ANNUAL REPORT OF DEMAND-SIDE MANAGEMENT PROGRAMS

Program Years 1994-1997 May 2000



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EXECUTIVE SUMMARY

SDG&E's Demand-Side Management (DSM) activities in 1999 were limited to carryover commitments from program years 1994 through 1997.

This year, the DSM Annual Summary and Technical Appendix encompasses primarily the Third Earnings Claims for Program Year 1995 ("PY95"). A discussion of the retention studies that were performed for the PY95 programs are included.

Section II would normally describe both the residential and nonresidential DSM Conservation/ Energy Efficiency Programs. SDG&E did not implement any new programs in 1999, however there were program activities in 1999 related to prior year(s) programs (or "pre-1998" programs).

Section III describes Load Management Programs which did continue to be offered in 1999. The Residential Time-Of-Use program and the Individual Load Curtailment program had moderate activity during 1999. There were 51 participants at the start of the year; an additional 4 customers were added and 2 dropped out of the program. This brings the participation level to 53 participants and 41.045 mW of contracted demand reduction.

<u>Section IV</u> would normally describe the <u>Fuel Substitution Programs</u> offered, however SDG&E did not carryover any prior years' program activities into 1999.

Measurement, Forecasting and Regulatory Reporting activities discussed in Section VI continued to play an important role in SDG&E's DSM efforts. Studies agreed to in past proceedings were completed or continued in 1999 to determine program achievements and successes.

<u>Other Demand-Side Management</u> activities which provide general support for DSM programs are discussed in <u>Section VII</u>.

<u>Section VIII</u> provides results under the current shareholder incentive mechanism for Program Year 1995. All requirements were met and SDG&E is requesting a PY95 third earnings claim of \$9,477,192 (75% of the total lifecycle earnings claim less the first and second earnings claims previously collected based on the retention studies completed to verify lifecycle savings.

Lastly, <u>Section IX Miscellaneous</u> discusses the financing rate program and other pre-1998 program commitments as ordered in D.97-09-117.

Note that there is no separate Technical Appendix for this report as all necessary information has been incorporated.

CONSERVATION/ENERGY EFFICIENCY

Not applicable.

LOAD MANAGEMENT

Residential Programs

Residential Time-Of-Use Rate

Description

The objective of the Residential Time-Of-Use (TOU) Rate program is to offer customers an economically attractive rate that will induce them to shift their usage from on-peak to offpeak hours.

1998 Results and Major Accomplishments

During 1998, SDG&E did not proactively market the R-TOU program. Upon request, program information was sent to customers. There were 4,151 customers actively participating in the program at year end. Support for customers on these rates include setting and maintaining monitoring equipment, and notifying customers when curtailment is necessary.

1999 Program Costs

Authorized	\$0
Budgeted	\$0
Actual	\$0

Although no funding was authorized by the Commission for this program, it was mandated (by the Commission) that the R-TOU rate remains open.

2000 Program Plans

In 2000, SDG&E will maintain this program by continuing to support existing participants and enroll new customers that qualify for the rate schedule upon request.

Nonresidential Programs

Interruptible/Curtailable

Individual Load Curtailment (ILC)

Description

This program's strategy to achieve load reduction is based on implementing interruptible rates (A-V1, A-V2, A-V3, I-3, RTP-1, and RTP-2). These rates, designed for commercial/industrial customers, were developed to reduce system load during periods of peak demand or declared emergency. They differ primarily by (1) the system activation

level, and (2) the energy costs. Using a contact closure, SDG&E electronically notifies customers of the peak period during which they are charged higher, pre-established rates.

Customers agree to a contracted minimum demand above which a premium is charged during peak periods. The difference between a customer's demand level at the time of an activation and the contracted minimum demand is the resultant load reduction. The customers' total peak electric demand is reduced during periods of heavy system demand or as otherwise required. The customer can respond to the activation signal by stopping work completely, rescheduling work, etc.

The program is focused on customers who have operational characteristics that lend themselves to the program's objectives.

1999 Results & Major Accomplishments

In 1999, ILC customers were called on to curtail as follows:

A-V1, I-3: 1Event

A-V2: 12 Events

A-V3: 4 Events

There were 51 participants at the start of the year; an additional 4 customers were added and 2 dropped out of the program. This brings the participation level to 53 participants and 41.045 mW of contracted demand reduction.

1999 Program Costs

Authorized	\$0
Budgeted	\$0
Actual	\$32,940

No funding was authorized by the Commission in 1999 for this program. Although Assembly Bill 1890 dictates that DSM funding is no longer available for supporting load management programs, the Commission has mandated that Rate Schedules A-V1, A-V2, A-V3, and I-3 remain open. Therefore the dollars expensed were funded from unspent pre-1998 DSM monies.

2000 Program Plans

In 2000, SDG&E will continue to maintain existing participants and enroll new customers that qualify for the rate schedules upon request.

FUEL SUBSTITUTION

Not applicable.

LOAD RETENTION AND LOAD BUILDING

Not applicable.

MEASUREMENT, FORECASTING, AND REGULATORY REPORTING

Introduction

Since the 1989 GRC decision, SDG&E's measurement and evaluation (M&E) focus has been to improve the methods used for planning, measuring, and evaluating DSM programs. Efforts have concentrated on improving the level of customer information, as well as on improving estimates of energy and demand impacts. In the 1990 Collaborative program filing (A.90-04-034), SDG&E's 1992 Modified Attrition filing (A.91-03-001), and SDG&E's 1993 General Rate Case filing (A.91-11-024), a methodology for linking shareholder incentives with agreed upon pre-implementation (*ex ante*) program impacts was proposed and adopted, and this was continued through 1993. Direction was also given on the appropriate techniques that should be used for estimating both pre-implementation and post-implementation (*ex post*) program impacts, and SDG&E incorporated those techniques in its measurement and evaluation activities since 1993.

As a result of the M&E Phase in the DSM OIR, the CPUC adopted a comprehensive set of protocols for measuring *ex post* DSM program savings and for linking the results of those measurements to utility earnings. PY94 was the first year for which the adopted M&E Protocols were implemented. These M&E Protocols are updated during the Annual Earnings Assessment Proceeding (AEAP) as a result of recommendations made based on completed utility impact evaluations.

The CEC Data Collection and Analysis activities are documented in the <u>Market Assessment and Evaluation Section of the Energy Efficiency Programs</u>, Annual Summary and Technical <u>Appendix 1999 Results—2000 Plans</u>.

Program Measurement

Program measurement is the set of activities needed to determine the load impacts, persistence, and performance of existing individual programs or groups of programs, as well as activities needed to conduct process evaluations on existing programs. Associated data collection, analysis, and management, long-run program tracking, (statewide measurement studies), and projects that study DSM program measurement methodologies are also contained in this category. Program measurement includes demand-reducing, load management, and fuel substitution.

SDG&E is committed to the measurement and evaluation process for all of its demand-side management programs. SDG&E conducts program evaluation for two primary reasons: (1) to capture sufficient data to estimate actual load impacts resulting from the implementation of DSM programs as mandated by the M&E Protocols, and (2) to capture information that will allow SDG&E to improve the effectiveness and efficiency of existing programs and to develop new programs in the future (process evaluation).

The third/fourth year retention studies were completed per the schedule established in Table 8A of the M&E Protocols.

This section provides information that follows the order in which studies are presented in Tables 6.1 and TA-6.1 per the DSM Reporting Requirements Manual, Sixth Edition. The succeeding pages describe the studies conducted to support SDG&E's PY95 third earnings claim.

SDG&E continues to conduct data collection activities and retention analyses for PY94 through PY97. SDG&E will submit the third/fourth year retention studies for PY96/PY97 and the sixth year retention studies for some of the PY94/95 programs as required in Table 8A of the M&E Protocols for consideration -in the 2001 AEAP.

Consistent with the 1999 AEAP Case Management Statement, SDG&E and the other California utilities conducted a first year load impact evaluation for the PY98 Low Income Energy Efficiency Program: Direct Assistance Program. The evaluation is consistent with the requirements of the M&E Protocols.

Retention Studies

Residential Weatherization Retrofit Incentives Program

Measure Retention Study—1994 & 1995 Residential Weatherization Programs (RWRI)

Study No. 957

Megdal & Associates

March 1999

The California Demand Side Management Advisory Committee (CADMAC) measurement and evaluation Protocols require retention studies at specific retention years depending on the program. The purpose of the Retention Study is to collect data to determine the retention and effective useful life (EUL) for the primary measures in the program. This involves measuring the proportion of measures still in place, operational, and effective. The retention information, along with considerations of time since program participation, provide the basis for development of the *ex post* EUL. The *ex post* EUL is then statistically compared with *the ex ante* EUL.

This study is the Measure Retention Study for the 1994/1995 Residential Weatherization Retrofit Incentives Programs (RWRI) operated by San Diego Gas & Electric Company (SDG&E) and Pacific Gas & Electric Company (PG&E). It is a joint study given the waiver request approved by CADMAC on August 19, 1998 for Study ID Numbers 332R1 (PG&E) and 957 (SDG&E). This report includes the tables required by the M&E Protocols.

The measures included in this study were the primary measures for the RWRI programs. These are: attic and ceiling insulation (SDG&E and PG&E), infiltration (SDG&E), wall insulation (PG&E), and floor insulation (PG&E).

The sampling plan was designed to ensure representation across study measures and for each utility. Direct observation of measure retention and surveys of residents were obtained through 250 site visits conducted by trained auditors.

The primary retention measurement is the proportion of measures that are in place and operational. This is derived from survey information by analyzing frequencies and means of the site visit data by measure. The EUL analysis came from calculating the expected median from an exponential model given the average length of time since installation and the average retention rate at that time.

The results of this retention study will be used to verify the program's PY95 third earnings claim in the 2000 AEAP.

Residential Appliance Efficiency Incentives Program: High Efficiency Lighting Retention Study

1994 & 1995 Residential Appliance Efficiency Incentives Program: Compact Fluorescent Lights--Fourth Year Retention Evaluation

Study No. 921

SDG&E

March 1999

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.

The results of this retention study will be used to verify the program's PY95 third earnings claim in the 2000 AEAP.

Residential Appliance Efficiency Incentives Program: High Efficiency Refrigeration Retention Study

1994 & 1995 Residential Appliance Efficiency Incentives Program: Refrigerators-Fourth Year Retention Evaluation

Study No. 915

SDG&E

March 1999

A customer who participated in SDG&E's Residential Appliance Efficiency Incentives High Efficiency Refrigerator program received a rebate at the time of purchase. SDG&E's rebates where on a sliding scale, with higher rebates for higher efficiency units. The dealer was required to collect the name, address, telephone number, and refrigerator model, and then submit this documentation to SDG&E for reimbursement. The retention sample for this study was drawn from this database.

The results of this retention study will be used to verify the program's PY95 third earnings claim in the 2000 AEAP.

Commercial Energy Efficiency Incentives Program

Retention Study

1994 & 1995 Commercial Energy Efficiency Incentives--Fourth Year Retention Evaluation

Study No. 924 & 960

SDG&E

March 1999

A customer who participated in SDG&E's Commercial Energy Efficiency Incentives program was entered into SDG&E's project tracking system. Information regarding customer name, address, phone number, installed measures, measure costs, energy savings

and participation date were kept in this database. The retention sample for this study was drawn from this population.

The results of this retention study will be used to verify the program's PY95 third earnings claim in the 2000 AEAP.

Industrial Energy Efficiency Incentives Program

Retention Study

1994 & 1995 Industrial Energy Efficiency Incentives--Fourth Year Retention Evaluation

Study No. 927 & 963

SDG&E

March 1999

A customer who participated in SDG&E's Industrial Energy Efficiency Incentives 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 program tracking system. The retention sample for this study was drawn from this database.

The results of this retention study will be used to verify the program's PY95 third earnings claim in the 2000 AEAP.

Fuel Substitution Program

Agricultural Energy Efficiency Incentives Program

Retention Study

1994 & 1995 Agricultural Energy Efficiency Incentives--Fourth Year Retention Evaluation

Study No. 930 & 966

SDG&E

March 1999

A customer who participated in SDG&E's Agricultural Energy Efficiency Incentives 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.

The results of this retention study will be used to verify the program's PY95 third earnings claim in the 2000 AEAP.

Residential Energy Management Services Program

Retention Study

There is no retention study required.

Residential New Construction Program

Retention Study

1994 & 1995 Residential New Construction Program--Fourth Year Retention Evaluation

Study No. 933

SDG&E

March 1999

SDG&E's PY94 and PY95 Residential New Construction program was designed to encourage new home builders to incorporate energy saving advanced building technologies and appliances that exceeded Title 24 State Building Energy Efficiency Standards. By so doing, developers were able to take advantage of conservation opportunities at the optimum time. All residential builders who exceeded the space cooling, space heating, or water heating standards of Title 24 by a minimum of five percent were eligible to participate in the program.

Financial incentives were provided to builders to help offset additional costs of installing the more energy-efficient measures of high performance glass, air conditioning, and R-19 wall insulation.

The data for the retention study came from the lot number, installed measures, and participation date from the program tracking database, customer name, address, phone number, from master file and "reverse" phone directory. In addition, measures 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

The results of this retention study will be used to verify the program's PY95 third earnings claim in the 2000 AEAP.

Nonresidential New Construction Program

Retention Study

1994 & 1995 Nonresidential New Construction Program--Fourth Year Retention Evaluation

Study No. 936 & 972

SDG&E

March 1999

A customer who participated in SDG&E's Nonresidential New Construction program received a rebate upon building completion. 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.

The results of this retention study will be used to verify the program's PY95 third earnings claim in the 2000 AEAP.

Residential Direct Assistance Program

Load Impact Study

First Year Load Impact Study of 1998 Low Income Energy Efficiency Programs for PG&E, SDG&E, SCE & SCG

Kenneth Parris, Business Economic Analysis and Research

April 1998

First year energy load impacts for the 1998 residential Low Income Energy Efficiency programs (LIEE) by utility are presented below. The LIEE provided assistance to low income customer groups throughout the state. The assistance consisted of subsidies for installation of energy efficiency measures, energy education, and repair and/or replacement of space heating and evaporative cooling equipment. The participating utilities are Pacific Gas and Electric Company (PG&E), San Diego Gas and Electric Company (SDGE), Southern California Edison Company (SCE), and Southern California Gas Company (SCG).

The energy models employed engineering estimates to capture the importance of specific measures to estimate energy savings. The model savings are compared to ex-ante savings provided by the utilities in this summary section only. The term "ex-post" means after the fact first year impacts in this study.

The energy saving impacts are provided in three tables. The savings are dependent on weather conditions and comparisons between utilities should be discounted due to different weather. The savings are averages across the utility's climate areas, therefore customers living in the colder areas of the territory will actually have greater savings than the reported numbers. Table 1 summarizes first year results for all participants combined. While program efforts are delineated by dwelling type, Table 1 provides an overview of total program results and results by each measure across all households by utility. Table 2 provides first year results for single family participants, while Table 3 provides first year results for multifamily participants. First year ex-ante measure impacts are also included in Tables 2 and 3. Ex-ante measure impacts were taken from the 1998 LIEE advice letter filings by the various utilities.

Retention Study

Statewide Study of the Retention of Measures Installed Under the Direct Assistance Program (DAP)

Megdal & Associates

December 1998

The California Demand Side Management Advisory Committee measurement and evaluation Protocols require retention studies at specific retention years depending on the program. The purpose of the retention study is to collect data to determine the effective retention for the primary measures in the program. This involves measuring the proportion of measures still in place, operational, and effective.

This study is the Statewide Retention Study for the 1994, 1995, and 1996 Residential Direct Assistance programs (DA) operated by SCE, PG&E, SDG&E, and SCG. These programs served the residential dwellings of low-income customers. There are six primary measures offered through the DA programs that are included in this study. These are: evaporative cooling (with unit provision in one utility and covers provided at the other utilities), attic and

ceiling insulation, low flow showerheads, door weather stripping, caulking, and water heater blankets.

A summary of finding can be found below.

Table 1--DAP Measure retentions

	1994 Installations	1995 Installations	1996 Installations	Overall Retention
Evaporative coolers	100.0%	100.0%	100.0%	100.0%
Evaporative cooler covers	53.8%	90.0%	69.7%	70.1%
Attic and ceiling insulation	100.0%	97.7%	92.6%	96.9%
Low flow showerheads	84.2%	90.7%	84.1%	85.5%
Door weather stripping	93.4%	91.3%	96.0%	93.6%
Caulking	44.6%	56.2%	54.2%	51.7%
Water heater blankets	76.0%	83.0%	87.5%	81.6%

Table 2--Measure populations by utility and program year

	1994	1995	1996	
San Diego Gas & Electric				
Evaporative cooler	-	•	•	
Attic or ceiling insulation	939	620	466	
Low flow shower heads	5,404	5,144	6,382	
Door weather stripping	8,295	7,180	7,659	
Caulking	7,815	6,410	6,904	
Water heater blankets	705	693	445	
Total by Year	23,158	20,047	21,856	
Residences served	9,453	7,395	9,824	26,672

Commercial Energy Management Services Program

Retention Study

There is no retention study required.

Industrial Energy Management Services Program

Retention Study

There is no retention study required.

Agricultural Energy Management Services Program

Retention Study

There is no retention study required.

Statewide Measurement Studies

The M&E Protocols adopted in D. 93-05-063 in the DSM OIR in May 1993 made provision for CADMAC and also for CADMAC funding of nine statewide studies. To be consistent with the Interim Opinion on Measurement and Evaluation Cost Containment Rules (D.93-10-063), the four California utilities determined that CADMAC funding would come from the

one percent funding allocated for CCIG since there was some duplication of statewide efforts. In 1998, SDG&E allocated one percent of its Measurement Forecasting Reporting Requirements funding for these statewide studies.

In 1999, SDG&E staff members chaired.

SDG&E personnel are also subcommittee members on the other seven statewide subcommittees.

Retrofit Modeling Subcommittee

The subcommittee was inactive in 1999.

New Construction Modeling Subcommittee

The subcommittee was inactive in 1999.

Persistence Subcommittee

The subcommittee was active in 1999, sponsoring a study on the persistence of energy savings associated with Compressed Air systems. The main components to be evaluated are: 1) leak identification and repair, 2) control systems and compressed air supply management, and 3) facility air management practices. An interim report was completed and monitoring sites identified.

Base Efficiency Subcommittee

The subcommittee was inactive in 1999.

Measure Cost Subcommittee

The subcommittee was inactive in 1999.

Residential High Efficiency Refrigerator Subcommittee

The subcommittee was inactive in 1999.

Residential High Efficiency Lighting Subcommittee

The subcommittee was inactive in 1999.

Market Effects Subcommittee

The subcommittee was inactive in 1999.

Process Studies

No process studies were conducted in 1999.

Regulatory Compliance & Reporting

Regulatory Compliance and Reporting is designed to capture activities that are undertaken to meet regulatory reporting oversight, and other obligations and that are not included in Program Measurement and Demand-Side Forecasting and Planning. This category has two subcategories: (1) Regulatory Reporting and Support, and (2) Regulatory Oversight.

Regulatory Reporting and Support

Regulatory Reporting and Support consists of those activities needed to verify, collect, and report descriptive and technical information related to the achievements and scope of all

authorized DSM programs. Examples are annual DSM reports, filings for shareholder earnings and other DSM proceedings (except CADMAC) including workshop participation, testimony, hearings, and data requests and responses.

SDG&E filed its PY97 second earnings claim and the PY94 third earnings claim in the 1999 Annual Earnings Assessment Proceeding as a result of the Commission's Annual Earnings Assessment Proceeding and Electric Industry Restructuring. The following describes major regulatory activities for 1998.

SDG&E is filing its PY95 third earnings claim in the

Regulatory Reports

SDG&E filed its Annual Summary of DSM Activities in May 1999 as required by the Commission. SDG&E worked with regulatory staffs in providing information as requested in an open and timely manner.

Shareholder Incentives

In May 1999, SDG&E filed an application with the CPUC to recover the shareholder incentive earned under the CPUC approved mechanism for achievements in Program Years 1994 and 1997.

Regulatory Oversight

Regulatory oversight consists of activities related to the administrative costs associated with running the California Demand-Side Management Advisory Committee (CADMAC), the costs of the Commission's Energy Division audits and analysis, and the funds devoted to the verification of utility DSM earnings managed by the Commission's Office of Ratepayer Advocates (ORA).

CADMAC Administration

The CADMAC is comprised of the four major energy utilities, ORA, the Energy Division, the California Energy Commission, California Institute for Energy Efficiency, Lawrence Berkeley Laboratory/Energy and Environment Division, and Natural Resources Defense. CADMAC responsibilities are outlined in Appendix B of the adopted M&E Protocols. The purpose of the group is to provide a forum for presentations, discussions, and review of DSM program measurement studies underway or completed, to coordinate the development and implementation of measurement studies common to all or most of the utilities, and to facilitate the development of effective, state-of-the-art protocols for measuring and evaluating the impacts of DSM programs.

In 1999, SDG&E chaired the CADMAC by attending the monthly meetings and semi-annual forum. One informational filing was made that updated the Commission on the status of the statewide study efforts and provided summary information on unanimous retroactive waivers granted by CADMAC. The annual solicitation and reaffirmation of supplemental members filings were made.

In 2000, SDG&E will continue to actively participate in the CADMAC by (1) chairing the monthly meetings and semi-annual forums, (2) reviewing and assessing the adopted M&E Protocols for future refinement, (3) ensuring CADMAC complies with regulatory

requirements that came out of the 1994, 1995, 1996, 1997 and 1998 AEAPs and shareholder incentive decisions, and (4) participating on the other subcommittees as necessary

ORA Evaluation and Analysis

In the Collaborative Settlement Agreement adopted in 1990, SDG&E and the other California utilities committed to contribute funding to a CPUC/ORA evaluation and analysis process. SDG&E has participated in this activity since 1990, and will continue to do so in 2000. The ORA has ultimate discretion over the use of these funds.

MFRR REPORTING DETAILS

Study Reference Material

Table 3—Overview of data type and survivor curve specifications

	Type of D	ata Used	Type	tion Used	
Study	Independent Failures	Dependent Failures	Exponential Specification	Linear Specification	Combination Linear/Exponential Specification
1994 & 1995 Commercial Energy Efficiency Incentives- Fourth Year Retention Evaluation	х	×	х	×	×
1994 & 1995 Industrial Energy Efficiency IncentivesFourth Year Retention Evaluation	х	Х	х		
1994 & 1995 Nonresidential New Construction Program Fourth Year Retention Evaluation		×	×		
1994 & 1995 Residential Appliance Efficiency Incentives Program: Compact Fluorescent LightsFourth Year Retention Evaluation	х		х		
1994 & 1995 Residential Appliance Efficiency Incentives Program: RefrigeratorsFourth Year Retention Evaluation	х			х	
1994 & 1995 Residential New Construction ProgramFourth Year Retention Evaluation	х		Х		

The survivor curves and the expected median lifetimes were estimated using maximum likelihood procedures applied to measure failure data. Independent failures are failures of individual measures. Dependent failures are clusters of measures having failed jointly. Estimated median lifetimes resulted from both types of data. An exponential specification is associated with a constant failure rate over time, while a linear specification point to an increasing rate of failure.

Residential Weatherization Retrofit Incentives Program

Retention Study

Measure Retention Study--1994 & 1995 Residential Weatherization Programs (RWRI)

Study No. 957

Megdal & Associates

March 1999

The sampling plan was designed to ensure representation across study measures and for each utility. Direct observation of measure retention and surveys of residents were obtained through 250 site visits conducted by trained auditors. The primary retention measurement is the proportion of measures that are in place and operational. This is derived from survey information by analyzing frequencies and means of the site visit data by measure. The effective useful life analysis came from calculating the expected median from an exponential

model given the average length of time since installation and the average retention rate at that time. See the report for statistical details.

Residential Appliance Efficiency Incentives Program: High Efficiency Lighting

Retention Study

1994 & 1995 Residential Appliance Efficiency Incentives Program: Compact Fluorescent Lights--Fourth Year Retention Evaluation

Study No. 921
SDG&E
March 1999

See Table 3 and the econometrics portion of the report for a description of the modeling and data methods.

Residential Appliance Efficiency Incentives Program: High Efficiency Refrigeration

Retention Study

1994 & 1995 Residential Appliance Efficiency Incentives Program: Refrigerators--Fourth Year Retention Evaluation

Study No. 915 SDG&E March 1999

See Table 3 and the econometrics portion of the report for a description of the modeling and data methods.

Commercial Energy Efficiency Incentives Program

Load Impact Study

1997 Commercial Energy Efficiency Incentives Program--First Year Load Impact Evaluation

Study No. 1025

SDG&E

March 1999

The main statistical model used is ordinary least squares regression analysis, applied at the customer level, for participants and nonparticipants (see the modeling section of the report for a complete discussion on the models used. For the load impact analysis of the lighting and HVAC end uses, a participant was defined as a customer or a group of customers with a common contract for DSM measures who completed installation by December 31, 1997. A nonparticipant was defined as a customer who did not participate in <u>any</u> of SDG&E's PY97 nonresidential DSM programs. The comparison group was selected from the population of nonparticipants.

	Indoo	r Lighting	Н	VAC
	Participants	Nonparticipants	Participants	Nonparticipants
Study Group Size	3,515 350		128	350

Data for the impact analysis were obtained from the following major sources:

- Customer name, address, affected square footage, lighting hours of operation, and installation date from the program tracking database;
- Comparison group (nonparticipants) was selected from the Customer Master File after the participants were determined;
- Consumption history from the Customer Master File;
- Data on floor stock, square footage, hours of operation, installation of energy efficient equipment, and occupancy from on-site audits for the nonparticipant group;
- Hourly weather data from NOAA files for the SDG&E climate zones: Maritime, Coastal and Transitional.

Retention Study

1994 & 1995 Commercial Energy Efficiency Incentives--Fourth Year Retention Evaluation

Study No. 924 & 960	
SDG&E	
March 1999	

See Table 3 and the econometrics portion of the report for a description of the modeling and data methods.

Industrial Energy Efficiency Incentives Program

Load Impact Study

1997 Industrial Energy Efficiency Incentives Program--First Year Load Impact Evaluation Final Report

Study No. 1019
XENERGY
February 1999

Site-specific simplified engineering models with verified inputs were use to measure the impacts. For the load impact analysis, the participants in the 1997 Industrial Energy Efficiency Incentives program are defined as having at least one of the aforementioned measures installed.

Analysis sample sizes were as follows.

Electric Participant Sample for 1997 Industrial Energy Efficiency Incentives Program			Gas Participant Sample for 1997 Industrial Energy Efficiency Incentives Program		
No. of No. of Measure Type Projects Measures		Measure Type	No. of Projects	No. of Measures	
Interior Lighting	28	10,897	Interior Lighting	0	0
Process	18	60	Process	3	5
Motors	120	157	Motors	0	0
Total		-	Total	0	0

The data came from the following sources:

- Customer name, address, installed measures, and participation date from the program tracking database.
- Electric and gas consumption history, where applicable, from the Customer Master File.
- Ex ante engineering assumptions and analyses from program project files.
- *Ex post* on-site survey data, including spot measurements, monitoring and verification of measure installation.

Retention Study

1994 & 1995 Industrial Energy Efficiency Incentives—Fourth Year Retention Evaluation

Study No. 927 & 963

SDG&E

March 1999

See Table 3 and the econometrics portion of the report for a description of the modeling and data methods.

Fuel Substitution Program

Load Impact Study

1997 Fuel Substitution Program—First Year Load Impact Evaluation-Final Report

Study No. 1016

XENERGY

February 1999

Site-specific simplified engineering models with verified inputs were used to develop results. For the load impact analysis, the participants in the 1997 Fuel Substitution Incentives program are defined as having at least one of the aforementioned measures installed.

Sample sizes were as follows.

Electric Participant Sample for 1997 Fuel Substitution Incentives Program			Gas Participant Sample for 1997 Fuel Substitution Incentives Program		
No. of No. of Measures Type Projects Measures			Measure Type	No. of Projects	No. of Measures
Process	3	5	Process	3	5
HVAC	1	21	HVAC	1	21
Total	4	31	Total	4	31

Data sources: the data came from the following sources:

- Customer name, address, installed measures, and participation date from the program tracking database.
- Electric and gas consumption history, where applicable, from the Customer Master File.
- Ex ante engineering assumptions and analyses from program project files.

• *Ex post* on-site survey data, including spot measurements, monitoring and verification of measure installation.

Agricultural Energy Efficiency Incentives Program

Load Impact Study

1997 Agricultural Energy Efficiency Incentives Program--First Year Load Impact Evaluation Final Report

Study No. 1022 XENERGY

February 1999

Site-specific simplified engineering models with verified inputs were used to derive the results. For the load impact analysis, the participants in the 1997 Agricultural Energy Efficiency Incentives program are defined as having at least one of the aforementioned measures installed. Per SDG&E's retroactive waiver a comparison group was not required for this evaluation.

Samples size were as follows.

Electric Participant Sample for 1997 Agricultural Energy Efficiency Incentives Program		Gas Participant Sample for 1997 Agricultural Energy Efficiency Incentives Program				
Measure Type	No. of Participants	No. of Measures	Measure Type	No. of Participants	No. of Projects	No. of Measures
Pumping	11	13	Pumping	0	0	0
Process	1	1	Process	0	0	0
Space Conditioning	1	2	Space Conditioning	4	5	0
Total	13	16	Total	4	5	0

The data came from the following sources:

- Customer name, address, installed measures, and participation date from the program tracking database.
- Electric and gas consumption history, where applicable, from the Customer Master File.
- Ex ante engineering assumptions and analyses from program project files.
- *Ex post* on-site survey data, including spot measurements, monitoring and verification of measure installation.

Retention Study

1994 & 1995 Agricultural Energy Efficiency Incentives--Fourth Year Retention Evaluation

Study No. 930 & 966

SDG&E

March 1999

The one customer with the one measure that is in the analysis was contacted whereby it was determined that the measure was still in place and operable.

Residential Energy Management Services Program

Load Impact Study

1997 Residential Energy Management Services--First Year Load Impact

Study No. 1026

SDG&E

March 1999

The study uses a regression-based billing analysis to estimate net program impacts. See the section of the report entitled "The Econometric Framework" on page 3 for a complete description of the final model specifications. For the load impact analysis, the participants are defined as customers having had an ENERGRAF (onsite) or Mail-In audit during 1997. The comparison group was taken from the 1997 Home Energy Survey (MIRACLE XIII) database.

Sample sizes were as follows.

ELE	ELECTRIC PARTICIPANT SAMPLE FOR 1997 RESIDENTIAL EMS											
	# of Customers	# of * Installations # of Measures		Avg. # of Months of Data								
Space Heating	1785	Not Available	Not Available	22.1								
Space Cooling	5094	Not Available	Not Available	22.1								
Water Heating	886	Not Available	Not Available	22.1								
Miscellaneous	12937	Not Available	Not Available	22.1								
Total	12937	Not Available	Not Available	22.1								

G	GAS PARTICIPANT SAMPLE FOR 1997 RESIDENTIAL EMS											
	# of Customers	# of * Installations	# of Measures	Avg. # of Months of Data								
Space Heating	8826	Not Available	Not Available	22.1								
Water Heating	8115	Not Available	Not Available	22.1								
Miscellaneous	8826	Not Available	Not Available	22.1								
TOTAL	8826	Not Available	Not Available	22.1								

The data came from the following sources:

- Participant name, address, account number, appliance saturation, demographics, and participation date from the 1997 ENERGRAF (onsite) program tracking database;
- Participant name, address, account number, appliance saturation, demographics, and participation date from the 1997 Mail-In program tracking database;
- Nonparticipant name, address, account number, appliance saturation, demographics, and conservation activity from the Home Energy Survey for 1997 (MIRACLE XIII) database;
- 1996-1998 electric and gas consumption history from the Customer Master File;
- 1996-1998 hourly weather data for three climate zones from the National Oceanic and Atmospheric Administration (NOAA) files; and
- Participant survey of implementation of audit recommendations by measure and practice.

The data were merged together to form the dataset for the regression analysis leading to the estimated energy savings per dwelling unit. The savings were further disaggregated by space cooling, space heating, water heating, and miscellaneous end uses.

Residential New Construction Program

Retention Study

1994 & 1995 Residential New Construction Program—Fourth Year Retention Evaluation

Study No. 933

SDG&E

March 1999

See Table 3 and the econometrics portion of the report for a description of the modeling and data methods.

Nonresidential New Construction Program

Retention Study

1994 & 1995 Nonresidential New Construction Program--Fourth Year Retention Evaluation

Study No. 936 & 972

SDG&E

March 1999

See Table 3 and the econometrics portion of the report for a description of the modeling and data methods.

Residential Direct Assistance Program

Load Impact Study

The end uses reviewed in this study are space heating, water heating, air conditioning, miscellaneous electric. The specific measures are: ceiling insulation, weatherstripping/caulking, building envelope repairs, low flow showherheads, water heater blankets, compact fluorescent lights, furnace repair, furnace replacement, refrigerator replacement, evaporative cooler maintenance, and evaporative cooler replacement.

A conditional demand model; specification discussed on pages 28–56 of the report. Participants included qualified low income customers residing in single family and multi family dwellings who received one or more program measures. There was no comparison group since none was required by the Protocols. The analysis includes program participants listed on page 26 of the report. Up to 36 months of consumption data was available for each participant included in the sample.

There was no comparison group, since it was not required by the Protocols. It is believed that participants would not have taken the actions without the program, hence the net to gross ratio is 1.0.

Retention Study

Statewide Study of the Retention of Measures Installed Under the Direct Assistance Program (DAP)

Megdal & Associates

December 1998

Basic retention results are as follows:

DAP Measure Retention	DAP Measure Retention Rates											
	1994 Installations	1995 Installations	1996 Installations	Overall Retention								
Evaporative coolers	100.0%	100.0%	100.0%	100.0%								
Evaporative cooler covers	53.8%	90.0%	69.7%	70.1%								
Attic and ceiling insulation	100.0%	97.7%	92.6%	96.9%								
Low flow showerheads	84.2%	90.7%	84.1%	85.5%								
Door weather stripping	93.4%	91.3%	96.0%	93.6%								
Caulking	44.6%	56.2%	54.2%	51.7%								
Water heater blankets	76.0%	83.0%	87.5%	81.6%								

TABLE 6.1 MEASUREMENT, FORECASTING, AND REGULATORY REPORTING EXPENDITURES (1999)

		1999	
	Authorized	Budgeted	Actual
PROGRAM MEASUREMENT			
Load Impact Studies			\$635,702
Statewide Measurement Studies			\$133,262
Process Studies			\$0
Other			\$0
Subtotal		\$800,000	\$768,964
DEMAND-SIDE FORECASTING & PLANNING ²			
Load Metering Studies			
CEC Data Collection Plan		\$0	\$0
Other Load Metering		\$0	\$0
Subtotal		\$0	\$0
Saturation Surveys			
CEC Data Collection Plan		\$0	\$0
Other Saturation Surveys		\$0	\$0
Subtotal		\$0	\$0
Market Assessment and Other Research		\$0	\$0
New Technology Evaluation		\$0	\$0
Long Range Forescasting and Planning		\$0	\$0
Subtotal Forecasting and Planning		\$0	\$0
REGULATORY COMPLIANCE & REPORTING			
Regulatory Reporting and Support			\$64,877
Regulatory Oversight			\$49,845
Subtotal		\$0	\$114,722
TOTAL MFFR		\$800,000	\$883,686

Notes:

The 1999 Public GoodsCharge Energy Efficeincy funds allocated in this category fund the CEC Data Collection and other California Code of Regulations Title 20 requirements. See Market Assessment and Evaluation setion of the Energy Efficiency Programs,

See Market Assessment and Evaluation setion of the Energy Efficiency Programs, Annual Summary & Technical Appendix, 1999 Results-2000 Plans.

TABLE TA-6.1 PROGRAM MEASUREMENT COSTS (1999)

	Program	Study	Expenditures
	Year	ID	
LOAD IMPACT STUDIES			
Residential Weather Retrofit Incentives	N/A	N/A	\$0
Residential Appliance Efficiency Incentives			
Compact Fluorescents	1996	985	\$7,140
Compact Fluorescents	1997	985	\$7,140
High Efficiency Refrigeration	1996	982	\$7,140
High Efficiency Refrigeration	1997	982	\$7,140
C/I/A Energy Efficiency Incentives			
Commercial EEI Programs	1994	924	\$35,199
Commercial EEI Programs	1995	960	\$35,199
Commercial EEI Programs	1997	1017	\$59,311
Industrial EEI Programs	1996	995	\$33,899
Industrial EEI Programs	1997	1019	\$200,404
Agricultural EEI Programs	1997	1022	\$59,181
Fuel Substitution Program	1997	1016	\$31,140
Retrofit Energy Efficiency Subtotal			\$482,895
Residential New Construction	1994	933	\$7,140
Residential New Construction	1995	933	\$7,140
Nonresidential New Construction	1994	936	\$33,199
Nonresidential New Construction	1995	972	\$33,199
Nonresidential New Construction	1996	1004	\$33,199
Nonresidential New Construction	1997	1004	\$33,199
New Construction Subtotal			\$147,077
Residential Energy Management Services	N/A	N/A	\$0
Commercial Energy Management Services	N/A	N/A	\$0
Industrial Energy Management Services	N/A	N/A	\$0
Energy Management Services Subtotal			\$0
Direct Assistance	1994-1997	N/A	\$5,730
Direct Assistance Subtotal	10011007	14/7	\$5,730
Load Impact Studies Subtotal			\$635,702
PROCESS AND STUER			
PROCESS AND OTHER			\$0
Process and Other Studies Subtotal			\$0
STATEWIDE STUDIES			
Modelling Standards Retrofit Programs		N/A	\$0
Modelling Standards New Construction Programs		N/A	\$0
Persistence Studies	1994-1995	2023P	\$25,844
Base Efficiency Studies		N/A	\$0
Measure Cost Study		N/A	\$0
Residential High Efficiency Refrigerator Studies		N/A	\$0
Residential High Efficiency Lighting Studies		N/A	\$0
Quality Assurance Standards for Metering & Monitoring Equipment		N/A	\$0
Market Effects Studies		N/A	\$107,418
Statewide Study Subtotal			\$133,262
TOTAL PROGRAM MEASUREMENT			\$768,964

TABLE TA-6.2 DEMAND-SIDE FORECASTING AND PLANNING EXPENDITURES (1999)

The CEC Data Collection and Analysis activities are documented in the Market Assessment and Evaluation section of the Energy Efficiency Programs, Annual Summary and Technical Appendix 1999 Results-2000 plans.

OTHER DEMAND-SIDE MANAGEMENT

Not applicable.

SHAREHOLDER EARNINGS

PY95 Third Earnings Claim

Introduction

SDG&E's 1995 DSM programs, and the shareholder incentive mechanisms related thereto, have been established for several years. In Application 91-11-024 (SDG&E's 1993 Test Year General Rate Case application, filed November 1991), SDG&E presented its revenue requirement request for the program years 1993 through 1995. This request included a description of SDG&E's proposed DSM programs and the appropriate shareholder incentive mechanisms. SDG&E's proposed programs and mechanisms were filed as a Joint Recommendation between SDG&E, the Division of Ratepayer Advocates ("DRA"), and the Utility Consumers' Action Network ("UCAN") on June 5, 1992. This Joint Recommendation was adopted, with some minor modifications by the Commission, in Decision 92-12-019 (December 1992).

D.94-10-059 (Interim Opinion on DSM Shareholder Incentives) which the Commission adopted for program years 1995 through 1997, and as it applies to DSM and the shareholder incentive mechanism applicable to San Diego Gas & Electric, is described in the Introduction in this Section on page VIII-1.

Verification of Achievements

The PY95 third earnings claim is \$9,477,192 plus interest from July 1, 1996, franchise fees and uncollectibles, as calculated based upon SDG&E's Third/Fourth Year Retention and Performance studies for those programs. This PY95 third earnings claim is the difference between 75% of the revised lifecycle shareholder incentive earnings for 1995 DSM programs and \$18,244,663, the first and second earnings claim for 1995 DSM programs. Additional information maybe found in Tables 8.1 and 8.2.

Table E-1 (TA 8.1)

SDG&E Earnings Claim Summary Table: Shared Savings Programs

Program Year: 1995

	SHARED SAVINGS PROGRAMS												
		Retrofit I	Energy Efficie	ncy Incentive F	Programs	UIDANCED		onstruction Pr	ograms		Portfolio	1	Total
	RWRI	RAEI	CEEI	IEEI	AEEI	Total	Res	Nonres	Total	Res	Nonres	Total	wMC
FORECAST													
Costs and Benefits For Earnings (000's \$)													
1 Measurement Costs		\$330	\$780			\$1,110	\$40	\$190	\$230	\$370	\$970	\$1,340	\$1,340
2 Administration		\$970	\$2,960			\$3,930	\$60	\$1,110	\$1,170	\$1,030	\$4,070	\$5,100	\$5,100
3 Program Incentives		\$5,700	\$11,210			\$16,910	\$680	\$1,110	\$1,790	\$6,380	\$12,320	\$18,700	\$18,700
4 Program Costs	\$0	\$6,670	\$14,170	\$0	\$0	\$20,840	\$740	\$2,220	\$2,960	\$7,410	\$16,390	\$23,800	\$23,800
8 Incremental Measure Costs, net (IMCn)		\$4,340	\$15,020			\$19,360	\$6,930	\$1,120	\$8,050	\$11,270	\$16,140	\$27,410	\$27,410
9 Resource Benefits, net (RBn)		\$10,790	\$44,170			\$54,960	\$2,100	\$7,720	\$9,820	\$12,890	\$51,890	\$64,780	\$64,780
Target Earnings (000's \$)													
16 Target Earnings Rate (TER) (%)	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	9.00%	15.10%	13.41%	23.82%	27.52%	26.86%	26.86%
17 Performance Earnings Basis, at target (PEBt)		\$5,040	\$27,440			\$32,480	\$2,100	\$5,490	\$7,590	\$7,140	\$32,930	\$40,070	\$40,070
18 Target Earnings	\$0	\$1,512	\$8,232	\$0	\$0	\$9,744	\$189	\$829	\$1,018	\$1,701	\$9,061	\$10,762	\$10,762
TRC BCR, with Earnings		1.58	1.69			1.66	0.29	2.52	0.96	0.92	1.77	1.50	1.50
UC BCR, with Earnings		1.32	1.97			1.80	2.26	2.53	2.47	1.41	2.04	1.87	1.87
RECORDED - FIRST EARNINGS CLAIM (1996 AEAP)													
Costs and Benefits For Earnings (000's \$)	1	١.	Ι.				_						
Recorded Measurement Costs	\$0	\$94	\$74	\$0	\$0	\$168	\$40	\$0	\$40	\$134	\$74	\$208	\$208
Recorded Administration	\$111	\$614	\$6,429	\$669 \$755	\$19	\$7,841	\$99	\$1,869	\$1,968 \$2,522	\$823	\$8,987	\$9,810	\$9,810
Recorded Program Incentives	\$826	\$7,632	\$15,279		\$13 \$74	\$24,504	\$487	\$2,036	4-10	\$8,945	\$18,081 \$33,326	\$27,026	\$27,026
Recorded Incremental Measure Costs, net	\$826	\$9,981	\$26,915	\$1,778 \$9,693	\$74 \$231	\$39,574 \$144,445	\$3,934 \$550	\$4,559	\$8,493	\$14,741 \$26,124	400,020	\$48,067	\$48,067
Recorded Resource Benefits, net Recorded Performance Earnings Basis (PEB)	\$1,514 \$677	\$24,060 \$14,248	\$108,947 \$79,482	\$9,693	\$231 \$159	\$144,445	\$550 \$631	\$26,206	\$26,756 \$21,395	\$26,124 \$15,356	\$145,077 \$108,092	\$171,201 \$123,448	\$171,201 \$123,241
Recorded Performance Earnings Basis (PEB) Recorded PEB/PEBt (%) (Minimum 75%)	\$577	\$14,248 283%	\$79,482 290%	\$7,587	\$159	\$102,063	\$631 25%	\$20,865	\$21,396 282%	\$15,356 215%	\$108,092 328%	\$123,448 308%	\$123,241
Recorded PEB/PEBt (%) (Minimum 75%) Recorded Earnings	\$173	283% \$4.274	290% \$23.845	\$2.276	\$48	314% \$30.616	25% \$44	380% \$5.410	262% \$6.454	215% \$4.492	328% \$31,578	308% \$36.070	308% \$36,008
TRC BCR, with Earnings	1.36	1.62	\$23,845 1.91	\$2,276 2.05	1.64	1.85	0.14	221	30,454	1.30	1.96	1.82	1.82
UC BCR, with Earnings	1.36	1.92	2.39	2.62	2.93	2.29	0.14	2.81	2.69	1.83	2.47	2.35	2.35
Earnings Distribution Share (1st Claim)	26%	26%	25%	262	293	25%	26%	286	286	1.83	25%	25%	25%
Earnings Distribution Share (1st Claim) Earnings Claim for Recovery (1st Claim)	\$43	\$1,069	\$5.961	\$569	\$12	\$7,654	25% \$11	\$1,352	\$1.363	\$1,123	\$7,896	\$9,017	\$9,002
Earlings Claim or Recovery (1st Claim)	343	\$1,000	30,561	3300	\$12	37,004	311	\$1,302	\$1,303	\$1,123	şr,000	30,017	30,002
Second Earnings Claim: (1997 AEAP)													
Recorded Measurement Costs	s -	\$59	\$503	\$109	\$30	\$700	\$1	\$192	\$193	\$59	\$834	\$893	\$893
Revised Resource Benefits net	\$1.514	\$24,936	\$117.917	\$8,024	\$98	\$152,489	\$779	\$24,209	\$24,988	\$27,229	\$150.248	\$177,477	\$177,477
Recorded PEB	\$577	\$15,124	\$88,452	\$5,918	\$25	\$110,097	\$531	\$18,869	\$21,395	\$16,233	\$115,260	\$131,492	\$131,285
Revised Earnings	\$173	\$4,537	\$25,209	\$1,775	\$8	\$31,702	965	\$4,891	\$4,965	\$4,775	\$31,882	\$36,658	\$36,327
Earnings Distribution Share (2nd Claim)	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Recorded Earnings (for 2nd Claim)	\$87	\$2,269	\$12.604	\$888	\$4	\$15.851	\$32	\$2,445	\$2,478	\$2,388	\$15.941	\$18.329	\$18.164
Earnings Recovered from 1st Claim	\$43	\$1.069	\$5,961	\$569	S12	\$7.654	S11	\$1,352	\$1,363	\$1.123	\$7.895	\$9.017	\$9.002
Recorded Incremental Earnings	\$43	\$1,200	\$6,643	\$319	(\$8)	\$8,197	\$21	\$1,093	\$1,114	\$1,265	\$8,047	\$9,311	\$9,162
					(,								
Third Earnings Claim: (2000 AEAP)													
Recorded Measurement Costs	s -	\$43	\$56	\$27	\$12	\$139	\$6	\$108	\$114	\$49	\$203	\$252	\$252
Revised Resource Benefits, net	\$1,514	\$26,871	\$117,907	\$7,963	\$98	\$154,352	\$779	\$24,170	\$24,949	\$29,164	\$150,137	\$179,301	\$179,301
Recorded PEB	\$577	\$17,059	\$88,442	\$5,857	\$25	\$111,960	\$531	\$18,829	\$19,360	\$18,167	\$113,153	\$131,320	\$129,967
Revised Earnings	\$173	\$5,118	\$25,206	\$1,757	\$8	\$32,261	\$65	\$4,881	\$4,945	\$5,355	\$31,851	\$37,206	\$36,801
Earnings Distribution Share (3rd Claim)	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Recorded Earnings (for 3rd Claim)	\$130	\$3,838	\$18,904	\$1,318	\$6	\$24,196	\$48	\$3,660	\$3,709	\$4,017	\$23,888	\$27,905	\$27,600
Earnings Recovered from 1st and 2nd Claim	\$87	\$2,269	\$12,604	\$888	\$4	\$15,851	\$32	\$2,445	\$2,478	\$2,388	\$15,941	\$18,329	\$18,16
Recorded Incremental Earnings	\$43	\$1,570	\$6,300	\$430	\$2	\$8,345	\$16	\$1,215	\$1,231	\$1,629	\$7,947	\$9,576	\$9,437
	Î												
Fourth Earnings Claim: (2005 AEAP)	I		l										
Recorded Measurement Costs													
Revised Resource Benefits, net	I		l										
Recorded PEB	I		l										
Revised Earnings	I		l										
Earnings Distribution Share (4th Claim)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Recorded Earnings (for 4th Claim)	I		l										
Earnings Recovered from 1st, 2nd, and 3rd Claim	I		l	l									
Recorded Incremental Earnings	I		l										
Total Earnings	\$130	\$3,838	\$18,904	\$1,318	\$6	\$24,196	\$48	\$3,660	\$3,709	\$4,017	\$23,888	\$27,905	\$27,60

Notes:

[1] For Poggam Year 1995, earnings for Residential and Norresidential New Construction Programs include a variable shared savings/performance adder treatment for contracts signed before 1028/94.

[4] (enteriors A.91-11-024, 1993 Test Year General Rate Case Joint Recommendation between SDG&E, DRN, and UCNH dated June 5, 1992, and adopted in D.92-12-019, dated December 9, 1992).

[5] Commental, Industrial, and Agricultural EEI Programs are contained in the Forecast lifting under CEEI. No forecast was filed for Residential WRV Programs.

[5] Measurement costs (3), 10(18) are for load impact evaluations only.

[6] Measurement costs are included in Recorded Performance Earnings Basis (\$1,1014), Recorded Earnings (\$1,1014 * 0.3 = \$330.34), and Earnings Claim for Recovery (\$1,1014 * 0.3 * 0.25 = \$82.64) only at the Portfolo Tost, per D.94-10-059

Table TA-8.1 (Table E-1)

SDG&E Earnings Claim Summary Table: Performance Adder Programs

Program Year: 1995

			PEI	RFORMAN	CE ADDE	R PROGRA	MS			SS & PA
	Ene	rgy Manage	ement Serv	ices Progra	ams	Direct As	ssistance P	rograms	PA GRANI	GRAND
	REMS	CEMS	IEMS	AEMS	Total	Non-Mand	Mandatory	Total	TOTAL	TOTAL
Costs and Benefits For Earnings - Forecast (1) (000's \$)										
1 Measurement Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,34
2 Administration	\$1,530	\$2,454	\$0	\$0	\$3,984	\$563	\$685	\$1,249	\$5,233	\$10,33
3 Program Incentives	\$0	\$0	\$0	\$0	\$0	\$2,120	\$1,898	\$4,018	\$4,018	\$22,71
4 Program Costs	\$1,530	\$2,454	\$0	\$0	\$3,984	\$2,684	\$2,583	\$5,267	\$9,251	\$33,05
8 Incremental Measure Costs, net (IMCn)	\$101	\$2,906	\$0	\$0	\$3,007	\$2,220	\$1,898	\$4,118	\$7,125	\$34,53
9 Resource Benefits, net (RBn)	\$513	\$4,125	\$0	\$0	\$4,638	\$1,916	\$1,329	\$3,245	\$7,883	\$72,66
Target Earnings										
16 Target Earnings Rate	5%	5%	5%	5%	5%	5%	N/A	5%	5%	2
17 Performance Earnings Basis, at target (PEBt)	\$1,530	\$2,454	\$0	\$0	\$3,984	\$2,684	N/A	\$2,684	\$6,667	\$46,73
18 Target Earnings	\$77	\$123	\$0	\$0	\$199	\$134	N/A	\$134	\$333	\$11,09
TRC BCR, with Earnings	0.30	0.75	0.00	0.00	0.00	0.66	0.00	0.59	0.62	1.
UC BCR, with Earnings	0.32	1.60	0.00	0.00	0.00	0.68	0.00	0.60	0.82	1.
5										
First Earnings Claim: (1996 AEAP)	\$0	***	**	**	**	**	***	**		\$20
Recorded Measurement Costs (3)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Recorded Administration	\$1,096	\$0	\$0	\$0	\$1,096	\$651	\$505	\$1,156	\$2,252	\$12,06
Recorded Program Incentives	\$0	\$0	\$0	\$0	\$0	\$1,208	\$1,783	\$2,991	\$2,991	\$30,01
Recorded Incremental Measure Costs, net	\$223	\$0	\$0	\$0	\$223	\$864	\$1,469	\$2,333	\$2,556	\$50,62
Recorded Resource Benefits, net Recorded PEB	\$242 \$1.096	\$0 \$0	\$0 \$0	\$0 \$0	\$242 \$1.096	\$944 \$1.860	\$0 N/A	\$944 \$1.860	\$1,186 \$2.956	\$183,22
Recorded PEB/PEBt (%) (Minimum 75%)	71.63%	0.00%	0.00%	0.00%	27.51%	\$1,860 69.30%	N/A N/A	69.30%	\$2,956 44.33%	\$137,03 293.1
Recorded PEB/PEBI (%) (Minimum 75%) Recorded Earnings	\$45.665	\$0	\$0.00%	\$0	\$46	\$116	N/A N/A	\$116	\$162	\$36.16
TRC BCR, with Earnings	0.18	0.00	0.00	0.00	0.18	0.58	N/A	0.26	0.24	\$30,10
UC BCR, with Earnings	0.16	0.00	0.00	0.00	0.16	0.58	N/A	0.26	0.24	2.
Earnings Distribution Share (1st Claim)	25%	25%	25%	25%	25%	25%	25%	25%	25%	2:
Earnings Claim for Recovery (1st Claim)	\$11	\$0	\$0	\$0	\$11	\$29	N/A	\$29	\$40	\$9,04
Second Earnings Claim:										
Recorded Measurement Costs (3)	\$22	\$45	\$26	\$9	\$102	\$15	\$0	\$15	\$117	\$1,01
Earnings Distribution Share	50%	50%	50%	50%	50%	50%	50%	50%	50%	5
Recorded Earnings for Second Claim	\$23	\$0	\$0	\$0	\$23	\$58	N/A	\$58	\$81	\$18,24
Earnings Recovered from First Claim	\$11	\$0	\$0	\$0	\$11	\$29	N/A	\$29	\$40	\$9,04
Recorded Incremental Earnings	\$11	\$0	\$0	\$0	\$11	\$29	N/A	\$29	\$40	\$9,20
Third Earnings Claim:										
Recorded Measurement Costs (3)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Earnings Distribution Share	75%	75%	75%	75%	75%	75%	75%	75%	75%	7:
Recorded Earnings for Third Claim	75% \$34	75% \$0	75% \$0	75% \$0	\$34	75% \$87	75% N/A	\$87	\$121	\$27,72
Earnings Recovered from First and Second Claims	\$23	\$0	\$0	\$0	\$23	\$58	N/A	\$58	\$81	\$18.2
Recorded Incremental Earnings	\$11	\$0	\$0	\$0	\$11	\$29	N/A	\$29	\$40	\$9,4
Fourth Earnings Claim:										
Recorded Measurement Costs (3)										
Earnings Distribution Share	100%	100%	100%	100%	100%	100%	100%	100%	100%	10
Recorded Earnings for Fourth Claim										
Earnings Recovered from 1st, 2nd, and 3rd Claims										
Recorded Incremental Earnings										
<u> </u>	\$11	\$0	\$0	\$0	\$11	\$29				

Table TA8-2 Earnings Verification & Recovery Process: Program Years 1990-1997

EARNINGS Proceeding	Program	Earnings Initial Earnings	Lifecycle) Authorized				EAR	RNINGS F	\$ in Millio		RATES			
and Program Year Elements	Expenditures (\$ Millions)	Claim (\$ Millions)	Amount (\$ Millions)	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2000 - 2007
TOTALS	193.00	159.11	110.22	0.00	0.70	2.36	5.36	7.69	8.11	13.25	19.49	14.39	0.00	0.00
PROGRAM YEAR 1990 (1) (2) 1. Retrofit EEI (SS)	3.88	1.80	1.80		0.60	0.60	0.60							
2. New Construction (3)	0.65	0.29	0.29		0.10	0.10	0.10							
EM Services (PA)	0.00	0.00	0.00		0.00	0.00	0.00							
Direct Assistance (PA) Total	0.15 4.68	0.00 2.09	0.00 2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PROGRAM YEAR 1991 (4) (5)	4.00	2.03	2.03	0.00	0.70	0.70	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Retrofit EEI (SS)	14.92	46.94	4.30			1.43	1.43	1.43						
New Construction (3)	2.73	0.65	0.60			0.20	0.20	0.20						
EM Services (PA)	0.00	0.00	0.00			0.00	0.00	0.00						
Direct Assistance (PA) Total	4.58 22.23	0.08 47.67	0.10 5.00	0.00	0.00	0.03 1.66	0.03 1.66	0.03 1.66	0.00	0.00	0.00	0.00	0.00	0.00
PROGRAM YEAR 1992 (6)	22.23	47.07	5.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Retrofit EEI (SS)	19.77	10.20	8.37				2.79	2.79	2.79					
2. New Construction (3)	4.40		0.50				0.17	0.17	0.17					
EM Services (PA)	1.59	0.07	0.06				0.02	0.02	0.02					
Direct Assistance (PA) Total	5.46 31.21	0.08 10.97	0.07 9.00	0.00	0.00	0.00	0.02 3.00	0.02 3.00	0.02 3.00	0.00	0.00	0.00	0.00	0.00
PROGRAM YEAR 1993 (7)	31.21	10.97	9.00	0.00	0.00	0.00	3.00	3.00	3.00	0.00	0.00	0.00	0.00	0.00
Retrofit EEI (SS)	19.06	7.95	7.95					2.65	2.65	2.65				
2. New Construction (3)	3.37	0.99	0.99					0.33	0.33	0.33				
EM Services (PA)	1.42		0.06					0.02	0.02	0.02				
Direct Assistance (PA) Total	5.39 29.24	0.09 9.10	0.09 9.10	0.00	0.00	0.00	0.00	0.03 3.03	0.03 3.03	0.03 3.03	0.00	0.00	0.00	0.00
PROGRAM YEAR 1994 (8)	29.24	9.10	9.10	0.00	0.00	0.00	0.00	3.03	3.03	3.03	0.00	0.00	0.00	0.00
Retrofit EEI (SS)	18.12	6.21	6.52						1.55	1.54		0.00		
2. New Construction (3)(11)	4.84	1.93	1.23						0.48	-0.43	0.13	0.00		
EM Services (PA)	2.06		0.06						0.02	0.02		0.00		
Direct Assistance (PA)	5.12		0.11						0.03	0.03		0.00		
Total PROGRAM YEAR 1995 (9)	30.14	8.97	7.92	0.00	0.00	0.00	0.00	0.00	2.07	1.16	0.13	0.00	0.00	0.00
Retrofit EEI (SS)	31.22	32.43	31.44							7.66	8.08			
2. New Construction (3)	4.46		4.89							1.36	1.08			
3. EM Services (PA)	1.10		0.05							0.01	0.01			
Direct Assistance (PA)	4.15		0.12							0.03	0.03			
Total	40.92	39.23	36.50	0.00	0.00	0.00	0.00	0.00	0.00	9.06	9.20	0.00	0.00	0.00
PROGRAM YEAR 1996 (10) 1. Retrofit EEI (SS)	22.76	30.33	29.85								7.46	7.72		
New Construction (3)	2.93	10.56	10.56								2.64	2.53		
3. EM Services (PA)	3.61	0.07	0.07								0.02	0.02		
Direct Assistance (PA)	5.27	0.14	0.14								0.04	0.04		_
Total	34.57	41.09	40.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.15	10.30	0.00	0.00
PROGRAM YEAR 1997 1. Retrofit EEI (SS)	16.22	11.81										2.91		
New Construction (SS)	4.10	5.57										1.07		
Fuel Substitution (SS)	0.13	0.28										0.07		
EM Services (PA)	2.35	0.06										0.02		
5. Direct Assistance (PA)	2.09			0.55	0.5-	0.5-	0.5-		0.07	0.5-	0.5-	0.02		
Total	24.89	17.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.09	0.00	0.00

- (1) 1990 Collaborative programs only; excludes 1989 GRC programs.
 (2) PY90 earnings claim approved in D.91-10-046.
 (3) New Construction Program earnings are calculated using both the Variable Performance Adder Mechanism and the Shared Savings Mechanism.
 (4) 1991 Collaborative programs only; excludes 1989 GRC programs.
 (5) PY91 earnings claim approved in D.92-12-019.
 (6) PY92 earnings claim approved in D.93-12-017.
 (7) PY93 earnings claim approved in D.94-12-021.
 (8) PY94 first earnings claim approved in D.95-12-054, second earnings claim approved in D.96-12-079.
 (9) PY95 first earnings claim approved in D.98-03-063.
 (10) PY96 first earnings claim approved in D.98-03-063.
 (11) PY96 first earnings claim approved in D.98-03-063.
 (12) PY97 first earnings claim approved in D.99-03-0652.
 (13) Revised PY94 second earnings claim for Nonresidential New Construction approved in D.98-03-068.
 (12) PY97 first earnings claim approved in D.99-06-052

MISCELLANEOUS

Pre-1998 Commitments

The Commission in Decision 97-09-117, Ordering Paragraph 12, directed PG&E, SDG&E, SCE, and SoCalGas (collectively referred to as "utilities") to modify the scope and content of their Annual DSM Reports to include a separate section identified as pre-1998 program commitments. Utilities were to work with the California Board for Energy Efficiency to ensure reporting consistency and continuity between utility filings and annual DSM reports. Table 9-1 provides the 1998 expenditures associated with pre-1998 commitments. An explanation of the commitments is provided below.

Residential Programs

The pre 1998 Residential Energy Efficiency programs actual expenditures reflect payments made for services bought or labor occurring after SDG&E's 1997 year-end cut-off dates for 1997 business.

Nonresidential Programs

The pre 1998 Non-Residential Energy Efficiency programs actual expenditures reflect payments made for services bought or labor occurring after SDG&E's 1997 year-end cut-off dates for 1997 business. In addition, payments were made to customers based on prior contractual agreements.

New Construction Programs

The pre 1998 New Residential and Nonresidential New Construction programs actual expenditures reflect payments made for services bought or labor occurring after SDG&E's 1997 year-end cut-off dates for 1997 business. There were no expenditures for these programs in 1999.

Load Management

See Section III Load Management program for a description of program activities.

MFRR

See Section VI MFRR for a description of 1999 activities.

Other DSM

The 1999 Other DSM expenses are related to 1997 computer systems, management labor, and equipment lease costs occurring after SDG&E's 1997 year-end cut-off dates for 1997 business.

DSM Financing Rate

In December 1993, SDG&E received approval from the CPUC to establish a pilot financing program. Using DSM funds, the program provides a customer with the ability to finance the cost (total project cost minus SDG&E incentive) of acquiring and installing energy efficient

equipment. Financing is available on equipment that qualifies under SDG&E nonresidential DSM incentive programs.

The amount financed is reimbursed to SDG&E through a \$/kWh surcharge applied to a participating customer's monthly energy bill. The surcharge is based upon an expected reimbursement term, estimated annual consumption, and the amount financed by SDG&E.

In 1998, SDG&E no longer offered the DSM Financing Rate program. However, SDG&E was contractually obligated to continue administration and track activities related to the outstanding financing rate agreements. As shown in Table 9-2, there were no customer repayment defaults in 1999 for this program. The December 1999 year-end balance is \$925,243.

In 2000, SDG&E will continue to administer and track activities related to the outstanding financing rate agreements.

Table 9-1
Demand-Side Management Annual Expenditure Report

(Pre-1998 DSM Commitments Only)

Annual Estimated Commitments¹ & 1999 Year-End Actuals (\$Thousands)

	1999											
		Elec	tric			Ga	as			To	tal	
Program Category	Cor	nmitment	YTI	D Actual	Co	mmitment	ΥT	D Actual	Со	mmitment	ΥT	D Actual
(a)		(b)		(c)		(d)		(e)	(b)+(d)=(f)	(c	+(e)=(g)
Energy Efficiency ²												
Residential												
Appliance Efficiency Incentives	\$	-	\$	(0)	\$	-	\$	-	\$	-	\$	(0)
DSM Bidding Pilot	\$	1,913	\$	919	\$	478	\$	177	\$	2,391	\$	1,096
Energy Management Services	\$	_	\$	(0)	\$	-	\$	(0)	\$	_	\$	(0)
New Construction	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Information	\$	-	\$	(0)	\$	-	\$	(0)	\$	-	\$	(0)
Subtotal	\$	1,913	\$	919	\$	478	\$	177	\$	2,391	\$	1,096
Nonresidential												
Energy Efficiency Incentives ⁵	\$	-	\$	9	\$	_	\$	1	\$	-	\$	11
DSM Bidding Pilot	\$	-	\$	-	\$	_	\$	-	\$	-	\$	-
Energy Management Services	\$	-	\$	(0)	\$	_	\$	(0)	\$	-	\$	(0)
New Construction	\$	-	\$	0	\$	-	\$	0	\$	-	\$	0
Information	\$	-	\$	0	\$	-	\$	0	\$	-	\$	0
Subtotal	\$	-	\$	9	\$	-	\$	1	\$	-	\$	11
Energy Efficiency Subtotal	\$	1,913	\$	928	\$	478	\$	179	\$	2,391	\$	1,107
Low Income												
Non-mandatory	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Mandatory	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Low Income Subtotal	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Load Management ³	\$	170	\$	33	\$	-	\$	-	\$	170	\$	33
Fuel Substitution	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Load Retention & Load Building	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
MFRR												
Program Measurement	\$	640	\$	605	\$	160	\$	199	\$	800	\$	803
Demand Forecasting & Planning	\$	-	\$	57	\$	-	\$	15	\$	-	\$	72
Reg. Compliance & Reporting	\$	-	\$	54	\$	-	\$	11	\$	-	\$	65
MFRR Subtotal	\$	640	\$	715	\$	160	\$	225	\$	800	\$	940
Other DSM ²	\$	-	\$	3	\$	-	\$	1	\$	-	\$	4
DSM Total (Pre-1998 Commitments)	\$	2,723	\$	1,679	\$	638	\$	405	\$	3,361	\$	2,084
Low Income Total Only	\$	-	\$	-	\$	-	\$	-	\$	-	\$	
DSM w/o Low Income Total	\$	2,723	\$	1,679	\$	638	\$	405	\$	3,361	\$	2,084

¹⁻ Figures represent estimated costs associated with pre-1998 DSM activities including customer incentives, expected admin. costs, unpaid invoices and all other encumbrances.

⁵- 1999 settlement of 1997 contractor issues.

Pre-1998 DSM Balancing Account										
Electric	Gas	Total								
(u)	(v)	(u)+(v)=(w)								

Pre-1998 DSM/Bidding B/A Balance 4 \$ 10,727 \$ 12,689 \$ 23,416

²- The Year-To-Date Actual balances in program areas not addressed in earlier filings primarily result from the timing of year-end accruals or recording of 1997 DSM expenditures after cut-off date for 1998 business.

³⁻ Load Management commitment dollars represent annual projected expenditures. These estimated amounts relate to costs associated with the continued maintenance of existing partial and enrollment of new customers that qualify for the rate schedule(s). Load management budgetary requirements are assumed for reporting purposes to extend only through 2008, commitment dollars may be needed for year 2009 and beyond.

⁴⁻ Includes interest through December, 1999 (preliminary, unaudited). In addition this balance doesn't include the impact of Low Income expenditures of \$4,081,428 through December 1\$

Table 9-2 1999 DSM FINANCING RATE

	DSM Financing Rate Activity Summary												
	Jan '99 Beginning Balance [1]	Contracted Amount Released [2]	Interest Charged [3]	Customer Repayments [4]	Dec'99 Balance(a) (1+2+3-4) [5]	Admin Costs							
Energy Efficiency Loans	\$2,635,696	\$0	\$89,547	\$1,800,000	\$925,243	\$18,796							

(a) To-date, there have been no defaults on Financing Rate agreements.