenant-New owner
4. Premise closed.

Description/Comments:

Building/Facility Configuration:

Check one box that represents the facility layout (check all that apply, describe below):

- Same as time of installation.
- Same tenant, had tenant improvements
- Same tenant, increased floorspace
- Same tenant, decreased floorspace
- New tenant, no tenant improvements
- New tenant, and had tenant improvements
- New tenant, increased floorspace
- New tenant, decreased floorspace, ie, there is empty floorspace.

Description/Comments: