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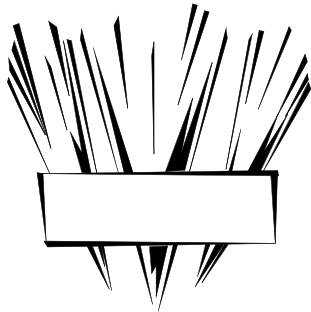
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## 1996 & 1997 Residential Appliance Efficiency Incentives Program: Compact Fluorescent Lights

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Fourth Year Retention Evaluation

*March 2001*



Study ID No. 984

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**1996 & 1997 RESIDENTIAL APPLIANCE EFFICIENCY INCENTIVES  
PROGRAM: COMPACT FLUORESCENT LIGHTS**

**FOURTH YEAR RETENTION EVALUATION**

**STUDY ID NO. 984**

**Program Description**

SDG&E's PY96 and PY97 Compact Fluorescent Lights (CFLs) utilized the development of improved fluorescent lighting as an alternative to standard incandescent lighting. CFLs provide a method of direct replacement to incandescent bulbs with the benefits of lower watt usage and longer lamp life.

The Compact Fluorescent Lighting Program was designed to educate and increase consumer awareness of this energy efficient technology and to encourage the installation of CFLs. The program was designed to help stimulate enough demand to make it more economical for retailers to stock and sell these devices.

The program's product line was comprised of modular, high power factor/low harmonic distortion lamps, which provides a high quality product. In addition, dedicated hard-wire compact fluorescent fixtures were included in the program.

Several channels of distribution were used in disseminating lamps to customers. The primary channel was retailers, with the secondary channel through SDG&E field operations and other DSM programs. The CFLs were packaged with a postcard (a copy is provided at the end of this study) requesting customer and product information. The card asked for the customer's name, address, phone number, number of bulbs purchased and wattage. 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. For the Compact Fluorescent Lighting Program, the PY96 and PY97 CFL bulb and fixture customers combined are the basis for estimating the Effective Useful Life (EUL). These 2 measures account for 100% of the program resource value.

Since 1995, CIC Research, Inc. has been retained to conduct “peak day” telephone surveys on the participants who purchased bulbs and fixtures in the program. The “peak day” survey was administered during the week of SDG&E’s electric system peak demand. Customers were asked how many bulbs/fixtures they purchased, how many they still have in place, and whether or not the device was on during the system peak demand (the purpose of this question was to get a factor for load impact analysis). In 1998, the questions regarding whether or not the bulb was on at time of peak was dropped since load impact analyses are no longer required.

The table below shows the number of surveys completed per year for each PY measure. Beginning in 1998, the goal for retention was to survey 500 participants per measure per year. For the "peak day" survey of 1997, the goal was to contact 325 customers. The PY96 fixture customer database has only 205 participants, so a census has been attempted every year.

Survey Year	Number of Completed Surveys			
	PY96 Bulbs	PY96 Fixtures	PY97 Bulbs	PY97 Fixtures
1997	327	119	N/A	N/A
1998	506	128	500	512
1999	500	93	500	500
2000	503	69	544	500

Copies of the surveys and response rates are provided at the end of this study and in M&E Protocol Reporting Requirement Table 7.

**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 PY96 and PY97 Compact Fluorescent Lighting Program, there are no “like” measures since bulb and fixture customers were surveyed regardless of wattage and distribution channel. The *ex ante* estimated EUL for all bulbs in the program is 8 years for PY96 and 9 years for PY97. The *ex ante* estimated EUL for hard-wire CFL fixtures in the program is 20 years.

## **Econometric Framework**

### ***Retention model for estimating median lifetime***

The model for lifetime estimation involves the key concepts of the survivor function, the hazard function, and median lifetime. Once these concepts are established, they will be applied to the data and a maximum-likelihood framework (which brings the concepts and the data together) to produce estimated median lifetime.

### ***The survivor function***

For the lifetime of the equipment in question, the survivor function is,

$$S(j) = \text{prob}(\text{lifetime} \geq j)$$

It is the estimated survivor function that allows the formation of an expected median lifetime. Of course, the survivor function must be specified. This is done through a related function: the hazard function.

### ***The hazard function***

The hazard function  $h(j)$  is the probability of equipment failure (removal, retirement, etc.) in the next unit of time, conditioned on having reached age  $j$ . It bears the following relationship to the survivor function.

$$h(j) = -\frac{dS(j)/dj}{S(j)}$$

The hazard function is generally the "intuitive starting point" of any lifetime analysis, since it is structured to reflect the general pattern of equipment failures. The quadratic hazard function allows for U-shaped and linear hazard curves ( $b_2 = 0$ , below), as well as an exponential survivor function ( $b_1 = b_2 = 0$ , below) as special cases:<sup>1</sup>

### **Equation 1 (The quadratic hazard function)**

$$-\frac{dS(j)/dj}{S(j)} = h(j) = b_0 + b_1j + b_2j^2$$

Note that the hazard function is actually a differential equation in the survivor curve.

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<sup>1</sup> Lawless, J.F. (1982). *Statistical Models and Methods for Lifetime Data*. New York: Wiley. 252-253.

### ***Getting the survivor function from the hazard function***

The exact structure of the survivor function can be obtained by solving the hazard function (a differential equation in the survivor function) for  $S(j)$ , imposing the constraint  $S(0)=1$ :

#### **Equation 2 (The survivor function)**

$$S(j) = e^{-(\beta_1 j + \beta_2 j^2 + \beta_3 j^3)} \quad (\beta_1 = b_0, \quad \beta_2 = \frac{b_1}{2}, \quad \beta_3 = \frac{b_2}{3})$$

### ***The median lifetime***

The median age at failure  $m$  is then given by the implicit expression,

#### **Equation 3 (Definition of the median $m$ )**

$$S(m) = e^{-(\beta_1 m + \beta_2 m^2 + \beta_3 m^3)} = \frac{1}{2}$$

We now show the steps necessary to estimate the median lifetime from actual data, by defining the "discrete failure function" and the likelihood function.

### ***The discrete failure function***

For uniform periods of time (months), the likelihood of failure at age  $j$  (before age  $j+1$ ) is,

#### **Equation 4 (The discrete failure function)**

$$F(j) = S(j) - S(j+1)$$

### ***The data, the likelihood function, and estimation***

Consider an equipment sample of size  $n$ . Let  $n_j^F$  be the number of known failures at age  $j$ , and

let  $n^Q$  be the number of known failures whose age at failure is unknown; then the number of

survivors by observation at age  $J$  is  $n - n^Q - \sum_{j=0}^J n_j^F$ . Furthermore, let  $\omega$  be the likelihood that the

age at failure is unknown, given failure. The log-likelihood function (the log of the likelihood of observing the data) is then,

$$L(\beta, \omega) = \sum_{j=0}^J n_j^F \log[(1-\omega)F(j)] + n^Q \log\{\omega[1-S(J+1)]\} + \left( n - n^Q - \sum_{j=0}^J n_j^F \right) \log S(J+1).$$

The log-likelihood function can be maximized with respect to its arguments just as a sum-of-squares function can be minimized in a standard regression problem. Standard numerical and grid-search methods can be used to maximize the log-likelihood function. Once estimates are obtained for the vector of coefficients  $\beta$ , the median lifetime can be estimated using Equation 3.

The estimated variance of  $\beta$ , on which the standard errors of its elements are based, is a fairly complex calculation and one which will not be expressly derived here, although the calculation is based on the expectation of the second-derivative matrix for the log-likelihood function:

$$\text{VAR}(\beta) = \left( -E \frac{\partial^2 L}{\partial \beta \partial \beta'} \right)^{-1}$$

The estimated median is a nonlinear function of  $\beta$ ; as such, its standard error can be estimated dependably for large samples, based on  $\text{VAR}(\beta)$ .

### ***Solving data problems--developing independent and dependent failures***

Lifetime estimation using maximum likelihood requires the statistical independence of failures. Sometimes equipment failures are indeed independent, as when failures occur due to age or manufacturing weaknesses. However, in many cases failures are not independent--that is, they are "dependent"--as when, for example, a "cluster" or "bank" of lighting measures are jointly removed during a remodeling.

Independent failures can easily be handled using the maximum likelihood framework described above. Fortunately, dependent failures can also be handled in a similar fashion. A cluster of dependent failures can be viewed as an independent failure in its own right, one of numerous observed clusters, each of which is subject to the possibility of independent failure. The maximum likelihood framework can simply be applied to the clustered data.

### ***Modeling and estimating with independent and dependent failures***

When any one piece of equipment is subject to both independent and dependent failure, the hazard function can be modified accordingly (ignoring the event of both types of failures occurring jointly):

$$h(j) = h_{\text{ind}}(j) + h_{\text{dep}}(j)$$

Independent failures are bound to be age-dependent, so that,

$$h_{\text{ind}}(j) = b_0^{\text{ind}} + b_1 j + b_2 j^2$$

Dependent failures are mostly likely age-independent (with respect to the building-remodeling effect, we expect the age of the equipment to be irrelevant), so that,

$$h_{\text{dep}}(j) = b_0^{\text{dep}}$$

This yields a new survivor function (and, implicitly, a new median life that can be estimated based on the joint use of independent and dependent failure data):

$$S(j) = e^{-[(\beta_1^{\text{ind}} + \beta_1^{\text{dep}})j + \beta_2 j^2 + \beta_3 j^3]}$$

The variance matrix for the joint estimation problem can be constructed, as can the standard error for the jointly estimated median lifetime, represented by the expression,

$$S(m) = e^{-[(\beta_1^{\text{ind}} + \beta_1^{\text{dep}})j + \beta_2 m^2 + \beta_3 m^3]} = \frac{1}{2}$$



***M&E PROTOCOLS TABLE 6***

***RESULTS USED TO SUPPORT***

***PY96 THIRD EARNINGS CLAIM***

***FOR***

***RESIDENTIAL APPLIANCE EFFICIENCY INCENTIVES***  
***PROGRAM:***

***COMPACT FLOURESCENT LIGHTS***

***FOURTH YEAR RETENTION EVALUATION***

***MARCH 2001***

***STUDY ID NO. 984***

**TABLE 6 for RETENTION STUDIES**  
**PROGRAM: RAEI-Compact Fluorescent Lights**  
**YEAR(S): PY96 & PY97**

1. Enduse	1. Measure	2. <i>ex-ante</i> EUL	2. <i>ex-ante</i> EUL Source	3. <i>ex-post</i> EUL from Study	4. <i>ex-post</i> 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
Lighting	CFL Bulbs	8.5	**	6.4	6.4	0.1	6.3	6.6	0.0%	0.76	All Bulbs
Lighting	CFL Fixtures	20	**	17.2	17.2	0.7	16.3	18.2	0.0%	0.86	All Fixtures

\* In 1996, the *ex ante* EUL was 8 years  
 In 1997, the *ex ante* EUL was 9 years

\*\*Advice Letter filing 926-E-A/934-G-A: March 23, 1995

**M&E PROTOCOLS TABLE 7**

**DATA QUALITY AND PROCESSING**

**DOCUMENTATION**

**FOR**

**RESIDENTIAL APPLIANCE EFFICIENCY INCENTIVES**  
**PROGRAM:**

**COMPACT FLOURESCENT LIGHTS**

**FOURTH YEAR RETENTION EVALUATION**

**MARCH 2001**

**STUDY ID NO. 984**

## M&E PROTOCOLS TABLE 7

### DATA QUALITY AND PROCESSING DOCUMENTATION

#### For RAEI-Lighting Program

#### Fourth Year Retention Evaluation

March 2001

Study ID No. 984

#### B. Retention Studies

##### 1. OVERVIEW INFORMATION

###### a. Study Title and Study ID:

1996 & 1997 Residential Appliance Efficiency Incentives: Lighting – Fourth Year Retention Evaluation, March 2001, Study ID No. 984

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

RAEI Compact Fluorescent Lighting Program for the 1996 and 1997 program years. The Program was designed to increase consumer awareness and stimulate demand to make it economical for retailers to stock and sell CFL bulbs and fixtures.

###### c. End Uses and Measures Covered:

Lighting, two measures: CFL bulbs and CFL hard-wire fixtures.

###### d. Methods and Models Used:

See the section of the report entitled Econometric Framework for a complete description of the final model specifications.

**e. Analysis sample size:**

Program Year	Measure	# of Customers in Program	# of Installations in Program	# of Measures Installed in Program	# of Surveys in Sample Frame	Date of Retention Studies
96	CFL Bulbs	Unknown since this is a retail program	247,716	247,716	327	Oct '97
					506	Sep '98
					500	July-Aug '99
					503	July '00
96	CFL Fixtures	Unknown since this is a retail program	104,367	104,367	119	Oct '97
					128	Sep-Oct '98
					93	July-Oct '99
					69	July-Aug '00
97	CFL Bulbs	Unknown since this is a retail program	236,027	236,027	500	Nov '98
					500	July '99
					544	July '00
97	CFL Fixtures	Unknown since this is a retail program	155,957	155,957	512	Oct-Nov '98
					500	Sep '99
					500	July '00

**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 returned postcard database
- CFL bulbs and fixtures were determined to be in place and operable by the phone survey described in the section of the report entitled Sampling and Data Collection.

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

**b. Data Attrition:**

The goal for each measure in each program year was to achieve a sample of 500 completed surveys each year, except for PY96 bulbs the goal was 325 in 1997. The PY96 fixtures goal was to achieve a census every year the survey was administered. Response tally sheets are provided with the surveys at the end of this report.

**c. Data Quality Checks:**

The data sets for the regression 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. All data collected**

With one exception, all data collected specifically for this analysis was utilized: one customer sampled—having purchased 100 fixtures in 1996—reported all of the as out of service. This instance was omitted from the sample. The effect of including these fixtures in the sample for estimated useful life for fixtures would be to lower the PY 96 97 fixture estimate to 15.2 years from the 17.2 years shown in Table 6.

**3. SAMPLING**

**a. Sampling procedures and protocols:**

Starting in 1998, a goal of 500 participants per measure per program year (4 groups of customers) was established. Each of the four groups of customers was provided to CIC Research, Inc. in random order. CIC Research was instructed to start at the top of each list and get the first 500 customers they could to respond. For PY96 fixtures, the goal was to achieve a census since the database contains only 205 participants. See the section of the report entitled Sampling and Data Collection.

**b. Survey information:**

Copies of the SDG&E Compact Fluorescent Light Bulb/Fixture Surveys over the years are attached to the end of the report. The survey completed response rate was 37% in 1998, 42% in 1999, and 28% in 2000; see the response tally sheets at the end of the report for reasons for non-completed surveys.

**c. Statistical Descriptions:**

Measure	Independent or dependent failure analysis (see report)	Variable Designation (see report)	Sample Size (observations or failures)	Age of failure (months)
CFL-bulbs	Independent (Comm-PY 96)	n (survey '97-'00)	8,138	Not applicable
		n <sup>Q</sup> (survey '97)	372	21
		n <sup>Q</sup> (survey '98)	513	32
		n <sup>Q</sup> (survey '99)	624	43
		n <sup>Q</sup> (survey '00)	755	55
	Independent (Comm-PY 97)	n (survey '98-'00)	7,281	Not applicable
		n <sup>Q</sup> (survey '98)	496	22
		n <sup>Q</sup> (survey '99)	660	30
		n <sup>Q</sup> (survey '00)	834	43
CFL-fixtures	Independent (Comm-PY 96)	n (survey '97-'00)	1,600	Not applicable
		n <sup>Q</sup> (survey '97)	20	21
		n <sup>Q</sup> (survey '98)	134	32
		n <sup>Q</sup> (survey '99)	151	43
		n <sup>Q</sup> (survey '00)	26	55
	Independent (Comm-PY 97)	n (survey '98-'00)	6,322	Not applicable
		n <sup>Q</sup> (survey '98)	184	22
		n <sup>Q</sup> (survey '99)	413	30
		n <sup>Q</sup> (survey '00)	183	43

**4. DATA SCREENING AND ANALYSIS**

**a. Outliers and Missing Data Points:**

No outliers and no missing data.

**b. Background Variables:**

NA

**c. Screened Data:**

None.

**d. Model statistics:**

See M&E Protocol Table 6.

**e. Specification:**

Measure	Specification for dependent failures	Specification for independent failures	Mixed estimation
Bulbs	NA	Exponential	None
Fixtures	NA	Exponential	None

1) Heterogeneity: See section of the report entitled “Econometric Framework.”

2) Omitted Factors: None omitted.

**f. Error in Measuring Variables:**

NA.

**g. Influential Data Points:**

None.

**h. Missing Data:**

None.

**i. Precision:**

The calculation for the standard error is based on the expectation of the second-derivative matrix for the log-likelihood function.



***BOUNCE BACK CARD EXAMPLE***

***FOR***

***RESIDENTIAL APPLIANCE EFFICIENCY INCENTIVES  
PROGRAM:***

***COMPACT FLOURESCENT LIGHTS***

***FOURTH YEAR RETENTION EVALUATION***

***MARCH 2001***

***STUDY ID NO. 984***

## **BOUNCE BACK CARD EXAMPLE**

***MEASURE RETENTION SURVEYS***

***FOR***

***RESIDENTIAL APPLIANCE EFFICIENCY INCENTIVES  
PROGRAM:***

***COMPACT FLOURESCENT LIGHTS***

***FOURTH YEAR RETENTION EVALUATION***

***MARCH 2001***

***STUDY ID NO. 984***

SAN DIEGO GAS & ELECTRIC COMPANY

RESIDENTIAL LIGHTING (COMPACT FLUORESCENT) PEAK-HOUR STUDY

October, 1997

Hello, This is \_\_\_\_\_ from CIC Research. I'm conducting a survey for San Diego Gas & Electric Company.

A. Is this the \_\_\_\_\_ residence?

Yes (CONTINUE)

No (THANK & TERMINATE; CODE "WRONG #)

**(TERMINATION MESSAGE: "Thank you, I'm sorry for the inconvenience.")**

---

We would like to ask you some quick questions regarding the **COMPACT FLUORESCENT LIGHTS** that were purchased by your household in 1996. (You provided us with this information in a return postcard last year.) Which member of the family over the age of 18 is most familiar with how these lights are used? (**ASK TO SPEAK TO THIS PERSON & REPEAT INTRO**)

1. How many compact fluorescent lights did you purchase in 1996? # \_\_\_\_\_ 1. \_\_\_\_\_

0 None (TERMINATE; CODE TQ1) -1 Don't Know (TERMINATE; CODE TQ1)

2. How many of these lights are currently installed? # \_\_\_\_\_ 2. \_\_\_\_\_

0 None (SKIP TO Q5) -1 Don't Know (SKIP TO Q5)

3. How many of the compact fluorescent lights that you purchased in 1996 were TURNED ON at 3 p.m. TODAY (Wednesday)? # \_\_\_\_\_ 3. \_\_\_\_\_

0 None -1 Don't Know

4. Approximately how many hours each day is each of these lights turned on?  
#1 \_\_\_\_\_ #2 \_\_\_\_\_ #3 \_\_\_\_\_ #4 \_\_\_\_\_ #5 \_\_\_\_\_ 4. \_\_\_\_\_

**(PROMPT: "Now just to be sure, the number of compact fluorescent lights that you purchased in 1996 that were TURNED ON TODAY (Wednesday) at 3 p.m. was \_\_\_\_.**

**Is that correct? (CHANGE QUESTION #3 RESPONSE, IF NECESSARY)**

Now just a few last questions to help us group your answers with those of others. First . . .

5. Do you own or rent your residence? 1 Own / Buying 5. \_\_\_\_\_

2 Rent / Lease

9 Refused

6. How many people usually live in this household? \_\_\_\_\_ -1 DK/Ref 6. \_\_\_\_\_
7. How many of those are in each of the following age groups? 7. \_\_\_\_\_  
\_\_\_\_\_18 years and younger  
\_\_\_\_\_19 years - 34 years 8. \_\_\_\_\_  
\_\_\_\_\_35 years - 54 years -1 DK/REF  
\_\_\_\_\_55 years or older 9. \_\_\_\_\_
8. What is the highest grade of schooling that you have completed? (READ CHOICES IF 10. \_\_\_\_\_  
NECESSARY)  
1 Elementary or grammar school  
2 Some high school  
3 High School graduate  
4 Trade or technical school  
5 Some college  
6 Two-year college graduate  
7 Four-year college graduate  
8 Some graduate school  
9 Graduate degree 11. \_\_\_\_\_  
99 (DK/REF-DO NOT READ)
9. Into which of the following groups did your 1996 income fall?  
1 \$7,499 or less 4 \$30,000 to \$49,999  
2 \$7,500 to \$14,999 5 \$50,000 to \$124,999  
3 \$15,000 to \$29,999 6 \$125,000 and above  
9 (DK/REF-DO NOT READ) 12. \_\_\_\_\_

Thank you very much for your time and cooperation.

-----  
Sex: 1 male 2 female 13. \_\_\_\_\_

1997 SDG&E CFL Retention Study  
Tally of Call Results  
1996 Bulbs

<i>Call result</i>	<i>Number</i>	<i>%</i>
Number not in service	42	4.9
Wrong number	95	11.0
No answer	124	14.4
Answering machine	38	4.4
Callback	13	1.5
Busy number	1	0.1
Other language	20	2.3
Refusal	115	13.4
Respondent never available	7	0.8
No recall of buying/receiving bulbs	78	9.1
Completed interviews	<u>327</u>	<u>38.0</u>
TOTAL	860	100.0%

**SDG&E**

***CFL RETENTION SURVEY - #457***

***1996 CFL Bulbs***

September, 1998

Hello, This is \_\_\_\_\_ from CIC Research. I'm conducting a survey for San Diego Gas & Electric Company. Is this the \_\_\_\_\_ residence? We would like to ask you some quick questions regarding the **COMPACT FLUORESCENT BULBS** that were **purchased** by your household in 1996. Are you familiar with how these light bulbs are used? **(IF NO, ASK TO SPEAK TO THE PERSON WHO IS MOST FAMILIAR & REPEAT INTRO; ARRANGE CB IF NECESSARY. IF RESPONDENT HAS NO KNOWLEDGE OF CFLS PURCHASED, PROCEED WITH INTERVIEW AND ENTER 0 FOR Q1)**

1. How many compact fluorescent BULBS did you purchase in 1996? # \_\_\_\_\_

0 None (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

-1 Don't Know (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

(IF MORE THAN 10 BULBS, ASK:) What led you to purchase \_\_\_\_\_ bulbs?

2. How many of these BULBS are currently installed? # \_\_\_\_\_

(# MUST BE LESS THAN OR EQUAL TO Q1#)

0 None      -1 Don't Know

Those are all my questions. Thank you very much for your time and cooperation.

## 1998 SDG&E CFL Retention Study

### Tally of Call Results

#### 1996 Bulbs

<i>Call result</i>	<i>Number</i>	<i>%</i>
Number not in service	116	7.8
Wrong number	95	6.3
No answer	200	13.3
Answering machine	177	11.8
Callback	53	3.5
Busy number	12	0.8
Other language	17	1.1
Refusal	147	9.8
Respondent never available	6	0.4
No knowledge of bulbs use	63	4.2
No recall of buying/receiving bulbs	108	7.2
Completed interviews	<u>506</u>	<u>33.8</u>
TOTAL	1,500	100.0%



**SDG&E**

***CFL RETENTION SURVEY***

***1996 CFL Bulbs***

July/August 1999

Hello, This is \_\_\_\_\_ from CIC Research. I'm conducting a survey for San Diego Gas & Electric Company. Is this the \_\_\_\_\_ residence? We would like to ask you some quick questions regarding the **COMPACT FLUORESCENT BULBS** that were **purchased** by your household in 1996. Are you familiar with how these light bulbs are used? **(IF NO, ASK TO SPEAK TO THE PERSON WHO IS MOST FAMILIAR & REPEAT INTRO; ARRANGE CB IF NECESSARY. IF RESPONDENT HAS NO KNOWLEDGE OF CFLS PURCHASED, PROCEED WITH INTERVIEW AND ENTER 0 FOR Q1)**

1. How many compact fluorescent BULBS did you purchase in 1996? # \_\_\_\_\_

0 None (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

-1 Don't Know (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

(IF MORE THAN 10 BULBS, PROBE FOR CIRCUMSTANCES BY ASKING:) What led you to purchase \_\_\_\_\_ (#) \_\_\_\_\_ bulbs?

2. How many of these BULBS are currently installed? # \_\_\_\_\_

(# MUST BE LESS THAN OR EQUAL TO Q1#)

0 None      -1 Don't Know

(IF Q1 = Q2, SKIP TO CLOSING; OTHERWISE CONTINUE)

3. (FOR EACH BULB PURCHASED BUT NOT CURRENTLY INSTALLED ASK:) Can you tell me the \_\_\_\_\_ year you removed that bulb/each of those bulbs?

Bulb #1 year removed	_____ / _____	DK
Bulb #2 year removed	_____ / _____	DK
Bulb #3 year removed	_____ / _____	DK
Bulb #4 year removed	_____ / _____	DK
Bulb #5 year removed	_____ / _____	DK

Those are all my questions. Thank you very much for your time and cooperation.

## 1999 SDG&E CFL Retention Study

### Tally of Call Results

#### 1996 Bulbs

<i>Call result</i>	<i>Number</i>	<i>%</i>
Number not in service	106	7.8
Wrong number	113	8.3
No answer	83	6.1
Answering machine	148	10.9
Callback	68	5.0
Busy number	29	2.1
Other language	24	1.8
Refusal	105	7.7
Respondent never available	13	1.0
No knowledge of bulbs use	57	4.2
No recall of buying/receiving bulbs	115	8.4
Completed interviews	<u>500</u>	<u>36.7</u>
TOTAL	1,361	100.0%

**SDG&E**

**CFL RETENTION SURVEY - #462**

**1996 CFL Bulbs**

July 2000

Hello, This is \_\_\_\_\_ from CIC Research. I'm conducting a survey for San Diego Gas & Electric Company. Is this the \_\_\_\_\_ residence? We would like to ask you some quick questions regarding the **COMPACT FLUORESCENT BULBS** that were **purchased** by your household in 1996. Are you familiar with how these light bulbs are used? **(IF NO, ASK TO SPEAK TO THE PERSON WHO IS MOST FAMILIAR & REPEAT INTRO; ARRANGE CB IF NECESSARY. IF RESPONDENT HAS NO KNOWLEDGE OF CFLS PURCHASED, PROCEED WITH INTERVIEW AND ENTER 0 FOR Q1)**

1. How many compact fluorescent BULBS did you purchase in 1996? # \_\_\_\_\_

0 None (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

-1 Don't Know (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

(IF MORE THAN 16 BULBS, PROBE FOR CIRCUMSTANCES BY ASKING:) What led you to purchase \_\_\_\_\_ (#) \_\_\_\_\_ bulbs? (WRITE EXPLANATION ON SHEET)

2. How many of these BULBS are currently installed? # \_\_\_\_\_

(# MUST BE LESS THAN OR EQUAL TO Q1#)

0 None      -1 Don't Know

(IF Q1 = Q2, SKIP TO CLOSING; OTHERWISE CONTINUE)

3. (FOR EACH BULB PURCHASED BUT NOT CURRENTLY INSTALLED ASK:) Can you tell me the year you removed that bulb/each of those bulbs? (IF MORE THAN 10 BULBS REMOVED OR SPECIAL CIRCUMSTANCES, WRITE ADDITIONAL INFORMATION ON SHEET)

Bulb #1 removed in 19_____	DK
Bulb #2 removed in 19_____	DK
Bulb #3 removed in 19_____	DK
Bulb #4 removed in 19_____	DK
Bulb #5 removed in 19_____	DK
Bulb #6 removed in 19_____	DK
Bulb #7 removed in 19_____	DK
Bulb #8 removed in 19_____	DK
Bulb #9 removed in 19_____	DK
Bulb #10 removed in 19_____	DK
Bulb #11 removed in 19_____	DK
Bulb #12 removed in 19_____	DK
Bulb #13 removed in 19_____	DK
Bulb #14 removed in 19_____	DK
Bulb #15 removed in 19_____	DK
Bulb #16 removed in 19_____	DK
Bulb #17 removed in 19_____	DK
Bulb #18 removed in 19_____	DK
Bulb #19 removed in 19_____	DK
Bulb #20 removed in 19_____	DK

4. Are any of these bulbs that are not currently installed being saved for future use? (IF YES, SELECT ID NUMBER OF EACH BULB SAVED; IF NO, SELECT #21 FOR NONE)

- Bulb #1
- Bulb #2
- Bulb #3
- Bulb #4
- Bulb #5
- Bulb #6
- Bulb #7
- Bulb #8
- Bulb #9
- Bulb #10
- Bulb #11
- Bulb #12
- Bulb #13
- Bulb #14
- Bulb #15
- Bulb #16
- Bulb #17
- Bulb #18
- Bulb #19
- Bulb #20
- NONE

Those are all my questions. Thank you very much for your time and cooperation.

## 2000 SDG&E CFL Retention Study

### Tally of Call Results

#### 1996 Bulbs

<i>Call result</i>	<i>Number</i>	<i>%</i>
Number not in service	249	12.7
Wrong number	287	14.7
No answer	181	9.3
Answering machine	210	10.7
Callback	48	2.5
Busy number	34	1.7
Other language	17	0.9
Refusal	171	8.7
Respondent never available	25	1.3
No knowledge of # purchased/bulbs' use	129	6.6
No recall of buying/receiving bulbs	100	5.2
Completed interviews	<u>503</u>	<u>25.7</u>
TOTAL	1,954	100.0%

**SAN DIEGO GAS & ELECTRIC COMPANY**

**RESIDENTIAL LIGHTING (COMPACT FLUORESCENT FIXTURE) PEAK-HOUR STUDY**

**October, 1997**

Hello, This is \_\_\_\_\_ from CIC Research. I'm conducting a survey for San Diego Gas & Electric Company.

A. Is this the \_\_\_\_\_ residence?

Yes (CONTINUE)

No (THANK & TERMINATE; CODE "WRONG #)

**(TERMINATION MESSAGE: "Thank you, I'm sorry for the inconvenience.")**

---

We would like to ask you some quick questions regarding the **COMPACT FLUORESCENT FIXTURES** that were purchased by your household in 1996. (You provided us with this information in a return postcard last year.) Which member of the family over the age of 18 is most familiar with how these lights are used? (**ASK TO SPEAK TO THIS PERSON & REPEAT INTRO**)

1. How many compact fluorescent fixtures did you purchase in 1996? #\_\_\_\_\_ 1. \_\_\_\_\_  
0 None (TERMINATE; CODE TQ1) -1 Don't Know (TERMINATE; CODE TQ1)

2. How many of these fixtures are currently installed? # \_\_\_\_\_ 2. \_\_\_\_\_  
0 None (SKIP TO Q5) -1 Don't Know (SKIP TO Q5)

3. How many of the compact fluorescent fixtures that you purchased in 1996 were TURNED ON at 3 p.m. TODAY (Wednesday)? # \_\_\_\_\_ 3. \_\_\_\_\_  
0 None -1 Don't Know

4. Approximately how many hours each day is each of these fixtures turned on?  
#1 \_\_\_\_\_ #2 \_\_\_\_\_ #3 \_\_\_\_\_ #4 \_\_\_\_\_ #5 \_\_\_\_\_ 4. \_\_\_\_\_

**(PROMPT: "Now just to be sure, the number of compact fluorescent fixtures that you purchased in 1996 that were TURNED ON TODAY (Wednesday) at 3 p.m. was . Is that correct? (CHANGE QUESTION #3 RESPONSE, IF NECESSARY)**

Now just a few last questions to help us group your answers with those of others. First . . .

5. Do you own or rent your residence? 1 Own / Buying  
2 Rent / Lease 5. \_\_\_\_\_  
9 Refused
6. How many people usually live in this household? \_\_\_\_\_ -1 DK/Ref 6. \_\_\_\_\_
7. How many of those are in each of the following age groups? 7. \_\_\_\_\_  
\_\_\_\_\_ 18 years and younger  
\_\_\_\_\_ 19 years - 34 years 8. \_\_\_\_\_  
\_\_\_\_\_ 35 years - 54 years -1 DK/REF  
\_\_\_\_\_ 55 years or older 9. \_\_\_\_\_
8. What is the highest grade of schooling that you have completed? (READ CHOICES IF NECESSARY) 10 \_\_\_\_\_  
1 Elementary or grammar school  
2 Some high school  
3 High School graduate  
4 Trade or technical school  
5 Some college  
6 Two-year college graduate  
7 Four-year college graduate  
8 Some graduate school  
9 Graduate degree 11. \_\_\_\_\_  
99 (DK/REF-DO NOT READ)
9. Into which of the following groups did your 1996 income fall?  
1 \$7,499 or less 4 \$30,000 to \$49,999  
2 \$7,500 to \$14,999 5 \$50,000 to \$124,999  
3 \$15,000 to \$29,999 6 \$125,000 and above  
9 (DK/REF-DO NOT READ) 12. \_\_\_\_\_

Thank you very much for your time and cooperation.

-----  
Sex: 1 male 2 female 13 \_\_\_\_\_



## 1997 SDG&E CFL Retention Study

### Tally of Call Results

#### 1996 Fixtures

<i>Call result</i>	<i>Number</i>	<i>%</i>
No number, no name, no address (blank lead)	82	25.7
Outside area	1	0.3
Number not in service	4	1.3
Wrong number	19	6.0
No answer	33	10.3
Answering machine	6	1.9
Other language	1	0.3
Refusal	36	11.3
Respondent never available	2	0.6
No recall of buying/receiving fixtures	16	5.0
Completed interviews	<u>119</u>	<u>37.3</u>
TOTAL	319	100.0%

**SDG&E**

***CFL RETENTION SURVEY - #457***

***1996 CFL Fixtures***

September- October, 1998

Hello, This is \_\_\_\_\_ from CIC Research. I'm conducting a survey for San Diego Gas & Electric Company. Is this the \_\_\_\_\_ residence? We would like to ask you some quick questions regarding the **COMPACT FLUORESCENT FIXTURES** that were **purchased** by your household in 1996. Are you familiar with how these light fixtures are used? **(IF NO, ASK TO SPEAK TO THE PERSON WHO IS MOST FAMILIAR & REPEAT INTRO; ARRANGE CB IF NECESSARY. IF RESPONDENT HAS NO KNOWLEDGE OF CFLS PURCHASED, PROCEED WITH INTERVIEW AND ENTER 0 FOR Q1)**

1. How many compact fluorescent FIXTURES did you purchase in 1996? # \_\_\_\_\_  
0 None (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)  
-1 Don't Know (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

(IF MORE THAN 10 FIXTURES, ASK:) What led you to purchase \_\_\_\_\_ fixtures?

2. How many of these FIXTURES are currently installed? # \_\_\_\_\_  
(# MUST BE LESS THAN OR EQUAL TO Q1#)  
0 None      -1 Don't Know

Those are all my questions. Thank you very much for your time and cooperation.

## 1998 SDG&E CFL Retention Study

### Tally of Call Results

#### 1996 Fixtures - Revised

<i>Call result</i>	<i>Number</i>	<i>%</i>
No number, no name, no address (blank lead)	1	0.5
Outside area	2	1.0
Number not in service	16	7.8
Wrong number	21	10.2
No answer	1	0.5
Answering machine	8	3.9
Busy number	--	--
Other language	1	0.5
Refusal	9	4.4
Respondent never available	4	1.9
No knowledge of fixture use	2	1.0
No recall of buying/receiving fixtures	12	5.9
Completed interviews	<u>128</u>	<u>62.4</u>
TOTAL	205	100.0%

**SDG&E**

***CFL RETENTION SURVEY***

***1996 CFL FIXTURES***

July-October 1999

Hello, This is \_\_\_\_\_ from CIC Research. I'm conducting a survey for San Diego Gas & Electric Company. Is this the \_\_\_\_\_ residence? We would like to ask you some quick questions regarding the **COMPACT FLUORESCENT FIXTURES** that were **purchased** by your household in 1996. Are you familiar with how these light FIXTURES are used? **(IF NO, ASK TO SPEAK TO THE PERSON WHO IS MOST FAMILIAR & REPEAT INTRO; ARRANGE CB IF NECESSARY. IF RESPONDENT HAS NO KNOWLEDGE OF CFLS PURCHASED, PROCEED WITH INTERVIEW AND ENTER 0 FOR Q1)**

1. How many compact fluorescent FIXTURES did you purchase in 1996? # \_\_\_\_\_

0 None (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

-1 Don't Know (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

(IF MORE THAN 10 FIXTURES, PROBE FOR CIRCUMSTANCES BY ASKING:) What led you to purchase (#) \_\_\_\_\_ FIXTURES?

2. How many of these FIXTURES are currently installed? # \_\_\_\_\_

(# MUST BE LESS THAN OR EQUAL TO Q1#)

0 None      -1 Don't Know

(IF Q1 = Q2, SKIP TO CLOSING; OTHERWISE CONTINUE)

3. (FOR EACH FIXTURE PURCHASED BUT NOT CURRENTLY INSTALLED ASK:) Can you tell me the year you removed that FIXTURE/each of those FIXTURES?

FIXTURE #1 year removed      \_\_\_\_\_ / \_\_\_\_\_      DK

FIXTURE #2 year removed      \_\_\_\_\_ / \_\_\_\_\_      DK

FIXTURE #3 year removed      \_\_\_\_\_ / \_\_\_\_\_      DK

FIXTURE #4 year removed      \_\_\_\_\_ / \_\_\_\_\_      DK

FIXTURE #5 year removed      \_\_\_\_\_ / \_\_\_\_\_      DK

Those are all my questions. Thank you very much for your time and cooperation.

## 1999 SDG&E CFL Retention Study

### Tally of Call Results

#### 1996 Fixtures

<i>Call result</i>	<i>Number</i>	<i>%</i>
Callback	2	1.0
Number not in service	9	4.6
Wrong number	29	14.9
No answer	6	3.1
Answering machine	9	4.6
Busy number	1	0.5
Other language	3	1.5
Refusal	17	8.7
Respondent never available	4	2.1
No knowledge of fixture use	6	3.1
No recall of buying/receiving fixtures	16	8.2
Completed interviews	<u>93</u>	<u>47.7</u>
TOTAL	195	100.0%

**SDG&E**

**CFL RETENTION SURVEY - #462**

**1996 CFL FIXTURES**

July-August 2000

Hello, This is \_\_\_\_\_ from CIC Research. I'm conducting a survey for San Diego Gas & Electric Company. Is this the \_\_\_\_\_ residence? We would like to ask you some quick questions regarding the **COMPACT FLUORESCENT FIXTURES** that were **purchased** by your household in 1996. Are you familiar with how these light **FIXTURES** are used? **(IF NO, ASK TO SPEAK TO THE PERSON WHO IS MOST FAMILIAR & REPEAT INTRO; ARRANGE CB IF NECESSARY. IF RESPONDENT HAS NO KNOWLEDGE OF CFLS PURCHASED, PROCEED WITH INTERVIEW AND ENTER 0 FOR Q1)**

1. How many compact fluorescent **FIXTURES** did you purchase in 1996? # \_\_\_\_\_
- 0 None (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)
- 1 Don't Know (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

(IF MORE THAN 16 **FIXTURES**, PROBE FOR CIRCUMSTANCES BY ASKING:) What led you to purchase \_\_\_\_\_ (#) **FIXTURES**? (WRITE EXPLANATION ON SHEET)

2. How many of these **FIXTURES** are currently installed? # \_\_\_\_\_
- (# MUST BE LESS THAN OR EQUAL TO Q1#)

0 None      -1 Don't Know

(IF Q1 = Q2, SKIP TO CLOSING; OTHERWISE CONTINUE)

3. (FOR EACH FIXTURE PURCHASED BUT NOT CURRENTLY INSTALLED ASK:) Can you tell me the \_\_\_\_\_ year you removed that FIXTURE/each of those FIXTURES? (IF MORE THAN 10 FIXTURES REMOVED OR \_\_\_\_\_ SPECIAL CIRCUMSTANCES, WRITE ADDITIONAL INFORMATION ON SHEET)

FIXTURE #1 removed in 19_____	DK
FIXTURE #2 removed in 19_____	DK
FIXTURE #3 removed in 19_____	DK
FIXTURE #4 removed in 19_____	DK
FIXTURE #5 removed in 19_____	DK
FIXTURE #6 removed in 19_____	DK
FIXTURE #7 removed in 19_____	DK
FIXTURE #8 removed in 19_____	DK
FIXTURE #9 removed in 19_____	DK
FIXTURE #10 removed in 19_____	DK
FIXTURE #11 removed in 19_____	DK
FIXTURE #12 removed in 19_____	DK
FIXTURE #13 removed in 19_____	DK
FIXTURE #14 removed in 19_____	DK
FIXTURE #15 removed in 19_____	DK
FIXTURE #16 removed in 19_____	DK
FIXTURE #17 removed in 19_____	DK
FIXTURE #18 removed in 19_____	DK
FIXTURE #19 removed in 19_____	DK
FIXTURE #20 removed in 19_____	DK

Q4. Are any of these FIXTURES that are not currently installed being saved for future use? (IF YES, SELECT ID NUMBER OF EACH FIXTURE SAVED; IF NO, SELECT #21 FOR NONE)

- FIXTURE #1
- FIXTURE #2
- FIXTURE #3
- FIXTURE #4
- FIXTURE #5
- FIXTURE #6
- FIXTURE #7
- FIXTURE #8
- FIXTURE #9
- FIXTURE #10
- FIXTURE #11
- FIXTURE #12
- FIXTURE #13
- FIXTURE #14
- FIXTURE #15
- FIXTURE #16
- FIXTURE #17
- FIXTURE #18
- FIXTURE #19
- FIXTURE #20
- NONE

Those are all my questions. Thank you very much for your time and cooperation.



## 2000 SDG&E CFL Retention Study

### Tally of Call Results

#### 1996 Fixtures

<i>Call result</i>	<i>Number</i>	<i>%</i>
Callback	2	1.0
Number not in service	16	8.2
Wrong number	36	18.5
No answer	7	3.6
Answering machine	3	1.6
Busy number	1	0.5
Other language	2	1.0
Refusal	24	12.3
Respondent never available	--	--
No knowledge of # purchased/fixtures' use	17	8.7
No recall of buying/receiving fixtures	18	9.2
Completed interviews	<u>69</u>	<u>35.4</u>
TOTAL	195	100.0%

**SDG&E**

**CFL RETENTION SURVEY - #457**

**1997 CFL Bulbs**

November 1998

Hello, This is \_\_\_\_\_ from CIC Research. I'm conducting a survey for San Diego Gas & Electric Company. Is this the \_\_\_\_\_ residence? We would like to ask you some quick questions regarding the **COMPACT FLUORESCENT BULBS** that were **purchased** by your household in 1997. Are you familiar with how these light bulbs are used? **(IF NO, ASK TO SPEAK TO THE PERSON WHO IS MOST FAMILIAR & REPEAT INTRO; ARRANGE CB IF NECESSARY. IF RESPONDENT HAS NO KNOWLEDGE OF CFLS PURCHASED, PROCEED WITH INTERVIEW AND ENTER 0 FOR Q1)**

1. How many compact fluorescent BULBS did you purchase in 1997? # \_\_\_\_\_

0 None (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

-1 Don't Know (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

(IF MORE THAN 10 BULBS, ASK:) What led you to purchase \_\_\_\_\_ bulbs?

2. How many of these BULBS are currently installed? # \_\_\_\_\_

(# MUST BE LESS THAN OR EQUAL TO Q1#)

0 None

-1 Don't Know

Those are all my questions. Thank you very much for your time and cooperation.

## SDG&E CFL Retention Study

### Tally of Call Results

#### 1997 Bulbs

<i>Call result</i>	<i>Number</i>	<i>%</i>
Number not in service	66	4.3
Wrong number	56	3.6
No answer	208	13.4
Answering machine	404	26.1
Callback	94	6.1
Busy number	9	0.6
Other language	15	1.0
Refusal	66	4.3
Respondent never available	7	0.4
No knowledge of bulbs use	37	2.4
No recall of buying/receiving bulbs	86	5.5
Completed interviews	<u>500</u>	<u>32.3</u>
TOTAL	1,548	100.0%

**SDG&E**

***CFL RETENTION SURVEY***

***1997 CFL Bulbs***

July 1999

Hello, This is \_\_\_\_\_ from CIC Research. I'm conducting a survey for San Diego Gas & Electric Company. Is this the \_\_\_\_\_ residence? We would like to ask you some quick questions regarding the **COMPACT FLUORESCENT BULBS** that were **purchased** by your household in 1997. Are you familiar with how these light bulbs are used? **(IF NO, ASK TO SPEAK TO THE PERSON WHO IS MOST FAMILIAR & REPEAT INTRO; ARRANGE CB IF NECESSARY. IF RESPONDENT HAS NO KNOWLEDGE OF CFLS PURCHASED, PROCEED WITH INTERVIEW AND ENTER 0 FOR Q1)**

1. How many compact fluorescent BULBS did you purchase in 1997? # \_\_\_\_\_

0 None (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

-1 Don't Know (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

(IF MORE THAN 10 BULBS, PROBE FOR CIRCUMSTANCES BY ASKING:) What led you to purchase \_\_\_\_\_ (#) \_\_\_\_\_ bulbs?

2. How many of these BULBS are currently installed? # \_\_\_\_\_

(# MUST BE LESS THAN OR EQUAL TO Q1#)

0 None      -1 Don't Know

(IF Q1 = Q2, SKIP TO CLOSING; OTHERWISE CONTINUE)

3. (FOR EACH BULB PURCHASED BUT NOT CURRENTLY INSTALLED ASK:) Can you tell me the \_\_\_\_\_ year you removed that bulb/each of those bulbs?

Bulb #1 year removed \_\_\_\_\_ / \_\_\_\_\_      DK

Bulb #2 year removed \_\_\_\_\_ / \_\_\_\_\_      DK

Bulb #3 year removed \_\_\_\_\_ / \_\_\_\_\_      DK

Bulb #4 year removed \_\_\_\_\_ / \_\_\_\_\_      DK

Bulb #5 year removed \_\_\_\_\_ / \_\_\_\_\_      DK

Those are all my questions. Thank you very much for your time and cooperation.

## 1999 SDG&E CFL Retention Study

### Tally of Call Results

#### 1997 Bulbs

<i>Call result</i>	<i>Number</i>	<i>%</i>
Number not in service	79	7.1
Wrong number	74	6.7
No answer	53	4.8
Answering machine	112	10.1
Callback	36	3.2
Busy number	28	2.5
Other language	15	1.3
Refusal	73	6.6
Respondent never available	6	0.5
No knowledge of bulbs use	45	4.1
No recall of buying/receiving bulbs	90	8.1
Completed interviews	<u>500</u>	<u>45.0</u>
TOTAL	1,111	100.0%

**SDG&E**

**CFL RETENTION SURVEY - #462**

**1997 CFL Bulbs**

July 2000

Hello, This is \_\_\_\_\_ from CIC Research. I'm conducting a survey for San Diego Gas & Electric Company. Is this the \_\_\_\_\_ residence? We would like to ask you some quick questions regarding the **COMPACT FLUORESCENT BULBS** that were **purchased** by your household in 1997. Are you familiar with how these light bulbs are used? **(IF NO, ASK TO SPEAK TO THE PERSON WHO IS MOST FAMILIAR & REPEAT INTRO; ARRANGE CB IF NECESSARY. IF RESPONDENT HAS NO KNOWLEDGE OF CFLS PURCHASED, PROCEED WITH INTERVIEW AND ENTER 0 FOR Q1)**

1. How many compact fluorescent BULBS did you purchase in 1997? # \_\_\_\_\_

0 None (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

-1 Don't Know (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

(IF MORE THAN 16 BULBS, PROBE FOR CIRCUMSTANCES BY ASKING:) What led you to purchase \_\_\_\_\_ (#) \_\_\_\_\_ bulbs? (WRITE EXPLANATION ON SHEET)

2. How many of these BULBS are currently installed? # \_\_\_\_\_

(# MUST BE LESS THAN OR EQUAL TO Q1#)

0 None

-1 Don't Know

(IF Q1 = Q2, SKIP TO CLOSING; OTHERWISE CONTINUE)

3. (FOR EACH BULB PURCHASED BUT NOT CURRENTLY INSTALLED ASK:) Can you tell me the year you removed that bulb/each of those bulbs? (IF MORE THAN 10 BULBS REMOVED OR SPECIAL CIRCUMSTANCES, WRITE ADDITIONAL INFORMATION ON SHEET)

Bulb #1 removed in 19_____	DK
Bulb #2 removed in 19_____	DK
Bulb #3 removed in 19_____	DK
Bulb #4 removed in 19_____	DK
Bulb #5 removed in 19_____	DK
Bulb #6 removed in 19_____	DK
Bulb #7 removed in 19_____	DK
Bulb #8 removed in 19_____	DK
Bulb #9 removed in 19_____	DK
Bulb #10 removed in 19_____	DK
Bulb #11 removed in 19_____	DK
Bulb #12 removed in 19_____	DK
Bulb #13 removed in 19_____	DK
Bulb #14 removed in 19_____	DK
Bulb #15 removed in 19_____	DK
Bulb #16 removed in 19_____	DK
Bulb #17 removed in 19_____	DK
Bulb #18 removed in 19_____	DK
Bulb #19 removed in 19_____	DK
Bulb #20 removed in 19_____	DK

4. Are any of these bulbs that are not currently installed being saved for future use? (IF YES, SELECT ID NUMBER OF EACH BULB SAVED; IF NO, SELECT #21 FOR NONE)

- Bulb #1
- Bulb #2
- Bulb #3
- Bulb #4
- Bulb #5
- Bulb #6
- Bulb #7
- Bulb #8
- Bulb #9
- Bulb #10
- Bulb #11
- Bulb #12
- Bulb #13
- Bulb #14
- Bulb #15
- Bulb #16
- Bulb #17
- Bulb #18
- Bulb #19
- Bulb #20
- NONE

Those are all my questions. Thank you very much for your time and cooperation.



## 2000 SDG&E CFL Retention Study

### Tally of Call Results

#### 1997 Bulbs

<i>Call result</i>	<i>Number</i>	<i>%</i>
Number not in service	185	9.0
Wrong number	191	9.3
No answer	122	5.9
Answering machine	504	24.4
Callback	78	3.8
Busy number	31	1.5
Other language	23	1.1
Refusal	148	7.2
Respondent never available	15	0.7
No knowledge of # purchased/bulbs' use	143	6.9
No recall of buying/receiving bulbs	79	3.8
Completed interviews	<u>544</u>	<u>26.4</u>
TOTAL	2,063	100.0%

**SDG&E**

**CFL RETENTION SURVEY - #457**

**1997 CFL Fixtures**

October/November 1998

Hello, This is \_\_\_\_\_ from CIC Research. I'm conducting a survey for San Diego Gas & Electric Company. Is this the \_\_\_\_\_ residence? We would like to ask you some quick questions regarding the **COMPACT FLUORESCENT FIXTURES** that were **purchased** by your household in 1997. Are you familiar with how these light Fixtures are used? **(IF NO, ASK TO SPEAK TO THE PERSON WHO IS MOST FAMILIAR & REPEAT INTRO; ARRANGE CB IF NECESSARY. IF RESPONDENT HAS NO KNOWLEDGE OF CFLS PURCHASED, PROCEED WITH INTERVIEW AND ENTER 0 FOR Q1)**

1. How many compact fluorescent FIXTURES did you purchase in 1997? # \_\_\_\_\_  
0 None (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)  
-1 Don't Know (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

(IF MORE THAN 10 FIXTURES, ASK:) What led you to purchase \_\_\_\_\_ Fixtures?

2. How many of these FIXTURES are currently installed? # \_\_\_\_\_  
(# MUST BE LESS THAN OR EQUAL TO Q1#)  
0 None      -1 Don't Know

Those are all my questions. Thank you very much for your time and cooperation.

## 1998 SDG&E CFL Retention Study

### Tally of Call Results

#### 1997 Fixtures

<i>Call result</i>	<i>Number</i>	<i>%</i>
Number not in service	59	5.0
Wrong number	44	3.7
No answer	65	5.5
Answering machine	244	20.7
Callback	51	4.3
Busy number	8	0.7
Other language	8	0.7
Refusal	58	4.9
Respondent never available	5	0.4
No knowledge of fixture use	28	2.4
No recall of buying/receiving fixtures	99	8.4
Completed interviews	<u>512</u>	<u>43.3</u>
TOTAL	1,181	100.0%

**SDG&E**

***CFL RETENTION SURVEY***

***1997 CFL FIXTURES***

September 1999

Hello, This is \_\_\_\_\_ from CIC Research. I'm conducting a survey for San Diego Gas & Electric Company. Is this the \_\_\_\_\_ residence? We would like to ask you some quick questions regarding the **COMPACT FLUORESCENT FIXTURES** that were **purchased** by your household in 1997. Are you familiar with how these light Fixtures are used? **(IF NO, ASK TO SPEAK TO THE PERSON WHO IS MOST FAMILIAR & REPEAT INTRO; ARRANGE CB IF NECESSARY. IF RESPONDENT HAS NO KNOWLEDGE OF CFLS PURCHASED, PROCEED WITH INTERVIEW AND ENTER 0 FOR Q1)**

1. How many compact fluorescent FIXTURES did you purchase in 1997? # \_\_\_\_\_

0 None (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

-1 Don't Know (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

(IF MORE THAN 10 FIXTURES, PROBE FOR CIRCUMSTANCES BY ASKING:) What led you to purchase \_\_\_\_\_ (#) fixtures?

2. How many of these FIXTURES are currently installed? # \_\_\_\_\_

(# MUST BE LESS THAN OR EQUAL TO Q1#)

0 None      -1 Don't Know

(IF Q1 = Q2, SKIP TO CLOSING; OTHERWISE CONTINUE)

3. (FOR EACH FIXTURE PURCHASED BUT NOT CURRENTLY INSTALLED ASK:) Can you tell me the year you removed that fixture/each of those fixtures?

Fixture #1 year removed	_____ / _____	DK
Fixture #2 year removed	_____ / _____	DK
Fixture #3 year removed	_____ / _____	DK
Fixture #4 year removed	_____ / _____	DK
Fixture #5 year removed	_____ / _____	DK

Those are all my questions. Thank you very much for your time and cooperation.

## 1999 SDG&E CFL Retention Study

### Tally of Call Results

#### 1997 Fixtures

<i>Call result</i>	<i>Number</i>	<i>%</i>
Number not in service	76	6.8
Wrong number	60	5.4
No answer	33	2.9
Answering machine	138	12.3
Callback	53	4.7
Busy number	22	2.0
Other language	2	0.2
Refusal	82	7.3
Respondent never available	9	0.9
No knowledge of fixture use	60	5.4
No recall of buying/receiving fixtures	83	7.4
Completed interviews	<u>500</u>	<u>44.7</u>
TOTAL	1,118	100.0%

**SDG&E**

**CFL RETENTION SURVEY - #462**

**1997 CFL Fixtures**

July 2000

Hello, This is \_\_\_\_\_ from CIC Research. I'm conducting a survey for San Diego Gas & Electric Company. Is this the \_\_\_\_\_ residence? We would like to ask you some quick questions regarding the **COMPACT FLUORESCENT FIXTURES** that were **purchased** by your household in 1997. Are you familiar with how these light Fixtures are used? **(IF NO, ASK TO SPEAK TO THE PERSON WHO IS MOST FAMILIAR & REPEAT INTRO; ARRANGE CB IF NECESSARY. IF RESPONDENT HAS NO KNOWLEDGE OF CFLS PURCHASED, PROCEED WITH INTERVIEW AND ENTER 0 FOR Q1)**

1. How many compact fluorescent FIXTURES did you purchase in 1997? # \_\_\_\_\_

0 None (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

-1 Don't Know (**THANK & TERMINATE; DO NOT COUNT TOWARD QUOTA**)

(IF MORE THAN 16 FIXTURES, PROBE FOR CIRCUMSTANCES BY ASKING:) What led you to purchase (#) \_\_\_\_\_ Fixtures? (WRITE EXPLANATION ON SHEET)

2. How many of these FIXTURES are currently installed? # \_\_\_\_\_

(# MUST BE LESS THAN OR EQUAL TO Q1#)

0 None      -1 Don't Know

(IF Q1 = Q2, SKIP TO CLOSING; OTHERWISE CONTINUE)

3. (FOR EACH FIXTURE PURCHASED BUT NOT CURRENTLY INSTALLED ASK:) Can you tell me the year you removed that Fixture/each of those Fixtures? (IF MORE THAN 10 FIXTURES REMOVED OR SPECIAL CIRCUMSTANCES, WRITE ADDITIONAL INFORMATION ON SHEET)

Fixture #1 removed in 19_____	DK
Fixture #2 removed in 19_____	DK
Fixture #3 removed in 19_____	DK
Fixture #4 removed in 19_____	DK
Fixture #5 removed in 19_____	DK
Fixture #6 removed in 19_____	DK
Fixture #7 removed in 19_____	DK
Fixture #8 removed in 19_____	DK
Fixture #9 removed in 19_____	DK
Fixture #10 removed in 19_____	DK
Fixture #11 removed in 19_____	DK
Fixture #12 removed in 19_____	DK
Fixture #13 removed in 19_____	DK
Fixture #14 removed in 19_____	DK
Fixture #15 removed in 19_____	DK
Fixture #16 removed in 19_____	DK
Fixture #17 removed in 19_____	DK
Fixture #18 removed in 19_____	DK
Fixture #19 removed in 19_____	DK
Fixture #20 removed in 19_____	DK

Q4. Are any of these Fixtures that are not currently installed being saved for future use? (IF YES, SELECT ID NUMBER OF EACH FIXTURE SAVED; IF NO, SELECT #21 FOR NONE)

- Fixture #1
- Fixture #2
- Fixture #3
- Fixture #4
- Fixture #5
- Fixture #6
- Fixture #7
- Fixture #8
- Fixture #9
- Fixture #10
- Fixture #11
- Fixture #12
- Fixture #13
- Fixture #14
- Fixture #15
- Fixture #16
- Fixture #17
- Fixture #18
- Fixture #19
- Fixture #20
- NONE

Those are all my questions. Thank you very much for your time and cooperation.



## 2000 SDG&E CFL Retention Study

### Tally of Call Results

#### 1997 Fixtures

<i>Call result</i>	<i>Number</i>	<i>%</i>
Number not in service	242	15.5
Wrong number	182	11.6
No answer	92	5.9
Answering machine	106	6.8
Callback	42	2.7
Busy number	33	2.1
Other language	6	0.4
Refusal	157	10.0
Respondent never available	14	0.9
No knowledge of # purchased/fixtures' use	104	6.6
No recall of buying/receiving fixtures	87	5.6
Completed interviews	<u>500</u>	<u>31.9</u>
Total	1,565	100.0%