

**CALIFORNIA STATEWIDE COMMERCIAL SECTOR
NATURAL GAS ENERGY
EFFICIENCY POTENTIAL STUDY**

Study ID #SW061

FINAL REPORT

**VOLUME 2 OF 2
Appendices**

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MAY 14, 2003

Funded with California Public Goods Charge Energy Efficiency Funds

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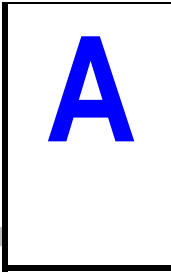
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DEVELOPMENT OF BASELINE AND ENERGY EFFICIENCY DATA

This appendix describes the baseline and energy efficiency measure data used in the study. The remaining appendices contain a complete listing of the data used in our modeling process.

A.1 BASELINE DATA

The principal baseline data used in this study consist of end use and technology specific data as well as economic data (avoided costs and commercial rates).

A.1.1 End Use and Technology Specific Data

Estimating the potential for energy-efficiency improvements requires a comparison of the energy impacts of existing, standard-efficiency technologies with those of alternative high-efficiency equipment. This, in turn, dictates a relatively detailed understanding of the statewide energy characteristics of the existing marketplace. Data that were required at the utility service area and building type level for each end use studied included:

- Annual natural gas consumption per business;
- End use saturations, and
- Technology shares.

Sources for and development of each of these key data elements are discussed in the following subsections.

End Use Energy Consumption

The primary sources for the end-use energy consumption estimates were the PG&E and SDG&E Commercial End Use Studies (CEUS) (PG&E 1999; SDG&E 1999). In the end-use forecasting approach, end-use natural gas consumption is expressed as the product of building floor space (in square feet), the fraction of floor space associated with a given end-use fuel (the end-use fuel saturation), and the EUI (the energy-use intensity of an end use expressed in therms per square foot). These three data elements have been collected and estimated from various sources over time and utilized as key inputs into the CEC natural gas forecasts. After review of the CEC commercial forecast inputs, we determined that their end use detail was not sufficiently reliable for this study (in contrast to the CEC's end-use electric data, which was determined to be more reliable and consistent with utility end use estimates). We therefore relied more heavily on the utility EUI and saturation data from the CEUS studies to develop our baseline natural gas end-use consumption and intensity estimates. CEC commercial floorspace estimates we then recalibrated to ensure that the product of the EUI's, saturations, and floorspace equaled current estimates of commercial natural gas usage.

Figure A-1 summarizes commercial natural gas usage by business type. In 2000, commercial natural gas usage for the three major California natural gas utilities was about 2,100 Mth. Restaurants account for the largest share of natural gas usage at around 22 percent, or roughly 461 Mth. The next largest gas-consuming building types were miscellaneous buildings (such as auto repair shops), accounting for about 16 percent of commercial usage or about 333 Mth.

**Figure A-1
Commercial Natural Gas Usage by Building Type within the Major IOU territories**

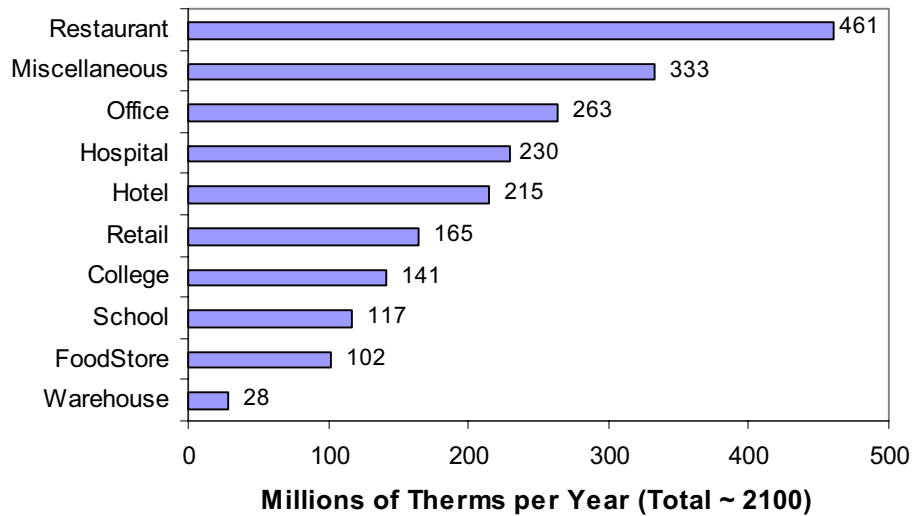
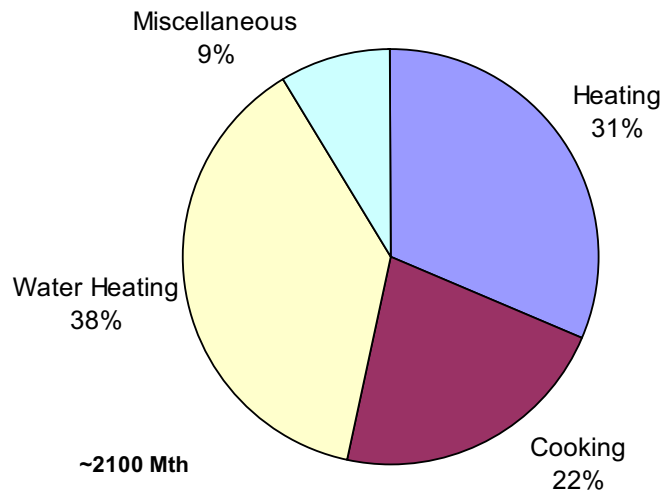


Figure A-2 summarizes commercial natural gas consumption by end use. Our final EUIs are shown, by technology, in Appendix C. As indicated in the figure, water heating and space heating are by far the largest users of natural gas, accounting for 38 percent (782 Mth) and 31 percent (643 Mth) of total commercial consumption respectively. Cooking is the next largest end use, accounting for about 22 percent of total consumption.

**Figure A-2
Commercial Natural Gas End-Use Breakdown for Major IOUs**



Source: PG&E, SCE, and SDG&E CEUS and XENERGY analysis.

A.1.2 Energy Cost Data

Energy cost data is another important component of this study. These data are described in Section 5. Tables A-4 and A-5 summarize our natural gas energy cost and rate assumptions.

**Table A-1
Summary of Base Energy Cost Element**

Cost Type	Description	Source
Avoided Costs	Annual avoided cost averages 46 cents per therm and remains relatively unchanged in real terms throughout the forecast horizon.	CPUC authorized avoided costs for 2002 program cost-effectiveness analyses (CPUC 2001).
Commercial Rates	Annual average rate of 56 cents per therm in 2003 that remains relatively flat, in real terms, throughout the forecast horizon.	EIA average commercial prices for California, 12 months ending March 2000; CPUC authorized avoided costs for 2002 program cost-effectiveness analyses (CPUC 2001).

**Table A-2
Summary of Low and High Energy Cost Elements**

Cost Type	Energy Costs Element	
	Low	High
Avoided Costs	50 percent lower than Base avoided costs.	50 percent higher than Base avoided costs.
Commercial Rates	50 percent lower than Base avoided costs.	50 percent higher than Base avoided costs.

A.2 ENERGY EFFICIENCY MEASURE DATA

This subsection presents information on the energy efficiency measures included in the study. Cost and savings fraction sources are listed and measure descriptions are provided.

A.2.1 Measures Included

The set of measures included in this potential study is shown in Table A-3 below. In reviewing this list, readers should be aware of the following:

- Measures are generally organized around base case technologies. These base case technologies are intentional aggregations of the wide variety of actual base case technologies in the market. Thus, the measure list for the potential study is not as detailed as measure lists that are necessary for actual program implementation.
- The measures shown in the tables were selected by starting with the *DEER 2001 Update Study*, with some aggregation to prototypical applications. We then reviewed utility and third-party PY2002 filings and program documentation and added measures that could have significant potential but were not on the DEER list. Another key source was the *Conservation Potential Study* conducted by XENERGY for SCG in 1992 (XENERGY 1992b). We also identified and reviewed other sources of information on gas measures including publications from the Federal Energy Management Program, industry organizations, and others.

**Table A-3
Commercial Natural Gas Measure List**

End Use	Measure #	Measure Name
Heating	100	Base Heating
Heating	102	Ceiling Insulation (In Situ R5 to R24)
Heating	105	Double Pane Low Emissivity Windows
Heating	107	Duct Insulation Installed
Heating	113	HE Furnace/Boiler 95% efficiency (In Situ Base = 82%)
Heating	115	Boiler- Heating Pipe Insulation
Heating	117	Boiler Tune-Up
Heating	119	EMS install
Heating	121	EMS Optimization
Heating	127	Heat Recovery from Air to Air
Water Heating	200	Base Water Heating
Water Heating	201	HE Gas Water Heater 95% Efficiency (Base=76%)
Water Heating	203	Instant Water Heater <=200 MBTUH
Water Heating	205	Circulation Pump Timeclocks Retrofit
Water Heating	208	Tank Insulation
Water Heating	209	Pipe Insulation
Water Heating	211	Low Flow Showerheads
Water Heating	212	Faucet Aerator
Water Heating	213	Solar DHW System Active
Cooking	300	Base Cooking
Cooking	302	Efficient Infrared Griddle
Cooking	303	Convection Oven
Cooking	305	Infrared Conveyer Oven
Cooking	306	Infrared Fryer
Cooking	312	Power Burner Oven
Cooking	313	Power Burner Fryer
Pool Heating	400	Base Pool Heating
Pool Heating	401	HE Pool Heater, Eff.=0.97
Pool Heating	402	Pool Cover
Pool Heating	403	Solar Pool Heater

A.2.2 Measure Cost and Savings Sources

Most of the measure cost and savings data for this study were developed as part of the DEER 2001 Update study. Part of that study involved collection and analysis of residential and commercial measure cost data. All measure cost and savings estimates are shown in Appendix C.

A.2.3 Existing Energy-Efficient Measure Saturations

In order to assess the amount of energy efficiency savings available, estimates of the current saturation of energy efficient measures were developed from available data sources. Key sources for this study were the utility CEUS data. For “replace on burnout” measures such as high efficiency boilers and furnaces, saturations were based on rough estimates of current market penetrations.

A.2.4 Description of Measures Included in the Study

This subsection provides brief descriptions of the measures included in this study.

HVAC - Shell

Ceiling Insulation: Installing fiberglass or cellulose insulation material in floor, wall or roof cavities will reduce heat transfer across these surfaces. The type of building construction limits insulation possibilities. Choice of insulation material will vary depending on the roof construction type. Nominal R-values are used as the performance factor for insulation levels. The overall R-values include the thermal resistances of construction layers (gypsum, air gaps, framing, sheathing, concrete, roofing, etc.). One ceiling insulation measure is included in this study: increasing insulation from R-5 to R-24.

Double Pane Low Emissivity Windows: The important energy performance parameters for windows are U-value, shading coefficient, visible light transmission and air leakage. The window U-value will vary as a function of the number of panes, gap thickness, gap fill (air or inert gas), presence of low-emissivity (low-e) coatings, and frame type. The shading coefficient and visible transmission will vary as a function of glass type and low-e coatings. Air leakage will depend on the type of frame and window design (casement vs. slider). Replacing single pane with double pane windows reduces the U-value and heat transfer considerably. Adding a low-e coating will improve the U-value by about 15%.

Duct Insulation: Insulation material inhibits the transfer of heat through the air-supply duct. Several types of ducts and duct insulation are available, including flexible duct, pre-insulated flexible duct, duct board, duct wrap, tacked or glued rigid insulation, and water proof hard shell materials for exterior ducts.

High-Efficiency Furnace/Boilers: High-efficiency condensing gas furnaces and boilers have AFUEs of greater than 90% compared to base efficiencies in the 80% range.

For furnaces, efficiencies above 90% can be achieved with a number of technologies, pulse combustion being just one of many design approaches. High-efficiency gas furnaces can be installed in new construction or can be retrofitted to existing commercial structures which have other heating systems. In most cases, a condensate drain must be added and a new or modified venting system must be installed.

Condensing boilers are available which operate with thermal efficiencies as high as 95% or more. These condensing units achieve their high efficiency by operating with stack gas temperatures around 100°F. At this low stack temperature the water vapor in the products of combustion is condensed. When the water vapor is condensed, its latent heat from the phase change is recovered, resulting in very high efficiencies.

Boiler Pipe Insulation: Insulating accessible steam or hot water supply pipes in the boiler room is a cost-effective way to save energy. Savings will vary depending on the temperature of the hot water or steam and the ambient temperature. An estimate of 2% savings are utilized in this study.

Boiler Tune-Up: A high-efficiency boiler tune-up performed by a properly trained technician can improve average combustion efficiency by 2 to 10 percent. To ensure that the boiler tune-up is a success, the tune-up technician should use an electronic flue-gas analyzer that is capable of continuously monitoring stack temperature, oxygen (O₂ in percent), and carbon monoxide (CO in ppm). In addition, the technician should determine the boiler's actual gas input rate (cubic feet per minute). Some boilers can't be tuned up because there is no way to control the excess air or gas flow. Before examining this measure the technician or auditor must determine if the boiler is tunable. For this study, a conservative savings estimate of 2% was utilized.

EMS installation: The term Energy Management System (EMS) refers to a complete building control system which usually can include controls for both lighting and HVAC systems. The HVAC control system may include on/off scheduling and warm-up routines. The complete lighting and HVAC control systems are generally integrated using a personal computer with control system software.

EMS optimization: Energy management systems are frequently underutilized and have hundreds of minor inefficiencies throughout the system. Optimization of the existing system frequently results in substantial savings to the measures controlled by the EMS (e.g. lighting, HVAC) by minimizing waste.

Heat Recovery: Air-to-Air Heat Exchangers: Air-to-air heat exchangers can be used to transfer heat between the intake ventilation air stream and the HVAC exhaust air stream. During periods when the outside air is colder than the inside air, the heat exchanger transfers heat from the exhaust air to the incoming air reducing heating energy use. When the outside air is warmer than the inside air, the heat exchanger transfers heat from the incoming air to the exhaust air, lowering the temperature of the incoming air, and reducing cooling energy use. Installing an air-to-air heat exchanger will cause a slight increase in fan energy due to increased air flow resistance through the heat exchanger. The increase in fan energy is more than compensated for by energy savings in buildings with high outdoor air ventilation requirements. Air-to-air heat exchangers are most cost-effective in buildings having high outdoor air ventilation rates such as hospitals, hotels (kitchens), and restaurants.

Water Heater

Gas Water Heater: Efficient Gas Water Heaters consist of a high efficiency natural gas, storage-type hot water heater and tank. According to the State of California Appliance Standards, the minimum efficiency level for gas water heaters is $EF=0.62-0.0019*(\text{storage volume in gallons})$. (CEC 1991B) Many small commercial buildings and even some large commercial buildings use residential-sized water heaters to meet their needs for hand washing in restrooms or janitorial purposes (i.e. small office, small retail, supermarket, warehouse). There are four categories of residential-sized gas-fired, storage-type water heaters: condensing gas water heaters (0.86 EF), high efficiency gas water heaters (0.70 EF), efficient gas water heaters (0.62 EF), and standard water heaters (0.54). This study uses and upgrade from a 76% to a 95% system efficiency.

Instantaneous or Demand Hot Water Heater: Demand water heaters are available in propane (LP), natural gas, or electric models. Unlike "conventional" tank water heaters, tankless or instantaneous water heaters heat water only as it is used, or on demand. A tankless unit has a heating device that is activated by the flow of water when a hot water valve is opened. Once activated, the heater delivers a constant supply of hot water. The output of the heater, however, limits the rate of the heated water flow. They come in a variety of sizes for different applications, such as a whole-building water heater, a hot water source for a remote bathroom, or as a boiler to provide hot water for a heating system. They can also be used as a booster for dishwashers, washing machines, and a solar or wood-fired domestic hot water system. They are either installed centrally or at the point of use, depending on the amount of hot water required.

DHW Circulation Pump Timeclock Retrofit: Installing a time clock on the circulation pump for the domestic hot water system can reduce demand during periods when the building is unoccupied. Since, systems must be protected from damage from freeze in all California climates timeclocks may include an override setting if the temperature reaches below a pre-determined set point.

Tank Insulation: Commercial water heater insulation is available either by the blanket or by square foot of fiberglass insulation with protective facing. Insulation blankets range from 50 to 82 gallon tank sizes, with thicknesses of 2 to 4 inches, and R-values ranging from 5 to 14. Many retailers and wholesalers surveyed suggested using two or more blankets for larger tanks, and double-wrapping tanks for increased R-value. They also note that squeezing the blanket to fit into tight applications lowers the R-value.

DHW Pipe Insulation: The first five feet of pipe closest to the domestic water heater should be insulated. Small pipes are insulated with cylindrical half-sections of insulation with factory applied jackets that form a hinge-and-lap or with flexible closed cell material. Current Title 24 Energy Standards require insulation only on the portion of DHW piping through which water is recirculated. Some energy savings are possible by insulating non-recirculating branch piping, depending on the frequency of hot water use through this piping. If usage is infrequent, savings will be low.

Low Flow Shower Heads: Standard non conserving shower heads have a flow rate of 3.5 to 6 gallons per minute (gpm at 80 psi). Typical water saving shower heads use 1 to 2.4 gpm and are designed to provide a good quality shower with less water. Water saving shower heads are available in a variety of styles to produce vigorous or misty showers. Current California standards require measured flow rates of no greater than 2.45 gpm (at 80 psi) for all shower heads.

Faucet Aerators: Standard non conserving faucet aerators have a flow rate of 3-5 gpm (at 40 to 60 psi). Water saving faucet aerators for bathroom applications have flow rates of 0.5-1.0 gpm and water saving faucet aerators for kitchen applications have average flow rates of 1.5-2.0 gpm. The kitchen requires a slightly greater flow rate to wash dishes and food and also to fill pots when cooking. A lower flow rate in bathrooms is allowable for the tasks of washing hands and faces, brushing teeth or shaving. Water saving faucet aerators deliver water at a lower flow rate, but there is usually no perceptible reduction in service because the aerators are designed to entrain more air into the water, creating a foamier flow that tends to wet objects more thoroughly rather than water bouncing off objects.

Active Solar DHW Systems: Solar water heaters preheat water supplied to a conventional domestic hot water heating system. In addition to system design and component quality, solar water heater performance depends on solar radiation, outdoor temperature, and daily water use. There are active and passive solar DHW system. This study uses an active solar system.

Active solar systems preheat the water that is fed to a conventional domestic water heater. The components of active systems are one or more flat plate collectors, a storage tank, a pump, piping, and controls. Systems must be protected from damage from freeze in all California climates. Active systems typically are less cost-effective than passive systems. The energy savings for these systems depend on solar radiation, air temperatures, and water temperature at the site and the hot water use pattern. Solar system savings per collector area decline as the fraction of total load met increases. The cost-effectiveness of the system is a linear function of the price of conventional fuel.

Cooking Appliances

Infrared Griddle: A griddle is a thick slab of flat steel heated from below by electric or gas burners. Electric griddles are rated at 3-32 kW, and gas griddles are rated at 60-80 kBtu/hour. In an infrared (IR) griddle, standard burners are replaced with a porous ceramic plate having about 200 holes per inch. Combustion is designed to take place very near the ceramic burner surface, causing it to glow red at a temperature of about 1,650° F. Efficiency is increased because the red-hot ceramic burner increases heat transfer to the griddle plate.

Convection Oven: Convection ovens use a small fan to circulate hot air within the oven cavity. Circulating air can heat food more efficiently than the still air found in conventional ovens. The hot air in the oven can be heated by gas or electricity. In general, a convection oven will save

30% of the energy used by an oven. These savings result from burners cycling off for a longer period of time.

Instantaneous Infrared Broiler/Conveyor Oven: The instantaneous infrared broiler uses the weight of the food or plate to actuate the broiler flame instead of leaving the flame burning continuously. The broiler is designed to reach full operating temperatures quickly, eliminating preheat time.

Catalytic Infrared Fryer: Fryers cook foods by submerging them in hot animal or vegetable oils. The oil is heated by gas-burners with the flame traveling through several tubes that are submerged in the oil. Gas-fired fryers have ratings of 72-163 kBtu/hour and can cook 50-160 lb/hour of french fried potatoes. Average expected life for a gas fired fryer is about 10 to 14 years depending on how much the fryer is used. Standard natural gas-fired fryers are about 50% efficient. Infrared fryers use internal fins or other heat-absorbing obstructions attached to the inside of the tubes. The fins or obstructions pick up more heat from the flame, resulting in less exhausted heat (lower temperature exhaust). Infrared fryers are about 65% efficient. Catalytic fryers have woven wire or steel wool-like material inside the fire tubes. These materials capture even more heat from the flame that can then be radiated to the tube walls and to the oil. Catalytic infrared fryers are about 72% efficient and save about 30% of the energy used by standard gas-fired fryers.

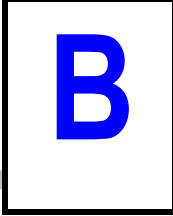
Power Burner Range/Fryers: The power burner range is an improved atmospheric burner. The term "power" means that a blower drives gas and air flow to the burner. Gas and air are mixed in a plenum and the mixture is regulated to achieve more efficient combustion. During combustion, the flame moves sideways from the burner and impinges on a bowl made of low-carbon stainless steel located underneath the burner. This bowl glows bright orange and increases the amount of radiant heat transmitted to the cooking utensil. The power burner can be adjusted from a maximum of 20,000 Btu/hour down to 6 Btu/hour and has a design life expectancy of 7 years. The thermal efficiency of the power burner is 63% compared to 42% for standard atmospheric burners found on conventional cooktop ranges and conventional fryers.

Pools

Pool Heater: High efficiency pool heaters are now available with efficiencies of over 90%. These heaters utilized technologies similar to those of high efficiency boilers.

Pool Cover: Installing a pool cover is one of the most cost-effective ways to reduce energy use with a heated swimming pool. Pool covers typically save about 50 to 65% of the energy used to heat the pool if the cover is on 12 hours per day. A pool cover entirely eliminates evaporative heat losses, and reduces convective and radiative heat losses. Pool covers are available in three basic styles; transparent bubble covers similar to very thick bubble wrap type packaging, thin transparent plastic covers, and insulating opaque foam covers. The plastic bubble cover is the most widely used type of cover. Covers can be installed with an automatic or manual roller to allow easier on-off operation. Security pool covers attach firmly to the edges of the pool, preventing small children from accidentally falling under the cover and into the pool.

Solar Pool Heater: One of the most common solar pool heaters used in California is a draindown system that uses a differential thermostat. The pool filter pump is used to pump pool water through the solar collector. When it's cloudy or when the sun goes down, a sensor tells the control unit to shut the system off and water is drained from the solar collector back into the pool. The modes are controlled by solenoid valves or other automatic valves in conjunction with a vacuum breaker relief valve, which allows draindown.



ECONOMIC INPUTS

APPENDIX B

ECONOMIC INPUTS

ECONOMIC PARAMETERS

UTILITY NAME	Statewide
SECTOR	Commercial
BATCH #	1
UTILITY DISCOUNT RATE	8.0%
CUSTOMER DISCOUNT RATE	15.0%
GENERAL INFLATION RATE (Measu	3.0%
BASE YEAR	2003
START YEAR	2003
DIFFERENCE	0
UTILITY LINE LOSS RATE	2.5%

**BASE ECONOMIC SCENARIO
NATURAL GAS**

ENERGY COSTS AND RATES

RATE TYPE	Commercial
ENERGY UNITS	\$/therm
DEMAND UNITS	n/a

Rate/Time Periods	1	2	3	5	6	
	Summer	Summer	Summer	Winter Partial-	Winter Off-	
Name	On-Peak	Partial-Peak	Off-Peak	Peak	Peak	
Abbreviation	SOP	SPP	SOFF	WPP	WOFF	TOTAL
Hours	768	896	2752	1638	2706	8760
Monthly Adjustment for rates	6	0	0	6	0	

Year	AVOIDED ENERGY COSTS BY TIME PERIOD					AVOIDED DEMAND COSTS BY TIME PERIOD					Residential ENERGY RATES					Environmental Adder to be Subtracted for RIM \$/Therm
	SOP \$/Therm	SPP \$/Therm	SOFF \$/Therm	WPP \$/Therm	WOFF \$/Therm	SOP \$/Therm	SPP \$/Therm	SOFF \$/Therm	WPP \$/Therm	WOFF \$/Therm	SOP \$/Therm	SPP \$/Therm	SOFF \$/Therm	WPP \$/Therm	WOFF \$/Therm	
2003	0.460	0.460	0.460	0.460	0.460	0.00	0.00	0.00	0.00	0.00	0.565	0.565	0.565	0.565	0.565	0.060
2004	0.430	0.430	0.430	0.430	0.430	0.00	0.00	0.00	0.00	0.00	0.528	0.528	0.528	0.528	0.528	0.060
2005	0.440	0.440	0.440	0.440	0.440	0.00	0.00	0.00	0.00	0.00	0.540	0.540	0.540	0.540	0.540	0.060
2006	0.470	0.470	0.470	0.470	0.470	0.00	0.00	0.00	0.00	0.00	0.577	0.577	0.577	0.577	0.577	0.070
2007	0.490	0.490	0.490	0.490	0.490	0.00	0.00	0.00	0.00	0.00	0.602	0.602	0.602	0.602	0.602	0.070
2008	0.510	0.510	0.510	0.510	0.510	0.00	0.00	0.00	0.00	0.00	0.626	0.626	0.626	0.626	0.626	0.070
2009	0.530	0.530	0.530	0.530	0.530	0.00	0.00	0.00	0.00	0.00	0.651	0.651	0.651	0.651	0.651	0.070
2010	0.550	0.550	0.550	0.550	0.550	0.00	0.00	0.00	0.00	0.00	0.675	0.675	0.675	0.675	0.675	0.070
2011	0.500	0.500	0.500	0.500	0.500	0.00	0.00	0.00	0.00	0.00	0.614	0.614	0.614	0.614	0.614	0.080
2012	0.520	0.520	0.520	0.520	0.520	0.00	0.00	0.00	0.00	0.00	0.638	0.638	0.638	0.638	0.638	0.080
2013	0.540	0.540	0.540	0.540	0.540	0.00	0.00	0.00	0.00	0.00	0.663	0.663	0.663	0.663	0.663	0.080
2014	0.550	0.550	0.550	0.550	0.550	0.00	0.00	0.00	0.00	0.00	0.675	0.675	0.675	0.675	0.675	0.080
2015	0.580	0.580	0.580	0.580	0.580	0.00	0.00	0.00	0.00	0.00	0.712	0.712	0.712	0.712	0.712	0.090
2016	0.610	0.610	0.610	0.610	0.610	0.00	0.00	0.00	0.00	0.00	0.749	0.749	0.749	0.749	0.749	0.090
2017	0.630	0.630	0.630	0.630	0.630	0.00	0.00	0.00	0.00	0.00	0.773	0.773	0.773	0.773	0.773	0.090
2018	0.660	0.660	0.660	0.660	0.660	0.00	0.00	0.00	0.00	0.00	0.810	0.810	0.810	0.810	0.810	0.090
2019	0.690	0.690	0.690	0.690	0.690	0.00	0.00	0.00	0.00	0.00	0.847	0.847	0.847	0.847	0.847	0.100
2020	0.720	0.720	0.720	0.720	0.720	0.00	0.00	0.00	0.00	0.00	0.884	0.884	0.884	0.884	0.884	0.100
2021	0.740	0.740	0.740	0.740	0.740	0.00	0.00	0.00	0.00	0.00	0.908	0.908	0.908	0.908	0.908	0.100
2022	0.762	0.762	0.762	0.762	0.762	0.00	0.00	0.00	0.00	0.00	0.936	0.936	0.936	0.936	0.936	0.104
2023	0.785	0.785	0.785	0.785	0.785	0.00	0.00	0.00	0.00	0.00	0.964	0.964	0.964	0.964	0.964	0.107

APPENDIX B

ECONOMIC INPUTS

ECONOMIC PARAMETERS

**LOW ECONOMIC SCENARIO
NATURAL GAS**

UTILITY NAME	Statewide
SECTOR	Commercial
BATCH #	1
UTILITY DISCOUNT RATE	8.0%
CUSTOMER DISCOUNT RATE	15.0%
GENERAL INFLATION RATE (Measu	3.0%
BASE YEAR	2003
START YEAR	2003
DIFFERENCE	0
UTILITY LINE LOSS RATE	2.5%

ENERGY COSTS AND RATES

RATE TYPE	Commercial
ENERGY UNITS	\$/therm
DEMAND UNITS	n/a

Rate/Time Periods	1	2	3	5	6	
Name	Summer On-Peak	Summer Partial-Peak	Summer Off-Peak	Winter Partial-Peak	Winter Off-Peak	
Abbreviation	SOP	SPP	SOFF	WPP	WOFF	TOTAL
Hours	768	896	2752	1638	2706	8760
Monthly Adjustment for rates	6	0	0	6	0	

Year	AVOIDED ENERGY COSTS BY TIME PERIOD					AVOIDED DEMAND COSTS BY TIME PERIOD					Residential ENERGY RATES					Environmental Adder to be Subtracted for RIM \$/Therm
	SOP \$/Therm	SPP \$/Therm	SOFF \$/Therm	WPP \$/Therm	WOFF \$/Therm	SOP \$/Therm	SPP \$/Therm	SOFF \$/Therm	WPP \$/Therm	WOFF \$/Therm	SOP \$/Therm	SPP \$/Therm	SOFF \$/Therm	WPP \$/Therm	WOFF \$/Therm	
2003	0.230	0.230	0.230	0.230	0.230	0.00	0.00	0.00	0.00	0.00	0.282	0.282	0.282	0.282	0.282	0.060
2004	0.215	0.215	0.215	0.215	0.215	0.00	0.00	0.00	0.00	0.00	0.264	0.264	0.264	0.264	0.264	0.060
2005	0.220	0.220	0.220	0.220	0.220	0.00	0.00	0.00	0.00	0.00	0.270	0.270	0.270	0.270	0.270	0.060
2006	0.235	0.235	0.235	0.235	0.235	0.00	0.00	0.00	0.00	0.00	0.288	0.288	0.288	0.288	0.288	0.070
2007	0.245	0.245	0.245	0.245	0.245	0.00	0.00	0.00	0.00	0.00	0.301	0.301	0.301	0.301	0.301	0.070
2008	0.255	0.255	0.255	0.255	0.255	0.00	0.00	0.00	0.00	0.00	0.313	0.313	0.313	0.313	0.313	0.070
2009	0.265	0.265	0.265	0.265	0.265	0.00	0.00	0.00	0.00	0.00	0.325	0.325	0.325	0.325	0.325	0.070
2010	0.275	0.275	0.275	0.275	0.275	0.00	0.00	0.00	0.00	0.00	0.338	0.338	0.338	0.338	0.338	0.070
2011	0.250	0.250	0.250	0.250	0.250	0.00	0.00	0.00	0.00	0.00	0.307	0.307	0.307	0.307	0.307	0.080
2012	0.260	0.260	0.260	0.260	0.260	0.00	0.00	0.00	0.00	0.00	0.319	0.319	0.319	0.319	0.319	0.080
2013	0.270	0.270	0.270	0.270	0.270	0.00	0.00	0.00	0.00	0.00	0.331	0.331	0.331	0.331	0.331	0.080
2014	0.275	0.275	0.275	0.275	0.275	0.00	0.00	0.00	0.00	0.00	0.338	0.338	0.338	0.338	0.338	0.080
2015	0.290	0.290	0.290	0.290	0.290	0.00	0.00	0.00	0.00	0.00	0.356	0.356	0.356	0.356	0.356	0.090
2016	0.305	0.305	0.305	0.305	0.305	0.00	0.00	0.00	0.00	0.00	0.374	0.374	0.374	0.374	0.374	0.090
2017	0.315	0.315	0.315	0.315	0.315	0.00	0.00	0.00	0.00	0.00	0.387	0.387	0.387	0.387	0.387	0.090
2018	0.330	0.330	0.330	0.330	0.330	0.00	0.00	0.00	0.00	0.00	0.405	0.405	0.405	0.405	0.405	0.090
2019	0.345	0.345	0.345	0.345	0.345	0.00	0.00	0.00	0.00	0.00	0.424	0.424	0.424	0.424	0.424	0.100
2020	0.360	0.360	0.360	0.360	0.360	0.00	0.00	0.00	0.00	0.00	0.442	0.442	0.442	0.442	0.442	0.100
2021	0.370	0.370	0.370	0.370	0.370	0.00	0.00	0.00	0.00	0.00	0.454	0.454	0.454	0.454	0.454	0.100
2022	0.381	0.381	0.381	0.381	0.381	0.00	0.00	0.00	0.00	0.00	0.468	0.468	0.468	0.468	0.468	0.104
2023	0.393	0.393	0.393	0.393	0.393	0.00	0.00	0.00	0.00	0.00	0.482	0.482	0.482	0.482	0.482	0.107

APPENDIX B

ECONOMIC INPUTS

ECONOMIC PARAMETERS

**HIGH ECONOMIC SCENARIO
NATURAL GAS**

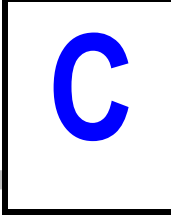
UTILITY NAME	Statewide
SECTOR	Commercial
BATCH #	1
UTILITY DISCOUNT RATE	8.0%
CUSTOMER DISCOUNT RATE	15.0%
GENERAL INFLATION RATE (Measu	3.0%
BASE YEAR	2003
START YEAR	2003
DIFFERENCE	0
UTILITY LINE LOSS RATE	2.5%

ENERGY COSTS AND RATES

RATE TYPE	Commercial
ENERGY UNITS	\$/therm
DEMAND UNITS	n/a

Rate/Time Periods	1	2	3	5	6	
Name	Summer On-Peak	Summer Partial-Peak	Summer Off-Peak	Winter Partial-Peak	Winter Off-Peak	
Abbreviation	SOP	SPP	SOFF	WPP	WOFF	TOTAL
Hours	768	896	2752	1638	2706	8760
Monthly Adjustment for rates	6	0	0	6	0	

Year	AVOIDED ENERGY COSTS BY TIME PERIOD					AVOIDED DEMAND COSTS BY TIME PERIOD					Residential ENERGY RATES					Environmental Adder to be Subtracted for RIM \$/Therm
	SOP \$/Therm	SPP \$/Therm	SOFF \$/Therm	WPP \$/Therm	WOFF \$/Therm	SOP \$/Therm	SPP \$/Therm	SOFF \$/Therm	WPP \$/Therm	WOFF \$/Therm	SOP \$/Therm	SPP \$/Therm	SOFF \$/Therm	WPP \$/Therm	WOFF \$/Therm	
2003	0.690	0.690	0.690	0.690	0.690	0.00	0.00	0.00	0.00	0.00	0.847	0.847	0.847	0.847	0.847	0.060
2004	0.645	0.645	0.645	0.645	0.645	0.00	0.00	0.00	0.00	0.00	0.792	0.792	0.792	0.792	0.792	0.060
2005	0.660	0.660	0.660	0.660	0.660	0.00	0.00	0.00	0.00	0.00	0.810	0.810	0.810	0.810	0.810	0.060
2006	0.705	0.705	0.705	0.705	0.705	0.00	0.00	0.00	0.00	0.00	0.865	0.865	0.865	0.865	0.865	0.070
2007	0.735	0.735	0.735	0.735	0.735	0.00	0.00	0.00	0.00	0.00	0.902	0.902	0.902	0.902	0.902	0.070
2008	0.765	0.765	0.765	0.765	0.765	0.00	0.00	0.00	0.00	0.00	0.939	0.939	0.939	0.939	0.939	0.070
2009	0.795	0.795	0.795	0.795	0.795	0.00	0.00	0.00	0.00	0.00	0.976	0.976	0.976	0.976	0.976	0.070
2010	0.825	0.825	0.825	0.825	0.825	0.00	0.00	0.00	0.00	0.00	1.013	1.013	1.013	1.013	1.013	0.070
2011	0.750	0.750	0.750	0.750	0.750	0.00	0.00	0.00	0.00	0.00	0.921	0.921	0.921	0.921	0.921	0.080
2012	0.780	0.780	0.780	0.780	0.780	0.00	0.00	0.00	0.00	0.00	0.958	0.958	0.958	0.958	0.958	0.080
2013	0.810	0.810	0.810	0.810	0.810	0.00	0.00	0.00	0.00	0.00	0.994	0.994	0.994	0.994	0.994	0.080
2014	0.825	0.825	0.825	0.825	0.825	0.00	0.00	0.00	0.00	0.00	1.013	1.013	1.013	1.013	1.013	0.080
2015	0.870	0.870	0.870	0.870	0.870	0.00	0.00	0.00	0.00	0.00	1.068	1.068	1.068	1.068	1.068	0.090
2016	0.915	0.915	0.915	0.915	0.915	0.00	0.00	0.00	0.00	0.00	1.123	1.123	1.123	1.123	1.123	0.090
2017	0.945	0.945	0.945	0.945	0.945	0.00	0.00	0.00	0.00	0.00	1.160	1.160	1.160	1.160	1.160	0.090
2018	0.990	0.990	0.990	0.990	0.990	0.00	0.00	0.00	0.00	0.00	1.215	1.215	1.215	1.215	1.215	0.090
2019	1.035	1.035	1.035	1.035	1.035	0.00	0.00	0.00	0.00	0.00	1.271	1.271	1.271	1.271	1.271	0.100
2020	1.080	1.080	1.080	1.080	1.080	0.00	0.00	0.00	0.00	0.00	1.326	1.326	1.326	1.326	1.326	0.100
2021	1.110	1.110	1.110	1.110	1.110	0.00	0.00	0.00	0.00	0.00	1.363	1.363	1.363	1.363	1.363	0.100
2022	1.143	1.143	1.143	1.143	1.143	0.00	0.00	0.00	0.00	0.00	1.403	1.403	1.403	1.403	1.403	0.104
2023	1.178	1.178	1.178	1.178	1.178	0.00	0.00	0.00	0.00	0.00	1.446	1.446	1.446	1.446	1.446	0.107



MEASURE INPUTS

- C.1 MEASURE COSTS**
- C.2 APPLICABILITY FACTORS**
- C.3 BASE TECHNOLOGY UECs**
- C.4 MEASURE SAVINGS**
- C.5 STANDARDS ADJUSTMENT FACTORS**
- C.6 FEASIBILITY FACTORS**
- C.7 INCOMPLETE FACTORS**
- C.8 TECHNOLOGY SATURATIONS**
- C.9 HOUR ADJUSTMENTS FOR LIGHTING**

APPENDIX C

NATURAL GAS MEASURE INPUTS

MEASURE COSTS			Savings	Cost	Unit	Unit	NPV of	Implemen-	Cost	Full = 1	Relative Energy Reduction Factors					End	Implementation			
Segment	Measure #	Measure Description	Units	Units	Equipment	Labor	Lifetime	tation	Units per	Full = 1	Initial	Replace	Full	SP	SPP	SOP	WPP	WOP	Use	Type
					Cost	Cost	O & M	Cost	Savings	Cost	Cost	Cost	Cost							1=1 time
							Cost	Factor	per	Cost	Cost	Cost	Cost							2=ROB
PG&E	100	Base Heating	kBTU/Hr	\$/kButhr	\$0.00	\$0.00	\$0.00	\$0.00	1	20	0	0	\$0.00	1.00	1.00	1.00	1.00	1.00	1	1
PG&E	102	Ceiling Insulation (In situ R5 to R24)	kBTU/Hr	\$/sf-ceiling	\$0.49	\$0.00	\$0.00	\$0.49	1	20	1	1	\$0.49	1.00	1.00	1.00	1.00	1.00	1	1
PG&E	105	Double Pane Low Emissivity	kBTU/Hr	\$/sf-window	\$0.68	\$0.00	\$0.00	\$0.68	1	60	1	1	\$0.68	1.00	1.00	1.00	1.00	1.00	1	2
PG&E	107	Duct Insulation Installed	kBTU/Hr	\$/Lin Ft Pipe	\$0.40	\$0.00	\$0.00	\$0.40	1	20	1	1	\$0.40	1.00	1.00	1.00	1.00	1.00	1	1
PG&E	109	Duct Leakage Repair	kBTU/Hr	\$/sf building	\$0.16	\$0.00	\$0.00	\$0.16	1	20	1	1	\$0.16	1.00	1.00	1.00	1.00	1.00	1	1
PG&E	113	High Efficiency Furnace/Boiler 95% Eff	kBTU/Hr	\$/kButhr	\$6.50	\$0.00	\$0.00	\$6.50	1	20	1	1	\$6.50	1.00	1.00	1.00	1.00	1.00	1	2
PG&E	115	Boiler- Heating Pipe Insulation	kBTU/Hr	\$/Lin Ft Pipe	\$4.00	\$0.00	\$0.00	\$4.00	1	20	1	1	\$4.00	1.00	1.00	1.00	1.00	1.00	1	1
PG&E	117	Boiler Tune-Up	kBTU/Hr	\$/boiler	\$0.00	\$300.00	\$0.00	\$300.00	1	2	1	1	\$300.00	1.00	1.00	1.00	1.00	1.00	1	1
PG&E	119	EMS install	kBTU/Hr	\$/sqft	\$0.29	\$0.00	\$0.00	\$0.29	1	20	1	1	\$0.29	1.00	1.00	1.00	1.00	1.00	1	1
PG&E	121	EMS Optimization	kBTU/Hr	\$/unit	\$0.00	\$1,200.00	\$0.00	\$1,200.00	1	5	1	1	\$1,200.00	1.00	1.00	1.00	1.00	1.00	1	1
PG&E	125	Stack Heat Exchanger	kBTU/Hr	\$/install	\$1,290.00	\$0.00	\$0.00	\$1,290.00	1	20	1	1	\$1,290.00	1.00	1.00	1.00	1.00	1.00	1	1
PG&E	127	Heat Recovery from Air to Air	kBTU/Hr	\$/O-A CFM	\$2.00	\$0.00	\$0.00	\$2.00	1	20	1	1	\$2.00	1.00	1.00	1.00	1.00	1.00	1	1
PG&E	131	Heat Recovery from AC	kBTU/Hr	\$/CFM	\$2.30	\$0.00	\$0.00	\$2.30	1	20	1	1	\$2.30	1.00	1.00	1.00	1.00	1.00	1	2
PG&E	200	Base Water Heating	kBTU/Hr	\$/kButhr	\$0.00	\$0.00	\$0.00	\$0.00	1	15	0	0	\$0.00	1.00	1.00	1.00	1.00	1.00	2	1
PG&E	201	Eff Gas Water Heater System 95% Eff	kBTU/Hr	\$/kButhr	\$12.60	\$0.00	\$0.00	\$12.60	1	15	1	1	\$12.60	1.00	1.00	1.00	1.00	1.00	2	2
PG&E	203	Instantaneous Water Heater <=200 MBTUH	kBTU/Hr	\$/kButhr	\$4.24	\$0.00	\$0.00	\$4.24	1	15	1	1	\$4.24	1.00	1.00	1.00	1.00	1.00	2	1
PG&E	205	Circulation Pump Timeclocks	kBTU/Hr	\$/unit	\$233.00	\$200.00	\$0.00	\$433.00	1	15	1	1	\$433.00	1.00	1.00	1.00	1.00	1.00	2	1
PG&E	208	Tank Insulation	kBTU/Hr	\$/tank	\$34.00	\$22.00	\$0.00	\$56.00	1	15	1	1	\$56.00	1.00	1.00	1.00	1.00	1.00	2	1
PG&E	209	Pipe Insulation	kBTU/Hr	\$/Lin Ft Pipe	\$4.00	\$0.00	\$0.00	\$4.00	1	15	1	1	\$4.00	1.00	1.00	1.00	1.00	1.00	2	1
PG&E	211	Low Flow Showerheads	kBTU/Hr	\$/unit	\$21.20	\$7.50	\$0.00	\$28.70	1	10	1	1	\$28.70	1.00	1.00	1.00	1.00	1.00	2	1
PG&E	212	Faucet Aerator	kBTU/Hr	\$/unit	\$9.00	\$3.75	\$0.00	\$12.75	1	10	1	1	\$12.75	1.00	1.00	1.00	1.00	1.00	2	1
PG&E	213	Solar DHW System Active	kBTU/Hr	\$/sqft collector	\$60.00	\$0.00	\$0.00	\$60.00	1	15	1	1	\$60.00	1.00	1.00	1.00	1.00	1.00	2	1
PG&E	300	Base Cooking	kBTU/Hr	\$/unit	\$0.00	\$0.00	\$0.00	\$0.00	1	15	0	0	\$0.00	1.00	1.00	1.00	1.00	1.00	3	1
PG&E	302	Efficient Infrared Griddle	kBTU/Hr	\$/unit	\$8.46	\$0.00	\$0.00	\$8.46	1	15	1	1	\$8.46	1.00	1.00	1.00	1.00	1.00	3	2
PG&E	303	Convection Oven	kBTU/Hr	\$/unit	\$29.40	\$0.00	\$0.00	\$29.40	1	15	1	1	\$29.40	1.00	1.00	1.00	1.00	1.00	3	2
PG&E	305	Infrared Conveyor Oven	kBTU/Hr	\$/unit	\$38.33	\$0.00	\$0.00	\$38.33	1	15	1	1	\$38.33	1.00	1.00	1.00	1.00	1.00	3	2
PG&E	306	Infrared Fryer	kBTU/Hr	\$/unit	\$12.01	\$0.00	\$0.00	\$12.01	1	15	1	1	\$12.01	1.00	1.00	1.00	1.00	1.00	3	2
PG&E	312	Power Burner Oven	kBTU/Hr	\$/unit	\$35.75	\$0.00	\$0.00	\$35.75	1	15	1	1	\$35.75	1.00	1.00	1.00	1.00	1.00	3	2
PG&E	313	Power Burner Fryer	kBTU/Hr	\$/unit	\$14.31	\$0.00	\$0.00	\$14.31	1	15	1	1	\$14.31	1.00	1.00	1.00	1.00	1.00	3	2
PG&E	400	Base Pool Heating	kBTU/Hr	\$/unit	\$0.00	\$0.00	\$0.00	\$0.00	1	10	0	0	\$0.00	1.00	1.00	1.00	1.00	1.00	4	1
PG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	kBTU/Hr	\$/kButhr	\$5.84	\$0.00	\$0.00	\$5.84	1	10	1	1	\$5.84	1.00	1.00	1.00	1.00	1.00	4	2
PG&E	402	Pool Cover	kBTU/Hr	\$/pool sqft	\$0.28	\$0.00	\$0.00	\$0.28	1	5	1	1	\$0.28	1.00	1.00	1.00	1.00	1.00	4	1
PG&E	403	Solar Pool Heater	kBTU/Hr	\$/pool sqft	\$18.14	\$0.00	\$0.00	\$18.14	1	10	1	1	\$18.14	1.00	1.00	1.00	1.00	1.00	4	1
SCG	100	Base Heating	kBTU/Hr	\$/kButhr	\$0.00	\$0.00	\$0.00	\$0.00	1	20	0	0	\$0.00	1.00	1.00	1.00	1.00	1.00	1	1
SCG	102	Ceiling Insulation (In situ R5 to R24)	kBTU/Hr	\$/sf-ceiling	\$0.49	\$0.00	\$0.00	\$0.49	1	20	1	1	\$0.49	1.00	1.00	1.00	1.00	1.00	1	1
SCG	105	Double Pane Low Emissivity	kBTU/Hr	\$/sf-window	\$0.68	\$0.00	\$0.00	\$0.68	1	60	1	1	\$0.68	1.00	1.00	1.00	1.00	1.00	1	2
SCG	107	Duct Insulation Installed	kBTU/Hr	\$/Lin Ft Pipe	\$0.40	\$0.00	\$0.00	\$0.40	1	20	1	1	\$0.40	1.00	1.00	1.00	1.00	1.00	1	1
SCG	109	Duct Leakage Repair	kBTU/Hr	\$/sf building	\$0.16	\$0.00	\$0.00	\$0.16	1	20	1	1	\$0.16	1.00	1.00	1.00	1.00	1.00	1	1
SCG	113	High Efficiency Furnace/Boiler 95% Eff	kBTU/Hr	\$/kButhr	\$6.50	\$0.00	\$0.00	\$6.50	1	20	1	1	\$6.50	1.00	1.00	1.00	1.00	1.00	1	2
SCG	115	Boiler- Heating Pipe Insulation	kBTU/Hr	\$/Lin Ft Pipe	\$4.00	\$0.00	\$0.00	\$4.00	1	20	1	1	\$4.00	1.00	1.00	1.00	1.00	1.00	1	1
SCG	117	Boiler Tune-Up	kBTU/Hr	\$/boiler	\$0.00	\$300.00	\$0.00	\$300.00	1	2	1	1	\$300.00	1.00	1.00	1.00	1.00	1.00	1	1
SCG	119	EMS install	kBTU/Hr	\$/sqft	\$0.29	\$0.00	\$0.00	\$0.29	1	20	1	1	\$0.29	1.00	1.00	1.00	1.00	1.00	1	1
SCG	121	EMS Optimization	kBTU/Hr	\$/unit	\$0.00	\$1,200.00	\$0.00	\$1,200.00	1	5	1	1	\$1,200.00	1.00	1.00	1.00	1.00	1.00	1	1
SCG	125	Stack Heat Exchanger	kBTU/Hr	\$/install	\$1,290.00	\$0.00	\$0.00	\$1,290.00	1	20	1	1	\$1,290.00	1.00	1.00	1.00	1.00	1.00	1	1
SCG	127	Heat Recovery from Air to Air	kBTU/Hr	\$/O-A CFM	\$2.00	\$0.00	\$0.00	\$2.00	1	20	1	1	\$2.00	1.00	1.00	1.00	1.00	1.00	1	1
SCG	131	Heat Recovery from AC	kBTU/Hr	\$/CFM	\$2.30	\$0.00	\$0.00	\$2.30	1	20	1	1	\$2.30	1.00	1.00	1.00	1.00	1.00	1	2
SCG	200	Base Water Heating	kBTU/Hr	\$/kButhr	\$0.00	\$0.00	\$0.00	\$0.00	1	15	0	0	\$0.00	1.00	1.00	1.00	1.00	1.00	2	1
SCG	201	Eff Gas Water Heater System 95% Eff	kBTU/Hr	\$/kButhr	\$12.60	\$0.00	\$0.00	\$12.60	1	15	1	1	\$12.60	1.00	1.00	1.00	1.00	1.00	2	2
SCG	203	Instantaneous Water Heater <=200 MBTUH	kBTU/Hr	\$/kButhr	\$4.24	\$0.00	\$0.00	\$4.24	1	15	1	1	\$4.24	1.00	1.00	1.00	1.00	1.00	2	1
SCG	205	Circulation Pump Timeclocks	kBTU/Hr	\$/unit	\$233.00	\$200.00	\$0.00	\$433.00	1	15	1	1	\$433.00	1.00	1.00	1.00	1.00	1.00	2	1
SCG	208	Tank Insulation	kBTU/Hr	\$/tank	\$34.00	\$22.00	\$0.00	\$56.00	1	15	1	1	\$56.00	1.00	1.00	1.00	1.00	1.00	2	1
SCG	209	Pipe Insulation	kBTU/Hr	\$/Lin Ft Pipe	\$4.00	\$0.00	\$0.00	\$4.00	1	15	1	1	\$4.00	1.00	1.00	1.00	1.00	1.00	2	1
SCG	211	Low Flow Showerheads	kBTU/Hr	\$/unit	\$21.20	\$7.50	\$0.00	\$28.70	1	10	1	1	\$28.70	1.00	1.00	1.00	1.00	1.00	2	1
SCG	212	Faucet Aerator	kBTU/Hr	\$/unit	\$9.00	\$3.75	\$0.00	\$12.75	1	10	1	1	\$12.75	1.00	1.00	1.00	1.00	1.00	2	1

APPENDIX C

NATURAL GAS MEASURE INPUTS

MEASURE COSTS			Savings	Cost	Unit	Unit	NPV of	Implemen-	Cost	Full = 1	Full	Relative Energy Reduction Factors					End	Implementation	
Segment	Measure #	Measure Description	Units	Units	Equipment	Labor	Lifetime	tation	Units per	Initial	Replace	Unit	SP	SPP	SOP	WPP	WOP	Use	Type
					Cost	Cost	Cost	Cost	Service	Cost	Cost	Cost							
							O & M	Factor	Life										1=1 time
																			2=ROB
SCG	213	Solar DHW System Active	kBTU/Hr	\$/sqft collector	\$60.00	\$0.00	\$0.00	\$60.00	1	15	1	\$60.00	1.00	1.00	1.00	1.00	1.00	2	1
SCG	300	Base Cooking	kBTU/Hr	\$/unit	\$0.00	\$0.00	\$0.00	\$0.00	1	15	0	\$0.00	1.00	1.00	1.00	1.00	1.00	3	1
SCG	302	Efficient Infrared Griddle	kBTU/Hr	\$/unit	\$8.46	\$0.00	\$0.00	\$8.46	1	15	1	\$8.46	1.00	1.00	1.00	1.00	1.00	3	2
SCG	303	Convection Oven	kBTU/Hr	\$/unit	\$29.40	\$0.00	\$0.00	\$29.40	1	15	1	\$29.40	1.00	1.00	1.00	1.00	1.00	3	2
SCG	305	Infrared Conveyer Oven	kBTU/Hr	\$/unit	\$38.33	\$0.00	\$0.00	\$38.33	1	15	1	\$38.33	1.00	1.00	1.00	1.00	1.00	3	2
SCG	306	Infrared Fryer	kBTU/Hr	\$/unit	\$12.01	\$0.00	\$0.00	\$12.01	1	15	1	\$12.01	1.00	1.00	1.00	1.00	1.00	3	2
SCG	312	Power Burner Oven	kBTU/Hr	\$/unit	\$35.75	\$0.00	\$0.00	\$35.75	1	15	1	\$35.75	1.00	1.00	1.00	1.00	1.00	3	2
SCG	313	Power Burner Fryer	kBTU/Hr	\$/unit	\$14.31	\$0.00	\$0.00	\$14.31	1	15	1	\$14.31	1.00	1.00	1.00	1.00	1.00	3	2
SCG	400	Base Pool Heating	kBTU/Hr	\$/unit	\$0.00	\$0.00	\$0.00	\$0.00	1	10	0	\$0.00	1.00	1.00	1.00	1.00	1.00	4	1
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	kBTU/Hr	\$/kbtuhr	\$5.84	\$0.00	\$0.00	\$5.84	1	10	1	\$5.84	1.00	1.00	1.00	1.00	1.00	4	2
SCG	402	Pool Cover	kBTU/Hr	\$/pool sqft	\$0.28	\$0.00	\$0.00	\$0.28	1	5	1	\$0.28	1.00	1.00	1.00	1.00	1.00	4	1
SCG	403	Solar Pool Heater	kBTU/Hr	\$/pool sqft	\$18.14	\$0.00	\$0.00	\$18.14	1	10	1	\$18.14	1.00	1.00	1.00	1.00	1.00	4	1
SDG&E	100	Base Heating	kBTU/Hr	\$/kbtuhr	\$0.00	\$0.00	\$0.00	\$0.00	1	20	0	\$0.00	1.00	1.00	1.00	1.00	1.00	1	1
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	kBTU/Hr	\$/sf-ceiling	\$0.49	\$0.00	\$0.00	\$0.49	1	20	1	\$0.49	1.00	1.00	1.00	1.00	1.00	1	1
SDG&E	105	Double Pane Low Emissivity	kBTU/Hr	\$/sf-window	\$0.68	\$0.00	\$0.00	\$0.68	1	60	1	\$0.68	1.00	1.00	1.00	1.00	1.00	1	2
SDG&E	107	Duct Insulation Installed	kBTU/Hr	\$/Lin Ft Pipe	\$0.40	\$0.00	\$0.00	\$0.40	1	20	1	\$0.40	1.00	1.00	1.00	1.00	1.00	1	1
SDG&E	109	Duct Leakage Repair	kBTU/Hr	\$/sf building	\$0.16	\$0.00	\$0.00	\$0.16	1	20	1	\$0.16	1.00	1.00	1.00	1.00	1.00	1	1
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	kBTU/Hr	\$/kbtuhr	\$6.50	\$0.00	\$0.00	\$6.50	1	20	1	\$6.50	1.00	1.00	1.00	1.00	1.00	1	2
SDG&E	115	Boiler- Heating Pipe Insulation	kBTU/Hr	\$/Lin Ft Pipe	\$4.00	\$0.00	\$0.00	\$4.00	1	20	1	\$4.00	1.00	1.00	1.00	1.00	1.00	1	1
SDG&E	117	Boiler Tune-Up	kBTU/Hr	\$/boiler	\$0.00	\$300.00	\$0.00	\$300.00	1	2	1	\$300.00	1.00	1.00	1.00	1.00	1.00	1	1
SDG&E	119	EMS install	kBTU/Hr	\$/sqft	\$0.29	\$0.00	\$0.00	\$0.29	1	20	1	\$0.29	1.00	1.00	1.00	1.00	1.00	1	1
SDG&E	121	EMS Optimization	kBTU/Hr	\$/unit	\$0.00	\$1,200.00	\$0.00	\$1,200.00	1	5	1	\$1,200.00	1.00	1.00	1.00	1.00	1.00	1	1
SDG&E	125	Stack Heat Exchanger	kBTU/Hr	\$/install	\$1,290.00	\$0.00	\$0.00	\$1,290.00	1	20	1	\$1,290.00	1.00	1.00	1.00	1.00	1.00	1	1
SDG&E	127	Heat Recovery from Air to Air	kBTU/Hr	\$/O-A CFM	\$2.00	\$0.00	\$0.00	\$2.00	1	20	1	\$2.00	1.00	1.00	1.00	1.00	1.00	1	1
SDG&E	131	Heat Recovery from AC	kBTU/Hr	\$/CFM	\$2.30	\$0.00	\$0.00	\$2.30	1	20	1	\$2.30	1.00	1.00	1.00	1.00	1.00	1	2
SDG&E	200	Base Water Heating	kBTU/Hr	\$/kbtuhr	\$0.00	\$0.00	\$0.00	\$0.00	1	15	0	\$0.00	1.00	1.00	1.00	1.00	1.00	2	1
SDG&E	201	Eff Gas Water Heater System 95% Eff	kBTU/Hr	\$/kbtuhr	\$12.60	\$0.00	\$0.00	\$12.60	1	15	1	\$12.60	1.00	1.00	1.00	1.00	1.00	2	2
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	kBTU/Hr	\$/kbtuhr	\$4.24	\$0.00	\$0.00	\$4.24	1	15	1	\$4.24	1.00	1.00	1.00	1.00	1.00	2	1
SDG&E	205	Circulation Pump Timeclocks	kBTU/Hr	\$/unit	\$233.00	\$200.00	\$0.00	\$433.00	1	15	1	\$433.00	1.00	1.00	1.00	1.00	1.00	2	1
SDG&E	208	Tank Insulation	kBTU/Hr	\$/tank	\$34.00	\$22.00	\$0.00	\$56.00	1	15	1	\$56.00	1.00	1.00	1.00	1.00	1.00	2	1
SDG&E	209	Pipe Insulation	kBTU/Hr	\$/Lin Ft Pipe	\$4.00	\$0.00	\$0.00	\$4.00	1	15	1	\$4.00	1.00	1.00	1.00	1.00	1.00	2	1
SDG&E	211	Low Flow Showerheads	kBTU/Hr	\$/unit	\$21.20	\$7.50	\$0.00	\$28.70	1	10	1	\$28.70	1.00	1.00	1.00	1.00	1.00	2	1
SDG&E	212	Faucet Aerator	kBTU/Hr	\$/unit	\$9.00	\$3.75	\$0.00	\$12.75	1	10	1	\$12.75	1.00	1.00	1.00	1.00	1.00	2	1
SDG&E	213	Solar DHW System Active	kBTU/Hr	\$/sqft collector	\$60.00	\$0.00	\$0.00	\$60.00	1	15	1	\$60.00	1.00	1.00	1.00	1.00	1.00	2	1
SDG&E	300	Base Cooking	kBTU/Hr	\$/unit	\$0.00	\$0.00	\$0.00	\$0.00	1	15	0	\$0.00	1.00	1.00	1.00	1.00	1.00	3	1
SDG&E	302	Efficient Infrared Griddle	kBTU/Hr	\$/unit	\$8.46	\$0.00	\$0.00	\$8.46	1	15	1	\$8.46	1.00	1.00	1.00	1.00	1.00	3	2
SDG&E	303	Convection Oven	kBTU/Hr	\$/unit	\$29.40	\$0.00	\$0.00	\$29.40	1	15	1	\$29.40	1.00	1.00	1.00	1.00	1.00	3	2
SDG&E	305	Infrared Conveyer Oven	kBTU/Hr	\$/unit	\$38.33	\$0.00	\$0.00	\$38.33	1	15	1	\$38.33	1.00	1.00	1.00	1.00	1.00	3	2
SDG&E	306	Infrared Fryer	kBTU/Hr	\$/unit	\$12.01	\$0.00	\$0.00	\$12.01	1	15	1	\$12.01	1.00	1.00	1.00	1.00	1.00	3	2
SDG&E	312	Power Burner Oven	kBTU/Hr	\$/unit	\$35.75	\$0.00	\$0.00	\$35.75	1	15	1	\$35.75	1.00	1.00	1.00	1.00	1.00	3	2
SDG&E	313	Power Burner Fryer	kBTU/Hr	\$/unit	\$14.31	\$0.00	\$0.00	\$14.31	1	15	1	\$14.31	1.00	1.00	1.00	1.00	1.00	3	2
SDG&E	400	Base Pool Heating	kBTU/Hr	\$/unit	\$0.00	\$0.00	\$0.00	\$0.00	1	10	0	\$0.00	1.00	1.00	1.00	1.00	1.00	4	1
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	kBTU/Hr	\$/kbtuhr	\$5.84	\$0.00	\$0.00	\$5.84	1	10	1	\$5.84	1.00	1.00	1.00	1.00	1.00	4	2
SDG&E	402	Pool Cover	kBTU/Hr	\$/pool sqft	\$0.28	\$0.00	\$0.00	\$0.28	1	5	1	\$0.28	1.00	1.00	1.00	1.00	1.00	4	1
SDG&E	403	Solar Pool Heater	kBTU/Hr	\$/pool sqft	\$18.14	\$0.00	\$0.00	\$18.14	1	10	1	\$18.14	1.00	1.00	1.00	1.00	1.00	4	1

APPENDIX C

NATURAL GAS MEASURE INPUTS

APPLICABILITY FACTOR (percent)			Office	Restaurant	Retail	Grocery	Warehouse	School	College	Hospital	Lodging	Other
Segment	Measure #	Measure Description	1	2	3	4	5	6	7	8	9	10
PG&E	100	Base Heating	70%	41%	60%	40%	25%	77%	87%	81%	64%	92%
PG&E	102	Ceiling Insulation (In situ R5 to R24)	70%	41%	60%	40%	25%	77%	87%	81%	64%	92%
PG&E	105	Double Pane Low Emissivity	70%	41%	60%	40%	25%	77%	87%	81%	64%	92%
PG&E	107	Duct Insulation Installed	56%	41%	57%	40%	24%	56%	49%	43%	53%	86%
PG&E	109	Duct Leakage Repair	56%	41%	57%	40%	24%	56%	49%	43%	53%	86%
PG&E	113	High Efficiency Furnace/Boiler 95% Eff	70%	41%	60%	40%	25%	77%	87%	81%	64%	92%
PG&E	115	Boiler- Heating Pipe Insulation	28%	0%	6%	1%	1%	43%	76%	75%	21%	13%
PG&E	117	Boiler Tune-Up	28%	0%	6%	1%	1%	43%	76%	75%	21%	13%
PG&E	119	EMS install	70%	41%	60%	40%	25%	77%	87%	81%	64%	92%
PG&E	121	EMS Optimization	70%	41%	60%	40%	25%	77%	87%	81%	64%	92%
PG&E	125	Stack Heat Exchanger	28%	0%	6%	1%	1%	43%	76%	75%	21%	13%
PG&E	127	Heat Recovery from Air to Air	70%	41%	60%	40%	25%	77%	87%	81%	64%	92%
PG&E	131	Heat Recovery from AC	70%	41%	60%	40%	25%	77%	87%	81%	64%	92%
PG&E	200	Base Water Heating	47%	70%	44%	22%	46%	53%	54%	53%	64%	34%
PG&E	201	Eff Gas Water Heater System 95% Eff	34%	64%	20%	36%	37%	26%	22%	27%	46%	25%
PG&E	203	Instantaneous Water Heater <=200 MBTUH	34%	64%	20%	36%	37%	26%	22%	27%	46%	25%
PG&E	205	Circulation Pump Timeclocks	47%	70%	44%	22%	46%	53%	54%	53%	64%	34%
PG&E	208	Tank Insulation	47%	70%	44%	22%	46%	53%	54%	53%	64%	34%
PG&E	209	Pipe Insulation	47%	70%	44%	22%	46%	53%	54%	53%	64%	34%
PG&E	211	Low Flow Showerheads	0%	0%	0%	0%	0%	10%	14%	7%	4%	7%
PG&E	212	Faucet Aerator	47%	70%	44%	22%	46%	53%	54%	53%	64%	34%
PG&E	213	Solar DHW System Active	47%	70%	44%	22%	46%	53%	54%	53%	64%	34%
PG&E	300	Base Cooking	20%	59%	5%	21%	0%	50%	73%	55%	55%	10%
PG&E	302	Efficient Infrared Griddle	20%	59%	5%	21%	0%	50%	73%	55%	55%	10%
PG&E	303	Convection Oven	20%	59%	5%	21%	0%	50%	73%	55%	55%	10%
PG&E	305	Infrared Conveyor Oven	20%	59%	5%	21%	0%	50%	73%	55%	55%	10%
PG&E	306	Infrared Fryer	20%	59%	5%	21%	0%	50%	73%	55%	55%	10%
PG&E	312	Power Burner Oven	20%	59%	5%	21%	0%	50%	73%	55%	55%	10%
PG&E	313	Power Burner Fryer	20%	59%	5%	21%	0%	50%	73%	55%	55%	10%
PG&E	400	Base Pool Heating	0%	0%	0%	0%	0%	13%	23%	3%	44%	0%
PG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	0%	0%	0%	0%	0%	13%	23%	3%	44%	0%
PG&E	402	Pool Cover	0%	0%	0%	0%	0%	13%	23%	3%	44%	0%
PG&E	403	Solar Pool Heater	0%	0%	0%	0%	0%	13%	23%	3%	44%	0%
SCG	100	Base Heating	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SCG	102	Ceiling Insulation (In situ R5 to R24)	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SCG	105	Double Pane Low Emissivity	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SCG	107	Duct Insulation Installed	51%	48%	40%	48%	10%	57%	13%	36%	15%	31%
SCG	109	Duct Leakage Repair	51%	48%	40%	48%	10%	57%	13%	36%	15%	31%
SCG	113	High Efficiency Furnace/Boiler 95% Eff	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SCG	115	Boiler- Heating Pipe Insulation	2%	1%	0%	0%	0%	31%	24%	52%	18%	14%
SCG	117	Boiler Tune-Up	2%	1%	0%	0%	0%	31%	24%	52%	18%	14%
SCG	119	EMS install	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SCG	121	EMS Optimization	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SCG	125	Stack Heat Exchanger	2%	1%	0%	0%	0%	31%	24%	52%	18%	14%
SCG	127	Heat Recovery from Air to Air	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SCG	131	Heat Recovery from AC	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SCG	200	Base Water Heating	17%	88%	28%	70%	9%	70%	78%	72%	94%	50%
SCG	201	Eff Gas Water Heater System 95% Eff	12%	81%	26%	58%	7%	33%	33%	37%	67%	36%
SCG	203	Instantaneous Water Heater <=200 MBTUH	12%	81%	26%	58%	7%	33%	33%	37%	67%	36%
SCG	205	Circulation Pump Timeclocks	17%	88%	28%	70%	9%	70%	78%	72%	94%	50%
SCG	208	Tank Insulation	17%	88%	28%	70%	9%	70%	78%	72%	94%	50%
SCG	209	Pipe Insulation	17%	88%	28%	70%	9%	70%	78%	72%	94%	50%
SCG	211	Low Flow Showerheads	0%	0%	0%	0%	0%	13%	20%	9%	6%	10%
SCG	212	Faucet Aerator	17%	88%	28%	70%	9%	70%	78%	72%	94%	50%
SCG	213	Solar DHW System Active	17%	88%	28%	70%	9%	70%	78%	72%	94%	50%
SCG	300	Base Cooking	2%	57%	7%	32%	6%	39%	4%	32%	32%	10%
SCG	302	Efficient Infrared Griddle	2%	57%	7%	32%	6%	39%	4%	32%	32%	10%
SCG	303	Convection Oven	2%	57%	7%	32%	6%	39%	4%	32%	32%	10%
SCG	305	Infrared Conveyor Oven	2%	57%	7%	32%	6%	39%	4%	32%	32%	10%
SCG	306	Infrared Fryer	2%	57%	7%	32%	6%	39%	4%	32%	32%	10%
SCG	312	Power Burner Oven	2%	57%	7%	32%	6%	39%	4%	32%	32%	10%
SCG	313	Power Burner Fryer	2%	57%	7%	32%	6%	39%	4%	32%	32%	10%
SCG	400	Base Pool Heating	0%	0%	0%	0%	0%	6%	17%	9%	40%	0%
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	0%	0%	0%	0%	0%	6%	17%	9%	40%	0%
SCG	402	Pool Cover	0%	0%	0%	0%	0%	6%	17%	9%	40%	0%
SCG	403	Solar Pool Heater	0%	0%	0%	0%	0%	6%	17%	9%	40%	0%
SDG&E	100	Base Heating	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SDG&E	105	Double Pane Low Emissivity	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SDG&E	107	Duct Insulation Installed	44%	48%	40%	48%	10%	65%	23%	43%	20%	36%
SDG&E	109	Duct Leakage Repair	44%	48%	40%	48%	10%	65%	23%	43%	20%	36%

APPLICABILITY FACTOR (percent)			Office	Restaurant	Retail	Grocery	Warehouse	School	College	Hospital	Lodging	Other
Segment	Measure #	Measure Description	1	2	3	4	5	6	7	8	9	10
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SDG&E	115	Boiler- Heating Pipe Insulation	17%	0%	0%	0%	0%	16%	5%	38%	9%	4%
SDG&E	117	Boiler Tune-Up	17%	0%	0%	0%	0%	16%	5%	38%	9%	4%
SDG&E	119	EMS install	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SDG&E	121	EMS Optimization	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SDG&E	125	Stack Heat Exchanger	17%	0%	0%	0%	0%	16%	5%	38%	9%	4%
SDG&E	127	Heat Recovery from Air to Air	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SDG&E	131	Heat Recovery from AC	52%	48%	40%	48%	10%	73%	25%	62%	24%	38%
SDG&E	200	Base Water Heating	17%	88%	28%	70%	9%	70%	78%	72%	94%	50%
SDG&E	201	Eff Gas Water Heater System 95% Eff	12%	81%	26%	58%	7%	33%	33%	37%	67%	36%
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	12%	81%	26%	58%	7%	33%	33%	37%	67%	36%
SDG&E	205	Circulation Pump Timeclocks	17%	88%	28%	70%	9%	70%	78%	72%	94%	50%
SDG&E	208	Tank Insulation	17%	88%	28%	70%	9%	70%	78%	72%	94%	50%
SDG&E	209	Pipe Insulation	17%	88%	28%	70%	9%	70%	78%	72%	94%	50%
SDG&E	211	Low Flow Showerheads	0%	0%	0%	0%	0%	13%	20%	9%	6%	10%
SDG&E	212	Faucet Aerator	17%	88%	28%	70%	9%	70%	78%	72%	94%	50%
SDG&E	213	Solar DHW System Active	17%	88%	28%	70%	9%	70%	78%	72%	94%	50%
SDG&E	300	Base Cooking	2%	57%	7%	32%	6%	39%	4%	32%	32%	10%
SDG&E	302	Efficient Infrared Griddle	2%	57%	7%	32%	6%	39%	4%	32%	32%	10%
SDG&E	303	Convection Oven	2%	57%	7%	32%	6%	39%	4%	32%	32%	10%
SDG&E	305	Infrared Conveyer Oven	2%	57%	7%	32%	6%	39%	4%	32%	32%	10%
SDG&E	306	Infrared Fryer	2%	57%	7%	32%	6%	39%	4%	32%	32%	10%
SDG&E	312	Power Burner Oven	2%	57%	7%	32%	6%	39%	4%	32%	32%	10%
SDG&E	313	Power Burner Fryer	2%	57%	7%	32%	6%	39%	4%	32%	32%	10%
SDG&E	400	Base Pool Heating	0%	0%	0%	0%	0%	6%	17%	9%	40%	0%
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	0%	0%	0%	0%	0%	6%	17%	9%	40%	0%
SDG&E	402	Pool Cover	0%	0%	0%	0%	0%	6%	17%	9%	40%	0%
SDG&E	403	Solar Pool Heater	0%	0%	0%	0%	0%	6%	17%	9%	40%	0%

BASE TECHNOLOGY UECs (therm/home)			Office	Restaurant	Retail	Grocery	Warehouse	School	College	Hospital	Lodging	Other
Segment	Measure #	Measure Description	1	2	3	4	5	6	7	8	9	10
PG&E	100	PG&E Base Heating	0.206	0.158	0.135	0.221	0.130	0.203	0.291	0.527	0.087	0.255
PG&E	200	PG&E Base Water Heating	0.070	0.600	0.218	0.102	0.009	0.204	0.543	0.795	0.419	0.410
PG&E	300	PG&E Base Cooking	0.049	1.926	0.094	0.747	0.001	0.034	0.039	0.105	0.122	0.145
PG&E	400	PG&E Base Pool Heating	0.000	0.000	0.000	0.000	0.000	0.173	0.137	0.029	0.112	0.000
SCG	100	SCG Base Heating	0.235	0.122	0.085	0.101	0.129	0.096	0.277	0.072	0.402	0.153
SCG	200	SCG Base Water Heating	0.063	0.900	0.038	0.331	0.043	0.083	0.298	0.433	0.717	0.209
SCG	300	SCG Base Cooking	0.046	4.321	0.107	0.435	0.032	0.048	0.050	0.274	0.175	0.045
SCG	400	SCG Base Pool Heating	0.000	0.000	0.000	0.000	0.000	0.173	0.137	0.029	0.112	0.000
SDG&E	100	SDG&E Base Heating	0.235	0.122	0.085	0.101	0.129	0.096	0.277	0.072	0.402	0.153
SDG&E	200	SDG&E Base Water Heating	0.063	0.900	0.038	0.331	0.043	0.083	0.298	0.433	0.717	0.209
SDG&E	300	SDG&E Base Cooking	0.046	4.321	0.107	0.435	0.032	0.048	0.050	0.274	0.175	0.045
SDG&E	400	SDG&E Base Pool Heating	0.000	0.000	0.000	0.000	0.000	0.173	0.137	0.029	0.112	0.000

APPENDIX C

NATURAL GAS MEASURE INPUTS

ENERGY SAVINGS (percent)			Office	Restaurant	Retail	Grocery	Warehouse	School	College	Hospital	Lodging	Other
Segment	Measure #	Measure Description	1	2	3	4	5	6	7	8	9	10
PG&E	100	Base Heating	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PG&E	102	Ceiling Insulation (In situ R5 to R24)	5%	6%	17%	11%	31%	11%	3%	0%	0%	10%
PG&E	105	Double Pane Low Emissivity	37%	3%	10%	6%	0%	2%	0%	3%	6%	6%
PG&E	107	Duct Insulation Installed	2%	0%	2%	0%	0%	0%	4%	2%	2%	2%
PG&E	109	Duct Leakage Repair	2%	2%	2%	1%	1%	1%	2%	2%	0%	0%
PG&E	113	High Efficiency Furnace/Boiler 95% Eff	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%
PG&E	115	Boiler- Heating Pipe Insulation	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
PG&E	117	Boiler Tune-Up	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
PG&E	119	EMS install	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
PG&E	121	EMS Optimization	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
PG&E	125	Stack Heat Exchanger	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
PG&E	127	Heat Recovery from Air to Air	15%	25%	5%	15%	0%	15%	9%	25%	5%	10%
PG&E	131	Heat Recovery from AC	20%	63%	0%	84%	0%	20%	20%	20%	20%	10%
PG&E	200	Base Water Heating	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PG&E	201	Eff Gas Water Heater System 95% Eff	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
PG&E	203	Instantaneous Water Heater <=200 MBTUH	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
PG&E	205	Circulation Pump Timeclocks	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
PG&E	208	Tank Insulation	15%	5%	15%	10%	15%	10%	5%	5%	5%	10%
PG&E	209	Pipe Insulation	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
PG&E	211	Low Flow Showerheads	1%	1%	1%	1%	1%	3%	5%	2%	7%	1%
PG&E	212	Faucet Aerator	1%	2%	1%	1%	0%	3%	3%	3%	3%	3%
PG&E	213	Solar DHW System Active	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
PG&E	300	Base Cooking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PG&E	302	Efficient Infrared Griddle	0%	7%	0%	3%	0%	3%	4%	3%	3%	0%
PG&E	303	Convection Oven	0%	6%	0%	9%	0%	14%	5%	7%	6%	0%
PG&E	305	Infrared Conveyor Oven	0%	15%	0%	0%	0%	5%	15%	15%	5%	0%
PG&E	306	Infrared Fryer	0%	15%	0%	0%	0%	15%	15%	15%	15%	15%
PG&E	312	Power Burner Oven	0%	4%	0%	4%	0%	4%	4%	4%	4%	0%
PG&E	313	Power Burner Fryer	0%	4%	0%	4%	0%	4%	4%	4%	4%	0%
PG&E	400	Base Pool Heating	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	0%	0%	0%	0%	0%	16%	16%	16%	16%	16%
PG&E	402	Pool Cover	0%	0%	0%	0%	0%	35%	35%	35%	35%	35%
PG&E	403	Solar Pool Heater	0%	0%	0%	0%	0%	35%	35%	35%	35%	35%
SCG	100	Base Heating	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SCG	102	Ceiling Insulation (In situ R5 to R24)	4%	5%	3%	11%	21%	5%	0%	0%	0%	6%
SCG	105	Double Pane Low Emissivity	32%	4%	10%	7%	0%	1%	0%	3%	10%	6%
SCG	107	Duct Insulation Installed	2%	0%	2%	0%	0%	0%	4%	3%	2%	2%
SCG	109	Duct Leakage Repair	2%	2%	2%	1%	1%	1%	2%	2%	0%	0%
SCG	113	High Efficiency Furnace/Boiler 95% Eff	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%
SCG	115	Boiler- Heating Pipe Insulation	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
SCG	117	Boiler Tune-Up	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
SCG	119	EMS install	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
SCG	121	EMS Optimization	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
SCG	125	Stack Heat Exchanger	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
SCG	127	Heat Recovery from Air to Air	15%	25%	5%	15%	0%	15%	9%	25%	5%	10%
SCG	131	Heat Recovery from AC	20%	63%	0%	84%	0%	20%	20%	20%	20%	10%
SCG	200	Base Water Heating	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SCG	201	Eff Gas Water Heater System 95% Eff	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
SCG	203	Instantaneous Water Heater <=200 MBTUH	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
SCG	205	Circulation Pump Timeclocks	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
SCG	208	Tank Insulation	15%	5%	15%	10%	15%	10%	5%	5%	5%	10%
SCG	209	Pipe Insulation	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
SCG	211	Low Flow Showerheads	1%	1%	1%	1%	1%	3%	5%	2%	7%	1%
SCG	212	Faucet Aerator	1%	2%	1%	1%	0%	3%	3%	3%	3%	3%
SCG	213	Solar DHW System Active	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
SCG	300	Base Cooking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SCG	302	Efficient Infrared Griddle	0%	7%	0%	3%	0%	3%	4%	3%	3%	0%
SCG	303	Convection Oven	0%	6%	0%	9%	0%	14%	5%	7%	6%	0%
SCG	305	Infrared Conveyor Oven	0%	15%	0%	0%	0%	5%	15%	15%	5%	0%
SCG	306	Infrared Fryer	0%	15%	0%	0%	0%	15%	15%	15%	15%	15%
SCG	312	Power Burner Oven	0%	4%	0%	4%	0%	4%	4%	4%	4%	0%
SCG	313	Power Burner Fryer	0%	4%	0%	4%	0%	4%	4%	4%	4%	0%
SCG	400	Base Pool Heating	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	0%	0%	0%	0%	0%	16%	16%	16%	16%	16%
SCG	402	Pool Cover	0%	0%	0%	0%	0%	35%	35%	35%	35%	35%
SCG	403	Solar Pool Heater	0%	0%	0%	0%	0%	47%	47%	47%	47%	47%
SDG&E	100	Base Heating	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	4%	5%	3%	10%	21%	6%	0%	0%	0%	6%
SDG&E	105	Double Pane Low Emissivity	33%	3%	8%	7%	0%	2%	0%	3%	9%	9%
SDG&E	107	Duct Insulation Installed	2%	0%	2%	0%	0%	0%	4%	2%	2%	2%
SDG&E	109	Duct Leakage Repair	2%	2%	2%	1%	1%	1%	2%	2%	0%	0%

ENERGY SAVINGS (percent)			Office	Restaurant	Retail	Grocery	Warehouse	School	College	Hospital	Lodging	Other
Segment	Measure #	Measure Description	1	2	3	4	5	6	7	8	9	10
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%
SDG&E	115	Boiler- Heating Pipe Insulation	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
SDG&E	117	Boiler Tune-Up	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
SDG&E	119	EMS install	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
SDG&E	121	EMS Optimization	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
SDG&E	125	Stack Heat Exchanger	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
SDG&E	127	Heat Recovery from Air to Air	15%	25%	5%	15%	0%	15%	9%	25%	5%	10%
SDG&E	131	Heat Recovery from AC	20%	63%	0%	84%	0%	20%	20%	20%	20%	10%
SDG&E	200	Base Water Heating	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SDG&E	201	Eff Gas Water Heater System 95% Eff	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
SDG&E	205	Circulation Pump Timeclocks	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
SDG&E	208	Tank Insulation	15%	5%	15%	10%	15%	10%	5%	5%	5%	10%
SDG&E	209	Pipe Insulation	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
SDG&E	211	Low Flow Showerheads	1%	1%	1%	1%	1%	3%	5%	2%	7%	1%
SDG&E	212	Faucet Aerator	1%	2%	1%	1%	0%	3%	3%	3%	3%	3%
SDG&E	213	Solar DHW System Active	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
SDG&E	300	Base Cooking	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SDG&E	302	Efficient Infrared Griddle	0%	7%	0%	3%	0%	3%	4%	3%	3%	0%
SDG&E	303	Convection Oven	0%	6%	0%	9%	0%	14%	5%	7%	6%	0%
SDG&E	305	Infrared Conveyer Oven	0%	15%	0%	0%	0%	5%	15%	15%	5%	0%
SDG&E	306	Infrared Fryer	0%	15%	0%	0%	0%	15%	15%	15%	15%	15%
SDG&E	312	Power Burner Oven	0%	4%	0%	4%	0%	4%	4%	4%	4%	0%
SDG&E	313	Power Burner Fryer	0%	4%	0%	4%	0%	4%	4%	4%	4%	0%
SDG&E	400	Base Pool Heating	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	0%	0%	0%	0%	0%	16%	16%	16%	16%	16%
SDG&E	402	Pool Cover	0%	0%	0%	0%	0%	35%	35%	35%	35%	35%
SDG&E	403	Solar Pool Heater	0%	0%	0%	0%	0%	50%	50%	50%	50%	50%

STANDARDS ADJUSTMENT FACTOR (percent)			Office	Restaurant	Retail	Grocery / Warehouse	School	College	Hospital	Lodging	Other	
Segment	Measure #	Measure Description	1	2	3	4	5	6	7	8	9	10
PG&E	100	Base Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	102	Ceiling Insulation (In situ R5 to R24)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	105	Double Pane Low Emissivity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	107	Duct Insulation Installed	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	109	Duct Leakage Repair	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	113	High Efficiency Furnace/Boiler 95% Eff	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	115	Boiler- Heating Pipe Insulation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	117	Boiler Tune-Up	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	119	EMS install	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	121	EMS Optimization	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	125	Stack Heat Exchanger	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	127	Heat Recovery from Air to Air	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	131	Heat Recovery from AC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	200	Base Water Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	201	Eff Gas Water Heater System 95% Eff	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	203	Instantaneous Water Heater <=200 MBTUH	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	205	Circulation Pump Timeclocks	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	208	Tank Insulation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	209	Pipe Insulation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	211	Low Flow Showerheads	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	212	Faucet Aerator	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	213	Solar DHW System Active	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	300	Base Cooking	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	302	Efficient Infrared Griddle	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	303	Convection Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	305	Infrared Conveyer Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	306	Infrared Fryer	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	312	Power Burner Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	313	Power Burner Fryer	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	400	Base Pool Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	402	Pool Cover	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	403	Solar Pool Heater	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	100	Base Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	102	Ceiling Insulation (In situ R5 to R24)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	105	Double Pane Low Emissivity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	107	Duct Insulation Installed	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	109	Duct Leakage Repair	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	113	High Efficiency Furnace/Boiler 95% Eff	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	115	Boiler- Heating Pipe Insulation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	117	Boiler Tune-Up	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	119	EMS install	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	121	EMS Optimization	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	125	Stack Heat Exchanger	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	127	Heat Recovery from Air to Air	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	131	Heat Recovery from AC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	200	Base Water Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	201	Eff Gas Water Heater System 95% Eff	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	203	Instantaneous Water Heater <=200 MBTUH	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	205	Circulation Pump Timeclocks	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	208	Tank Insulation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	209	Pipe Insulation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	211	Low Flow Showerheads	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	212	Faucet Aerator	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	213	Solar DHW System Active	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	300	Base Cooking	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	302	Efficient Infrared Griddle	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	303	Convection Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	305	Infrared Conveyer Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	306	Infrared Fryer	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	312	Power Burner Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	313	Power Burner Fryer	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	400	Base Pool Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	402	Pool Cover	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	403	Solar Pool Heater	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	100	Base Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	105	Double Pane Low Emissivity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	107	Duct Insulation Installed	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	109	Duct Leakage Repair	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

STANDARDS ADJUSTMENT FACTOR (percent)												
Segment	Measure #	Measure Description	Office 1	Restaurant 2	Retail 3	Grocery / Warehouse 4	School 5	College 6	Hospital 7	Lodging 8	Other 9	Other 10
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	115	Boiler- Heating Pipe Insulation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	117	Boiler Tune-Up	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	119	EMS install	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	121	EMS Optimization	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	125	Stack Heat Exchanger	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	127	Heat Recovery from Air to Air	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	131	Heat Recovery from AC	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	200	Base Water Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	201	Eff Gas Water Heater System 95% Eff	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	205	Circulation Pump Timeclocks	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	208	Tank Insulation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	209	Pipe Insulation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	211	Low Flow Showerheads	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	212	Faucet Aerator	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	213	Solar DHW System Active	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	300	Base Cooking	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	302	Efficient Infrared Griddle	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	303	Convection Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	305	Infrared Conveyer Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	306	Infrared Fryer	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	312	Power Burner Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	313	Power Burner Fryer	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	400	Base Pool Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	402	Pool Cover	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	403	Solar Pool Heater	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

APPENDIX C

NATURAL GAS MEASURE INPUTS

FEASIBILITY FACTOR (percent)			Office	Restaurant	Retail	Grocery	Warehouse	School	College	Hospital	Lodging	Other
Segment	Measure #	Measure Description	1	2	3	4	5	6	7	8	9	10
PG&E	100	Base Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	102	Ceiling Insulation (In situ R5 to R24)	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
PG&E	105	Double Pane Low Emissivity	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
PG&E	107	Duct Insulation Installed	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
PG&E	109	Duct Leakage Repair	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
PG&E	113	High Efficiency Furnace/Boiler 95% Eff	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
PG&E	115	Boiler- Heating Pipe Insulation	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
PG&E	117	Boiler Tune-Up	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	119	EMS install	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
PG&E	121	EMS Optimization	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
PG&E	125	Stack Heat Exchanger	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
PG&E	127	Heat Recovery from Air to Air	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
PG&E	131	Heat Recovery from AC	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
PG&E	200	Base Water Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	201	Eff Gas Water Heater System 95% Eff	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
PG&E	203	Instantaneous Water Heater <=200 MBTUH	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
PG&E	205	Circulation Pump Timeclocks	50%	10%	25%	10%	10%	50%	50%	10%	5%	25%
PG&E	208	Tank Insulation	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
PG&E	209	Pipe Insulation	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
PG&E	211	Low Flow Showerheads	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
PG&E	212	Faucet Aerator	95%	25%	95%	25%	95%	50%	50%	25%	50%	75%
PG&E	213	Solar DHW System Active	20%	30%	25%	50%	50%	50%	50%	50%	50%	50%
PG&E	300	Base Cooking	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	302	Efficient Infrared Griddle	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	303	Convection Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	305	Infrared Conveyer Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	306	Infrared Fryer	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	312	Power Burner Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	313	Power Burner Fryer	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	400	Base Pool Heating	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%
PG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbt	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%
PG&E	402	Pool Cover	0%	0%	0%	0%	0%	90%	90%	90%	90%	90%
PG&E	403	Solar Pool Heater	0%	0%	0%	0%	0%	50%	50%	50%	50%	50%
SCG	100	Base Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	102	Ceiling Insulation (In situ R5 to R24)	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SCG	105	Double Pane Low Emissivity	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SCG	107	Duct Insulation Installed	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
SCG	109	Duct Leakage Repair	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SCG	113	High Efficiency Furnace/Boiler 95% Eff	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
SCG	115	Boiler- Heating Pipe Insulation	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SCG	117	Boiler Tune-Up	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	119	EMS install	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
SCG	121	EMS Optimization	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
SCG	125	Stack Heat Exchanger	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SCG	127	Heat Recovery from Air to Air	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SCG	131	Heat Recovery from AC	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
SCG	200	Base Water Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	201	Eff Gas Water Heater System 95% Eff	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
SCG	203	Instantaneous Water Heater <=200 MBTUH	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
SCG	205	Circulation Pump Timeclocks	50%	10%	25%	10%	10%	50%	50%	10%	5%	25%
SCG	208	Tank Insulation	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
SCG	209	Pipe Insulation	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SCG	211	Low Flow Showerheads	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
SCG	212	Faucet Aerator	95%	25%	95%	25%	95%	50%	50%	25%	50%	75%
SCG	213	Solar DHW System Active	20%	30%	25%	50%	50%	50%	50%	50%	50%	50%
SCG	300	Base Cooking	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	302	Efficient Infrared Griddle	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	303	Convection Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	305	Infrared Conveyer Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	306	Infrared Fryer	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	312	Power Burner Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	313	Power Burner Fryer	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	400	Base Pool Heating	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbt	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%
SCG	402	Pool Cover	0%	0%	0%	0%	0%	90%	90%	90%	90%	90%
SCG	403	Solar Pool Heater	0%	0%	0%	0%	0%	50%	50%	50%	50%	50%
SDG&E	100	Base Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SDG&E	105	Double Pane Low Emissivity	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SDG&E	107	Duct Insulation Installed	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
SDG&E	109	Duct Leakage Repair	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%

FEASIBILITY FACTOR (percent)			Office	Restaurant	Retail	Grocery	Warehouse	School	College	Hospital	Lodging	Other
Segment	Measure #	Measure Description	1	2	3	4	5	6	7	8	9	10
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
SDG&E	115	Boiler- Heating Pipe Insulation	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SDG&E	117	Boiler Tune-Up	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	119	EMS install	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
SDG&E	121	EMS Optimization	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
SDG&E	125	Stack Heat Exchanger	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SDG&E	127	Heat Recovery from Air to Air	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SDG&E	131	Heat Recovery from AC	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
SDG&E	200	Base Water Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	201	Eff Gas Water Heater System 95% Eff	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
SDG&E	205	Circulation Pump Timeclocks	50%	10%	25%	10%	10%	50%	50%	10%	5%	25%
SDG&E	208	Tank Insulation	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
SDG&E	209	Pipe Insulation	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SDG&E	211	Low Flow Showerheads	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
SDG&E	212	Faucet Aerator	95%	25%	95%	25%	95%	50%	50%	25%	50%	75%
SDG&E	213	Solar DHW System Active	20%	30%	25%	50%	50%	50%	50%	50%	50%	50%
SDG&E	300	Base Cooking	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	302	Efficient Infrared Griddle	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	303	Convection Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	305	Infrared Conveyer Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	306	Infrared Fryer	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	312	Power Burner Oven	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	313	Power Burner Fryer	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	400	Base Pool Heating	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbt	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%
SDG&E	402	Pool Cover	0%	0%	0%	0%	0%	90%	90%	90%	90%	90%
SDG&E	403	Solar Pool Heater	0%	0%	0%	0%	0%	50%	50%	50%	50%	50%

APPENDIX C

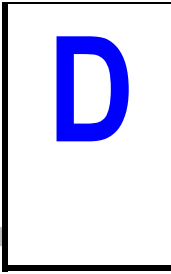
NATURAL GAS MEASURE INPUTS

INCOMPLETE FACTOR (percent)			Office	Restaurant	Retail	Grocery	Warehouse	School	College	Hospital	Lodging	Other
Segment	Measure #	Measure Description	1	2	3	4	5	6	7	8	9	10
PG&E	100	Base Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	102	Ceiling Insulation (In situ R5 to R24)	10%	22%	16%	31%	49%	34%	19%	22%	5%	35%
PG&E	105	Double Pane Low Emissivity	98%	100%	100%	100%	100%	99%	99%	99%	98%	99%
PG&E	107	Duct Insulation Installed	59%	57%	85%	72%	62%	72%	74%	70%	79%	83%
PG&E	109	Duct Leakage Repair	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
PG&E	113	High Efficiency Furnace/Boiler 95% Eff	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
PG&E	115	Boiler- Heating Pipe Insulation	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
PG&E	117	Boiler Tune-Up	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
PG&E	119	EMS install	39%	95%	49%	82%	69%	54%	23%	75%	70%	81%
PG&E	121	EMS Optimization	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
PG&E	125	Stack Heat Exchanger	84%	86%	85%	87%	84%	84%	81%	79%	85%	84%
PG&E	127	Heat Recovery from Air to Air	100%	100%	76%	80%	76%	100%	98%	100%	100%	99%
PG&E	131	Heat Recovery from AC	84%	86%	85%	87%	84%	84%	81%	79%	85%	84%
PG&E	200	Base Water Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	201	Eff Gas Water Heater System 95% Eff	47%	54%	57%	69%	54%	100%	100%	96%	97%	87%
PG&E	203	Instantaneous Water Heater <=200 MBTUH	93%	97%	89%	100%	94%	99%	100%	92%	100%	93%
PG&E	205	Circulation Pump Timeclocks	86%	100%	98%	100%	100%	93%	47%	93%	10%	97%
PG&E	208	Tank Insulation	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
PG&E	209	Pipe Insulation	50%	75%	73%	70%	76%	25%	2%	33%	49%	59%
PG&E	211	Low Flow Showerheads	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
PG&E	212	Faucet Aerator	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
PG&E	213	Solar DHW System Active	100%	100%	100%	100%	100%	100%	100%	100%	100%	97%
PG&E	300	Base Cooking	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	302	Efficient Infrared Griddle	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	303	Convection Oven	90%	85%	90%	90%	90%	90%	90%	90%	90%	90%
PG&E	305	Infrared Conveyer Oven	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	306	Infrared Fryer	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	312	Power Burner Oven	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	313	Power Burner Fryer	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	400	Base Pool Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
PG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	0%	0%	0%	0%	0%	100%	100%	100%	100%	97%
PG&E	402	Pool Cover	0%	0%	0%	0%	0%	29%	25%	50%	80%	63%
PG&E	403	Solar Pool Heater	0%	0%	0%	0%	0%	100%	100%	100%	100%	97%
SCG	100	Base Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	102	Ceiling Insulation (In situ R5 to R24)	10%	22%	16%	31%	49%	34%	19%	22%	5%	35%
SCG	105	Double Pane Low Emissivity	98%	100%	100%	100%	100%	99%	99%	99%	98%	99%
SCG	107	Duct Insulation Installed	59%	57%	85%	72%	62%	72%	74%	70%	79%	83%
SCG	109	Duct Leakage Repair	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
SCG	113	High Efficiency Furnace/Boiler 95% Eff	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
SCG	115	Boiler- Heating Pipe Insulation	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
SCG	117	Boiler Tune-Up	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
SCG	119	EMS install	79%	99%	86%	76%	100%	94%	53%	84%	89%	98%
SCG	121	EMS Optimization	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
SCG	125	Stack Heat Exchanger	84%	86%	85%	87%	84%	84%	81%	79%	85%	84%
SCG	127	Heat Recovery from Air to Air	100%	100%	76%	80%	76%	100%	98%	100%	100%	99%
SCG	131	Heat Recovery from AC	84%	86%	85%	87%	84%	84%	81%	79%	85%	84%
SCG	200	Base Water Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	201	Eff Gas Water Heater System 95% Eff	47%	54%	57%	69%	54%	100%	100%	96%	97%	87%
SCG	203	Instantaneous Water Heater <=200 MBTUH	96%	92%	97%	100%	100%	99%	100%	100%	100%	93%
SCG	205	Circulation Pump Timeclocks	86%	100%	98%	100%	100%	93%	47%	93%	10%	97%
SCG	208	Tank Insulation	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SCG	209	Pipe Insulation	78%	82%	94%	96%	99%	91%	61%	58%	42%	97%
SCG	211	Low Flow Showerheads	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SCG	212	Faucet Aerator	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SCG	213	Solar DHW System Active	100%	100%	100%	100%	100%	100%	100%	100%	100%	97%
SCG	300	Base Cooking	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	302	Efficient Infrared Griddle	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	303	Convection Oven	90%	85%	90%	90%	90%	90%	90%	90%	90%	90%
SCG	305	Infrared Conveyer Oven	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	306	Infrared Fryer	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	312	Power Burner Oven	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	313	Power Burner Fryer	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	400	Base Pool Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	0%	0%	0%	0%	0%	100%	100%	100%	100%	97%
SCG	402	Pool Cover	0%	0%	0%	0%	0%	30%	50%	25%	90%	97%
SCG	403	Solar Pool Heater	0%	0%	0%	0%	0%	100%	100%	100%	100%	97%
SDG&E	100	Base Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	10%	22%	16%	31%	49%	34%	19%	22%	5%	35%
SDG&E	105	Double Pane Low Emissivity	98%	100%	100%	100%	100%	99%	99%	99%	98%	99%
SDG&E	107	Duct Insulation Installed	59%	57%	85%	72%	62%	72%	74%	70%	79%	83%
SDG&E	109	Duct Leakage Repair	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%

INCOMPLETE FACTOR (percent)			Office	Restaurant	Retail	Grocery	Warehouse	School	College	Hospital	Lodging	Other
Segment	Measure #	Measure Description	1	2	3	4	5	6	7	8	9	10
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
SDG&E	115	Boiler- Heating Pipe Insulation	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
SDG&E	117	Boiler Tune-Up	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
SDG&E	119	EMS install	82%	75%	92%	79%	75%	94%	78%	98%	75%	84%
SDG&E	121	EMS Optimization	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
SDG&E	125	Stack Heat Exchanger	84%	86%	85%	87%	84%	84%	81%	79%	85%	84%
SDG&E	127	Heat Recovery from Air to Air	100%	100%	76%	80%	76%	100%	98%	100%	100%	99%
SDG&E	131	Heat Recovery from AC	84%	86%	85%	87%	84%	84%	81%	79%	85%	84%
SDG&E	200	Base Water Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	201	Eff Gas Water Heater System 95% Eff	47%	54%	57%	69%	54%	100%	100%	96%	97%	87%
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	96%	92%	97%	100%	100%	99%	100%	100%	100%	93%
SDG&E	205	Circulation Pump Timeclocks	86%	100%	98%	100%	100%	93%	47%	93%	10%	97%
SDG&E	208	Tank Insulation	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SDG&E	209	Pipe Insulation	78%	82%	94%	96%	99%	91%	61%	58%	42%	97%
SDG&E	211	Low Flow Showerheads	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SDG&E	212	Faucet Aerator	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
SDG&E	213	Solar DHW System Active	100%	100%	100%	100%	100%	100%	100%	100%	100%	97%
SDG&E	300	Base Cooking	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	302	Efficient Infrared Griddle	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	303	Convection Oven	90%	85%	90%	90%	90%	90%	90%	90%	90%	90%
SDG&E	305	Infrared Conveyer Oven	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	306	Infrared Fryer	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	312	Power Burner Oven	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	313	Power Burner Fryer	100%	95%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	400	Base Pool Heating	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	0%	0%	0%	0%	0%	100%	100%	100%	100%	97%
SDG&E	402	Pool Cover	0%	0%	0%	0%	0%	30%	50%	25%	90%	97%
SDG&E	403	Solar Pool Heater	0%	0%	0%	0%	0%	100%	100%	100%	100%	97%

TECHNOLOGY SATURATION (units/square foot)			Office	Restaurant	Retail	Grocery	Warehouse	School	College	Hospital	Lodging	Other
Segment	Measure #	Measure Description	1	2	3	4	5	6	7	8	9	10
PG&E	100	Base Heating	0.01477	0.04074	0.01541	0.01694	0.01236	0.06024	0.02279	0.02000	0.01485	0.02528
PG&E	102	Ceiling Insulation (In situ R5 to R24)	0.66373	0.96180	0.91481	0.98187	0.92540	0.95274	0.60215	0.87281	0.43073	0.90014
PG&E	105	Double Pane Low Emissivity	0.08770	0.04600	0.02844	0.04090	0.01707	0.02423	0.06252	0.02012	0.09450	0.02844
PG&E	107	Duct Insulation Installed	0.04533	0.07934	0.03109	0.03319	0.01533	0.01697	0.01450	0.01424	0.03146	0.03127
PG&E	109	Duct Leakage Repair	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
PG&E	113	High Efficiency Furnace/Boiler 95% Eff	0.01477	0.04074	0.01541	0.01694	0.01236	0.06024	0.02279	0.02000	0.01485	0.02528
PG&E	115	Boiler- Heating Pipe Insulation	0.03707	0.07808	0.05070	0.05844	0.02776	0.02939	0.01076	0.04330	0.02443	0.05853
PG&E	117	Boiler Tune-Up	0.00001	0.00009	0.00002	0.00007	0.00001	0.00002	0.00001	0.00001	0.00001	0.00001
PG&E	119	EMS install	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
PG&E	121	EMS Optimization	0.00001	0.00009	0.00002	0.00007	0.00001	0.00002	0.00001	0.00001	0.00001	0.00001
PG&E	125	Stack Heat Exchanger	0.00001	0.00009	0.00002	0.00007	0.00001	0.00002	0.00001	0.00001	0.00001	0.00001
PG&E	127	Heat Recovery from Air to Air	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
PG&E	131	Heat Recovery from AC	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
PG&E	200	Base Water Heating	0.00465	0.02000	0.01452	0.00677	0.00085	0.02037	0.03619	0.03182	0.02795	0.02730
PG&E	201	Eff Gas Water Heater System 95% Eff	0.00465	0.02000	0.01452	0.00677	0.00085	0.02037	0.03619	0.03182	0.02795	0.02730
PG&E	203	Instantaneous Water Heater <=200 MBTUH	0.00465	0.02000	0.01452	0.00677	0.00085	0.02037	0.03619	0.03182	0.02795	0.02730
PG&E	205	Circulation Pump Timeclocks	0.00001	0.00009	0.00002	0.00007	0.00001	0.00002	0.00001	0.00001	0.00001	0.00001
PG&E	208	Tank Insulation	0.00010	0.00064	0.00059	0.00023	0.00004	0.00038	0.00063	0.00080	0.00086	0.00023
PG&E	209	Pipe Insulation	0.00098	0.00638	0.00591	0.00232	0.00042	0.00377	0.00634	0.00233	0.00864	0.00234
PG&E	211	Low Flow Showerheads	0.00000	0.00000	0.00000	0.00000	0.00000	0.00030	0.00030	0.00035	0.00124	0.00030
PG&E	212	Faucet Aerator	0.00023	0.00058	0.00037	0.00017	0.00015	0.00016	0.00075	0.00050	0.00124	0.00029
PG&E	213	Solar DHW System Active	0.00440	0.02870	0.02660	0.01046	0.00188	0.01697	0.02852	0.01050	0.03888	0.01054
PG&E	300	Base Cooking	0.00970	0.05502	0.00235	0.01494	0.00009	0.00686	0.00390	0.00261	0.00306	0.02900
PG&E	302	Efficient Infrared Griddle	0.00970	0.05502	0.00235	0.01494	0.00009	0.00686	0.00390	0.00261	0.00306	0.02900
PG&E	303	Convection Oven	0.00970	0.05502	0.00235	0.01494	0.00009	0.00686	0.00390	0.00261	0.00306	0.02900
PG&E	305	Infrared Conveyer Oven	0.00970	0.05502	0.00235	0.01494	0.00009	0.00686	0.00390	0.00261	0.00306	0.02900
PG&E	306	Infrared Fryer	0.00970	0.05502	0.00235	0.01494	0.00009	0.00686	0.00390	0.00261	0.00306	0.02900
PG&E	312	Power Burner Oven	0.00970	0.05502	0.00235	0.01494	0.00009	0.00686	0.00390	0.00261	0.00306	0.02900
PG&E	313	Power Burner Fryer	0.00970	0.05502	0.00235	0.01494	0.00009	0.00686	0.00390	0.00261	0.00306	0.02900
PG&E	400	Base Pool Heating	0.00000	0.00000	0.00000	0.00000	0.00000	0.02432	0.01920	0.00406	0.01577	0.30625
PG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	0.00000	0.00000	0.00000	0.00000	0.00000	0.01681	0.01085	0.00130	0.00401	0.16054
PG&E	402	Pool Cover	0.00000	0.00000	0.00000	0.00000	0.00000	0.02432	0.01920	0.00406	0.01577	0.30625
PG&E	403	Solar Pool Heater	0.00000	0.00000	0.00000	0.00000	0.00000	0.02432	0.01920	0.00406	0.01577	0.30625
SCG	100	Base Heating	0.01681	0.03146	0.01394	0.00777	0.01250	0.02848	0.02171	0.00272	0.06839	0.02659
SCG	102	Ceiling Insulation (In situ R5 to R24)	0.53476	0.95238	0.90909	0.82645	1.00000	1.00000	0.37313	0.54348	0.37879	0.91743
SCG	105	Double Pane Low Emissivity	0.08770	0.04600	0.02844	0.04090	0.01707	0.02423	0.06252	0.02012	0.09450	0.02844
SCG	107	Duct Insulation Installed	0.04533	0.07934	0.03109	0.03319	0.01533	0.01697	0.01450	0.01424	0.03146	0.03127
SCG	109	Duct Leakage Repair	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
SCG	113	High Efficiency Furnace/Boiler 95% Eff	0.01681	0.03146	0.01394	0.00777	0.01250	0.02848	0.02171	0.00272	0.06839	0.02659
SCG	115	Boiler- Heating Pipe Insulation	0.03707	0.07808	0.05070	0.05844	0.02776	0.02939	0.01076	0.04330	0.02443	0.05853
SCG	117	Boiler Tune-Up	0.00001	0.00009	0.00002	0.00007	0.00001	0.00002	0.00001	0.00001	0.00001	0.00001
SCG	119	EMS install	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
SCG	121	EMS Optimization	0.00001	0.00009	0.00002	0.00007	0.00001	0.00002	0.00001	0.00001	0.00001	0.00001
SCG	125	Stack Heat Exchanger	0.00001	0.00009	0.00002	0.00007	0.00001	0.00002	0.00001	0.00001	0.00001	0.00001
SCG	127	Heat Recovery from Air to Air	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
SCG	131	Heat Recovery from AC	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
SCG	200	Base Water Heating	0.00417	0.03001	0.00252	0.02204	0.00426	0.00834	0.01989	0.01733	0.04779	0.01394
SCG	201	Eff Gas Water Heater System 95% Eff	0.00417	0.03001	0.00252	0.02204	0.00426	0.00834	0.01989	0.01733	0.04779	0.01394
SCG	203	Instantaneous Water Heater <=200 MBTUH	0.00417	0.03001	0.00252	0.02204	0.00426	0.00834	0.01989	0.01733	0.04779	0.01394
SCG	205	Circulation Pump Timeclocks	0.00001	0.00009	0.00002	0.00007	0.00001	0.00002	0.00001	0.00001	0.00001	0.00001
SCG	208	Tank Insulation	0.00010	0.00064	0.00059	0.00023	0.00004	0.00038	0.00063	0.00080	0.00086	0.00023
SCG	209	Pipe Insulation	0.00098	0.00638	0.00591	0.00232	0.00042	0.00377	0.00634	0.00233	0.00864	0.00234
SCG	211	Low Flow Showerheads	0.00000	0.00000	0.00000	0.00000	0.00000	0.00030	0.00030	0.00035	0.00124	0.00030
SCG	212	Faucet Aerator	0.00023	0.00058	0.00037	0.00017	0.00015	0.00016	0.00075	0.00050	0.00124	0.00029
SCG	213	Solar DHW System Active	0.00440	0.02870	0.02660	0.01046	0.00188	0.01697	0.02852	0.01050	0.03888	0.01054
SCG	300	Base Cooking	0.00922	0.12345	0.00266	0.00869	0.00648	0.00958	0.00505	0.00684	0.00437	0.00894
SCG	302	Efficient Infrared Griddle	0.00922	0.12345	0.00266	0.00869	0.00648	0.00958	0.00505	0.00684	0.00437	0.00894
SCG	303	Convection Oven	0.00922	0.12345	0.00266	0.00869	0.00648	0.00958	0.00505	0.00684	0.00437	0.00894
SCG	305	Infrared Conveyer Oven	0.00922	0.12345	0.00266	0.00869	0.00648	0.00958	0.00505	0.00684	0.00437	0.00894
SCG	306	Infrared Fryer	0.00922	0.12345	0.00266	0.00869	0.00648	0.00958	0.00505	0.00684	0.00437	0.00894
SCG	312	Power Burner Oven	0.00922	0.12345	0.00266	0.00869	0.00648	0.00958	0.00505	0.00684	0.00437	0.00894
SCG	313	Power Burner Fryer	0.00922	0.12345	0.00266	0.00869	0.00648	0.00958	0.00505	0.00684	0.00437	0.00894
SCG	400	Base Pool Heating	0.00000	0.00000	0.00000	0.00000	0.00000	0.02432	0.01920	0.00406	0.01577	0.30625
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	0.00000	0.00000	0.00000	0.00000	0.00000	0.01681	0.01085	0.00130	0.00401	0.16054
SCG	402	Pool Cover	0.00000	0.00000	0.00000	0.00000	0.00000	0.02432	0.01920	0.00406	0.01577	0.30625
SCG	403	Solar Pool Heater	0.00000	0.00000	0.00000	0.00000	0.00000	0.02432	0.01920	0.00406	0.01577	0.30625
SDG&E	100	Base Heating	0.01681	0.03146	0.01394	0.00777	0.01250	0.02848	0.02171	0.00272	0.06839	0.02659
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	0.53476	0.95238	0.90909	0.82645	1.00000	1.00000	0.37313	0.54348	0.37879	0.91743
SDG&E	105	Double Pane Low Emissivity	0.08770	0.04600	0.02844	0.04090	0.01707	0.02423	0.06252	0.02012	0.09450	0.02844
SDG&E	107	Duct Insulation Installed	0.04533	0.07934	0.03109	0.03319	0.01533	0.01697	0.01450	0.01424	0.03146	0.03127
SDG&E	109	Duct Leakage Repair	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

TECHNOLOGY SATURATION (units/square foot)			Office	Restaurant	Retail	Grocery	Warehouse	School	College	Hospital	Lodging	Other
Segment	Measure #	Measure Description	1	2	3	4	5	6	7	8	9	10
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	0.01681	0.03146	0.01394	0.00777	0.01250	0.02848	0.02171	0.00272	0.06839	0.02659
SDG&E	115	Boiler- Heating Pipe Insulation	0.03707	0.07808	0.05070	0.05844	0.02776	0.02939	0.01076	0.04330	0.02443	0.05853
SDG&E	117	Boiler Tune-Up	0.00001	0.00009	0.00002	0.00007	0.00001	0.00002	0.00001	0.00001	0.00001	0.00001
SDG&E	119	EMS install	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
SDG&E	121	EMS Optimization	0.00001	0.00009	0.00002	0.00007	0.00001	0.00002	0.00001	0.00001	0.00001	0.00001
SDG&E	125	Stack Heat Exchanger	0.00001	0.00009	0.00002	0.00007	0.00001	0.00002	0.00001	0.00001	0.00001	0.00001
SDG&E	127	Heat Recovery from Air to Air	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
SDG&E	131	Heat Recovery from AC	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000
SDG&E	200	Base Water Heating	0.00417	0.03001	0.00252	0.02204	0.00426	0.00834	0.01989	0.01733	0.04779	0.01394
SDG&E	201	Eff Gas Water Heater System 95% Eff	0.00417	0.03001	0.00252	0.02204	0.00426	0.00834	0.01989	0.01733	0.04779	0.01394
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	0.00417	0.03001	0.00252	0.02204	0.00426	0.00834	0.01989	0.01733	0.04779	0.01394
SDG&E	205	Circulation Pump Timeclocks	0.00001	0.00009	0.00002	0.00007	0.00001	0.00002	0.00001	0.00001	0.00001	0.00001
SDG&E	208	Tank Insulation	0.00010	0.00064	0.00059	0.00023	0.00004	0.00038	0.00063	0.00080	0.00086	0.00023
SDG&E	209	Pipe Insulation	0.00098	0.00638	0.00591	0.00232	0.00042	0.00377	0.00634	0.00233	0.00864	0.00234
SDG&E	211	Low Flow Showerheads	0.00000	0.00000	0.00000	0.00000	0.00000	0.00030	0.00030	0.00035	0.00124	0.00030
SDG&E	212	Faucet Aerator	0.00023	0.00058	0.00037	0.00017	0.00015	0.00016	0.00075	0.00050	0.00124	0.00029
SDG&E	213	Solar DHW System Active	0.00440	0.02870	0.02660	0.01046	0.00188	0.01697	0.02852	0.01050	0.03888	0.01054
SDG&E	300	Base Cooking	0.00922	0.12345	0.00266	0.00869	0.00648	0.00958	0.00505	0.00684	0.00437	0.00894
SDG&E	302	Efficient Infrared Griddle	0.00922	0.12345	0.00266	0.00869	0.00648	0.00958	0.00505	0.00684	0.00437	0.00894
SDG&E	303	Convection Oven	0.00922	0.12345	0.00266	0.00869	0.00648	0.00958	0.00505	0.00684	0.00437	0.00894
SDG&E	305	Infrared Conveyer Oven	0.00922	0.12345	0.00266	0.00869	0.00648	0.00958	0.00505	0.00684	0.00437	0.00894
SDG&E	306	Infrared Fryer	0.00922	0.12345	0.00266	0.00869	0.00648	0.00958	0.00505	0.00684	0.00437	0.00894
SDG&E	312	Power Burner Oven	0.00922	0.12345	0.00266	0.00869	0.00648	0.00958	0.00505	0.00684	0.00437	0.00894
SDG&E	313	Power Burner Fryer	0.00922	0.12345	0.00266	0.00869	0.00648	0.00958	0.00505	0.00684	0.00437	0.00894
SDG&E	400	Base Pool Heating	0.00000	0.00000	0.00000	0.00000	0.00000	0.02432	0.01920	0.00406	0.01577	0.30625
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	0.00000	0.00000	0.00000	0.00000	0.00000	0.01681	0.01085	0.00130	0.00401	0.16054
SDG&E	402	Pool Cover	0.00000	0.00000	0.00000	0.00000	0.00000	0.02432	0.01920	0.00406	0.01577	0.30625
SDG&E	403	Solar Pool Heater	0.00000	0.00000	0.00000	0.00000	0.00000	0.02432	0.01920	0.00406	0.01577	0.30625



NON-ADDITIVE MEASURE-LEVEL RESULTS

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY															Levelized	
Vintage E															Cost of	
Batch 1															Total	
Measure															Resource	
Segment	Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Therms/Day/ Sq Ft	Service Life (yrs)	Technical Potential Therms	Conserved Energy \$/Therm	Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
PG&E	100	Base Heating	Office	0%	0%	0.00	0.2	0.2	0.0	20	0	N/A	N/A	N/A	N/A	N/A
PG&E	102	Ceiling Insulation (In situ R5 to R24)	Office	5%	5%	0.33	0.2	0.2	0.0	20	284,521	2.81	0.2	0.2	50.1	1.2
PG&E	105	Double Pane Low Emissivity	Office	37%	37%	0.06	0.2	0.1	0.0	60	18,368,013	0.06	6.9	5.6	1.4	1.2
PG&E	107	Duct Insulation Installed	Office	2%	2%	0.02	0.2	0.2	0.0	20	220,013	0.48	1.1	0.9	8.5	1.2
PG&E	113	High Efficiency Furnace/Boiler 95% Eff	Office	18%	18%	0.10	0.2	0.2	0.0	20	15,244,451	0.26	2.0	1.6	4.7	1.2
PG&E	115	Boiler- Heating Pipe Insulation	Office	2%	2%	0.15	0.2	0.2	0.0	20	104,000	3.43	0.2	0.1	61.1	1.2
PG&E	117	Boiler Tune-Up	Office	2%	2%	0.00	0.2	0.2	0.0	2	202,849	0.35	1.5	1.9	0.9	1.2
PG&E	119	EMS install	Office	10%	10%	0.29	0.2	0.2	0.0	20	3,130,479	1.31	0.4	0.3	23.4	1.2
PG&E	121	EMS Optimization	Office	1%	1%	0.01	0.2	0.2	0.0	5	683,411	1.20	0.4	0.5	7.4	1.2
PG&E	127	Heat Recovery from Air to Air	Office	15%	15%	2.00	0.2	0.2	0.0	20	7,574,467	6.42	0.1	0.1	114.4	1.2
PG&E	200	Base Water Heating	Office	0%	0%	0.00	0.1	0.1	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	201	Eff Gas Water Heater System 95% Eff	Office	25%	25%	0.06	0.1	0.1	0.0	15	2,148,823	0.34	1.6	1.4	5.2	1.2
PG&E	203	Instantaneous Water Heater <=200 MBTUH	Office	10%	10%	0.02	0.1	0.1	0.0	15	156,723	0.32	1.7	1.4	5.0	1.2
PG&E	205	Circulation Pump Timeclocks	Office	3%	3%	0.00	0.1	0.1	0.0	15	296,885	0.17	3.1	2.7	2.6	1.2
PG&E	208	Tank Insulation	Office	15%	15%	0.01	0.1	0.1	0.0	15	1,763,281	0.06	9.6	8.4	0.9	1.2
PG&E	209	Pipe Insulation	Office	2%	2%	0.00	0.1	0.1	0.0	15	116,301	0.32	1.7	1.5	4.9	1.2
PG&E	211	Low Flow Showerheads	Office	1%	1%	0.00	0.1	0.1	0.0	10	0	0.00	N/A	N/A	0.0	N/A
PG&E	212	Faucet Aerator	Office	1%	1%	0.00	0.1	0.1	0.0	10	109,282	0.67	0.8	0.8	7.4	1.2
PG&E	213	Solar DHW System Active	Office	60%	60%	0.26	0.1	0.0	0.0	15	2,747,007	0.73	0.7	0.6	11.2	1.2
PG&E	300	Base Cooking	Office	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	302	Efficient Infrared Griddle	Office	0%	0%	0.08	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	303	Convection Oven	Office	0%	0%	0.29	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	305	Infrared Conveyer Oven	Office	0%	0%	0.37	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	306	Infrared Fryer	Office	0%	0%	0.12	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	312	Power Burner Oven	Office	0%	0%	0.35	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	313	Power Burner Fryer	Office	0%	0%	0.14	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	400	Base Pool Heating	Office	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Office	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	402	Pool Cover	Office	0%	0%	0.00	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
PG&E	403	Solar Pool Heater	Office	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	100	Base Heating	Restaurant	0%	0%	0.00	0.2	0.2	0.0	20	0	N/A	N/A	N/A	N/A	N/A
PG&E	102	Ceiling Insulation (In situ R5 to R24)	Restaurant	6%	6%	0.47	0.2	0.2	0.0	20	33,241	4.39	0.1	0.1	78.3	1.2
PG&E	105	Double Pane Low Emissivity	Restaurant	3%	3%	0.03	0.2	0.2	0.0	60	61,631	0.56	0.8	0.6	12.6	1.2
PG&E	107	Duct Insulation Installed	Restaurant	0%	0%	0.03	0.2	0.2	0.0	20	0	N/A	0.0	0.0	N/A	N/A
PG&E	113	High Efficiency Furnace/Boiler 95% Eff	Restaurant	18%	18%	0.26	0.2	0.1	0.0	20	668,518	0.94	0.6	0.5	16.8	1.2
PG&E	115	Boiler- Heating Pipe Insulation	Restaurant	2%	2%	0.31	0.2	0.2	0.0	20	0	9.41	N/A	N/A	167.8	N/A
PG&E	117	Boiler Tune-Up	Restaurant	2%	2%	0.03	0.2	0.2	0.0	2	0	5.81	N/A	N/A	15.3	N/A
PG&E	119	EMS install	Restaurant	10%	10%	0.29	0.2	0.1	0.0	20	315,934	1.81	0.3	0.2	32.3	1.2
PG&E	121	EMS Optimization	Restaurant	1%	1%	0.11	0.2	0.2	0.0	5	29,970	20.17	0.0	0.0	123.9	1.2
PG&E	127	Heat Recovery from Air to Air	Restaurant	25%	25%	2.00	0.2	0.1	0.0	20	553,608	5.02	0.1	0.1	89.5	1.2
PG&E	200	Base Water Heating	Restaurant	0%	0%	0.00	0.6	0.6	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	201	Eff Gas Water Heater System 95% Eff	Restaurant	25%	25%	0.25	0.7	0.5	0.0	15	3,843,214	0.17	3.1	2.7	2.6	1.2
PG&E	203	Instantaneous Water Heater <=200 MBTUH	Restaurant	10%	10%	0.08	0.6	0.6	0.0	15	256,497	0.16	3.3	2.9	2.5	1.2
PG&E	205	Circulation Pump Timeclocks	Restaurant	3%	3%	0.04	0.6	0.6	0.0	15	86,363	0.26	2.1	1.8	3.9	1.2
PG&E	208	Tank Insulation	Restaurant	5%	5%	0.04	0.6	0.6	0.0	15	701,237	0.13	4.0	3.5	2.1	1.2
PG&E	209	Pipe Insulation	Restaurant	2%	2%	0.03	0.6	0.6	0.0	15	215,852	0.24	2.2	1.9	3.7	1.2
PG&E	211	Low Flow Showerheads	Restaurant	1%	1%	0.00	0.6	0.6	0.0	10	0	0.00	N/A	N/A	0.0	N/A
PG&E	212	Faucet Aerator	Restaurant	2%	2%	0.01	0.6	0.6	0.0	10	72,696	0.10	5.5	5.3	1.1	1.2

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY															Levelized	
Vintage E															Cost of	Total
Batch 1															Conserved	Resource
Measure															Energy	Participant
Segment	Number	Measure	Building	Energy	Peak	Total	Base	Peak	Service	Technical	Energy	Cost Test	Participant	Payback	Revenue	
			Type	Savings	Reduction	Costs/	EUI	Therms/Day/	Life (yrs)	Potential	\$/Therm	(TRC)	Test	(Years)	Test	
				Fraction	Fraction	Sq Ft	EUI	Sq Ft		Therms						
PG&E	213	Solar DHW System Active	Restaurant	60%	60%	1.72	0.6	0.2	0.0	15	5,181,772	0.55	1.0	0.9	8.5	1.2
PG&E	300	Base Cooking	Restaurant	0%	0%	0.00	2.0	2.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	302	Efficient Infrared Griddle	Restaurant	7%	7%	0.47	2.0	1.8	0.0	15	5,172,195	0.40	1.3	1.2	6.1	1.2
PG&E	303	Convection Oven	Restaurant	6%	6%	1.62	2.0	1.9	0.0	15	3,988,660	1.60	0.3	0.3	24.6	1.2
PG&E	305	Infrared Conveyer Oven	Restaurant	15%	15%	2.11	2.0	1.7	0.0	15	11,127,942	0.84	0.6	0.6	12.8	1.2
PG&E	306	Infrared Fryer	Restaurant	15%	15%	0.66	2.0	1.7	0.0	15	11,127,942	0.26	2.0	1.8	4.0	1.2
PG&E	312	Power Burner Oven	Restaurant	4%	4%	1.97	2.0	1.9	0.0	15	3,141,754	2.77	0.2	0.2	42.4	1.2
PG&E	313	Power Burner Fryer	Restaurant	4%	4%	0.79	2.0	1.9	0.0	15	3,141,754	1.11	0.5	0.4	17.0	1.2
PG&E	400	Base Pool Heating	Restaurant	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Restaurant	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	402	Pool Cover	Restaurant	0%	0%	0.00	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
PG&E	403	Solar Pool Heater	Restaurant	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	100	Base Heating	Retail	0%	0%	0.00	0.1	0.1	0.0	20	0	N/A	N/A	N/A	N/A	N/A
PG&E	102	Ceiling Insulation (In situ R5 to R24)	Retail	17%	17%	0.45	0.2	0.1	0.0	20	616,203	1.67	0.3	0.3	29.8	1.2
PG&E	105	Double Pane Low Emissivity	Retail	10%	10%	0.02	0.1	0.1	0.0	60	2,030,046	0.11	3.9	3.1	2.5	1.2
PG&E	107	Duct Insulation Installed	Retail	2%	2%	0.01	0.1	0.1	0.0	20	196,788	0.38	1.4	1.1	6.7	1.2
PG&E	113	High Efficiency Furnace/Boiler 95% Eff	Retail	18%	18%	0.10	0.1	0.1	0.0	20	6,008,390	0.42	1.3	1.0	7.4	1.2
PG&E	115	Boiler- Heating Pipe Insulation	Retail	2%	2%	0.20	0.1	0.1	0.0	20	10,362	7.15	0.1	0.1	127.6	1.2
PG&E	117	Boiler Tune-Up	Retail	2%	2%	0.01	0.1	0.1	0.0	2	20,211	1.69	0.3	0.4	4.5	1.2
PG&E	119	EMS install	Retail	10%	10%	0.29	0.1	0.1	0.0	20	1,532,493	2.02	0.3	0.2	36.0	1.2
PG&E	121	EMS Optimization	Retail	1%	1%	0.03	0.1	0.1	0.0	5	269,357	5.88	0.1	0.1	36.1	1.2
PG&E	127	Heat Recovery from Air to Air	Retail	5%	5%	2.00	0.1	0.1	0.0	20	769,353	29.03	0.0	0.0	517.7	1.2
PG&E	200	Base Water Heating	Retail	0%	0%	0.00	0.2	0.2	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	201	Eff Gas Water Heater System 95% Eff	Retail	25%	25%	0.18	0.3	0.2	0.0	15	3,346,955	0.35	1.5	1.4	5.3	1.2
PG&E	203	Instantaneous Water Heater <=200 MBTUH	Retail	10%	10%	0.06	0.2	0.2	0.0	15	197,003	0.32	1.7	1.5	4.9	1.2
PG&E	205	Circulation Pump Timeclocks	Retail	3%	3%	0.01	0.2	0.2	0.0	15	345,253	0.18	3.0	2.7	2.7	1.2
PG&E	208	Tank Insulation	Retail	15%	15%	0.03	0.2	0.2	0.0	15	3,626,808	0.11	4.9	4.3	1.7	1.2
PG&E	209	Pipe Insulation	Retail	2%	2%	0.02	0.2	0.2	0.0	15	347,451	0.62	0.9	0.8	9.6	1.2
PG&E	211	Low Flow Showerheads	Retail	1%	1%	0.00	0.2	0.2	0.0	10	0	0.00	N/A	N/A	0.0	N/A
PG&E	212	Faucet Aerator	Retail	1%	1%	0.00	0.2	0.2	0.0	10	224,777	0.35	1.5	1.5	3.8	1.2
PG&E	213	Solar DHW System Active	Retail	60%	60%	1.60	0.2	0.1	0.0	15	7,062,731	1.41	0.4	0.3	21.6	1.2
PG&E	300	Base Cooking	Retail	0%	0%	0.00	0.1	0.1	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	302	Efficient Infrared Griddle	Retail	0%	0%	0.02	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	303	Convection Oven	Retail	0%	0%	0.07	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	305	Infrared Conveyer Oven	Retail	0%	0%	0.09	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	306	Infrared Fryer	Retail	0%	0%	0.03	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	312	Power Burner Oven	Retail	0%	0%	0.08	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	313	Power Burner Fryer	Retail	0%	0%	0.03	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	400	Base Pool Heating	Retail	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Retail	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	402	Pool Cover	Retail	0%	0%	0.00	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
PG&E	403	Solar Pool Heater	Retail	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	100	Base Heating	FoodStore	0%	0%	0.00	0.2	0.2	0.0	20	0	N/A	N/A	N/A	N/A	N/A
PG&E	102	Ceiling Insulation (In situ R5 to R24)	FoodStore	11%	11%	0.48	0.2	0.2	0.0	20	219,057	1.77	0.3	0.2	31.5	1.2
PG&E	105	Double Pane Low Emissivity	FoodStore	6%	6%	0.03	0.2	0.2	0.0	60	371,513	0.16	2.7	2.2	3.5	1.2
PG&E	107	Duct Insulation Installed	FoodStore	0%	0%	0.01	0.2	0.2	0.0	20	0	N/A	0.0	0.0	N/A	N/A
PG&E	113	High Efficiency Furnace/Boiler 95% Eff	FoodStore	18%	18%	0.11	0.2	0.2	0.0	20	1,765,109	0.28	1.9	1.5	5.0	1.2
PG&E	115	Boiler- Heating Pipe Insulation	FoodStore	2%	2%	0.23	0.2	0.2	0.0	20	867	5.04	0.1	0.1	90.0	1.2

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY															Levelized	
Vintage E															Cost of	Total
Batch 1															Conserved	Resource
Measure															Energy	Participant
Segment	Number	Measure	Building	Energy	Peak	Total	Base	Peak	Service	Technical	Conserved	Resource	Participant	Customer	Revenue	
			Type	Savings	Reduction	Costs/	EUI	Therms/Sq Ft	Life (yrs)	Potential	Energy	Cost Test	Test	Payback	Test	
				Fraction	Fraction	Sq Ft	EUI	Sq Ft		Therms	\$/Therm	(TRC)		(Years)		
PG&E	117	Boiler Tune-Up	FoodStore	2%	2%	0.02	0.2	0.2	0.0	2	1,692	3.28	0.2	0.2	8.6	1.2
PG&E	119	EMS install	FoodStore	10%	10%	0.29	0.2	0.2	0.0	20	735,615	1.28	0.4	0.3	22.8	1.2
PG&E	121	EMS Optimization	FoodStore	1%	1%	0.09	0.2	0.2	0.0	5	79,130	11.39	0.0	0.1	70.0	1.2
PG&E	127	Heat Recovery from Air to Air	FoodStore	15%	15%	2.00	0.2	0.2	0.0	20	721,734	5.81	0.1	0.1	103.6	1.2
PG&E	200	Base Water Heating	FoodStore	0%	0%	0.00	0.1	0.1	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	201	Eff Gas Water Heater System 95% Eff	FoodStore	25%	25%	0.09	0.1	0.1	0.0	15	864,175	0.36	1.5	1.3	5.5	1.2
PG&E	203	Instantaneous Water Heater <=200 MBTUH	FoodStore	10%	10%	0.03	0.1	0.1	0.0	15	48,476	0.33	1.6	1.4	5.0	1.2
PG&E	205	Circulation Pump Timeclocks	FoodStore	3%	3%	0.03	0.1	0.1	0.0	15	8,965	1.20	0.4	0.4	18.4	1.2
PG&E	208	Tank Insulation	FoodStore	10%	10%	0.01	0.1	0.1	0.0	15	149,417	0.14	3.8	3.3	2.2	1.2
PG&E	209	Pipe Insulation	FoodStore	2%	2%	0.01	0.1	0.1	0.0	15	20,896	0.53	1.0	0.9	8.1	1.2
PG&E	211	Low Flow Showerheads	FoodStore	1%	1%	0.00	0.1	0.1	0.0	10	0	0.00	N/A	N/A	0.0	N/A
PG&E	212	Faucet Aerator	FoodStore	1%	1%	0.00	0.1	0.1	0.0	10	3,754	0.34	1.6	1.5	3.8	1.2
PG&E	213	Solar DHW System Active	FoodStore	60%	60%	0.63	0.1	0.0	0.0	15	894,703	1.19	0.5	0.4	18.2	1.2
PG&E	300	Base Cooking	FoodStore	0%	0%	0.00	0.8	0.8	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	302	Efficient Infrared Griddle	FoodStore	3%	3%	0.13	0.8	0.7	0.0	15	619,764	0.65	0.8	0.7	10.0	1.2
PG&E	303	Convection Oven	FoodStore	9%	9%	0.44	0.8	0.7	0.0	15	1,688,560	0.75	0.7	0.6	11.5	1.2
PG&E	305	Infrared Conveyer Oven	FoodStore	0%	0%	0.57	0.8	0.8	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	306	Infrared Fryer	FoodStore	0%	0%	0.18	0.8	0.8	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	312	Power Burner Oven	FoodStore	4%	4%	0.53	0.8	0.7	0.0	15	879,625	1.94	0.3	0.2	29.7	1.2
PG&E	313	Power Burner Fryer	FoodStore	4%	4%	0.21	0.8	0.7	0.0	15	879,625	0.78	0.7	0.6	11.9	1.2
PG&E	400	Base Pool Heating	FoodStore	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	FoodStore	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	402	Pool Cover	FoodStore	0%	0%	0.00	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
PG&E	403	Solar Pool Heater	FoodStore	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	100	Base Heating	Warehouse	0%	0%	0.00	0.1	0.1	0.0	20	0	N/A	N/A	N/A	N/A	N/A
PG&E	102	Ceiling Insulation (In situ R5 to R24)	Warehouse	31%	31%	0.45	0.2	0.1	0.0	20	1,248,394	0.94	0.6	0.5	16.8	1.2
PG&E	105	Double Pane Low Emissivity	Warehouse	0%	0%	0.01	0.1	0.1	0.0	60	0	N/A	0.0	0.0	N/A	N/A
PG&E	107	Duct Insulation Installed	Warehouse	0%	0%	0.01	0.1	0.1	0.0	20	0	N/A	0.0	0.0	N/A	N/A
PG&E	113	High Efficiency Furnace/Boiler 95% Eff	Warehouse	18%	18%	0.08	0.1	0.1	0.0	20	2,112,841	0.35	1.5	1.2	6.2	1.2
PG&E	115	Boiler- Heating Pipe Insulation	Warehouse	2%	2%	0.11	0.1	0.1	0.0	20	1,726	4.07	0.1	0.1	72.7	1.2
PG&E	117	Boiler Tune-Up	Warehouse	2%	2%	0.00	0.1	0.1	0.0	2	3,367	0.59	0.9	1.1	1.6	1.2
PG&E	119	EMS install	Warehouse	10%	10%	0.29	0.1	0.1	0.0	20	744,517	2.15	0.2	0.2	38.3	1.2
PG&E	121	EMS Optimization	Warehouse	1%	1%	0.01	0.1	0.1	0.0	5	94,719	2.05	0.3	0.3	12.6	1.2
PG&E	127	Heat Recovery from Air to Air	Warehouse	0%	0%	2.00	0.1	0.1	0.0	20	0	N/A	0.0	0.0	N/A	N/A
PG&E	200	Base Water Heating	Warehouse	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	201	Eff Gas Water Heater System 95% Eff	Warehouse	25%	25%	0.01	0.0	0.0	0.0	15	196,097	0.51	1.0	0.9	7.8	1.2
PG&E	203	Instantaneous Water Heater <=200 MBTUH	Warehouse	10%	10%	0.00	0.0	0.0	0.0	15	12,854	0.48	1.1	1.0	7.4	1.2
PG&E	205	Circulation Pump Timeclocks	Warehouse	3%	3%	0.00	0.0	0.0	0.0	15	5,090	1.50	0.4	0.3	23.0	1.2
PG&E	208	Tank Insulation	Warehouse	15%	15%	0.00	0.0	0.0	0.0	15	130,702	0.19	2.8	2.4	3.0	1.2
PG&E	209	Pipe Insulation	Warehouse	2%	2%	0.00	0.0	0.0	0.0	15	12,925	1.12	0.5	0.4	17.1	1.2
PG&E	211	Low Flow Showerheads	Warehouse	1%	1%	0.00	0.0	0.0	0.0	10	0	0.00	N/A	N/A	0.0	N/A
PG&E	212	Faucet Aerator	Warehouse	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	0.0	0.0	N/A	N/A
PG&E	213	Solar DHW System Active	Warehouse	60%	60%	0.11	0.0	0.0	0.0	15	509,049	2.53	0.2	0.2	38.7	1.2
PG&E	300	Base Cooking	Warehouse	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	302	Efficient Infrared Griddle	Warehouse	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	303	Convection Oven	Warehouse	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	305	Infrared Conveyer Oven	Warehouse	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	306	Infrared Fryer	Warehouse	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY															Levelized	
Vintage E															Cost of	
Batch 1															Total	
Measure															Resource	
Segment	Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Therms/Day/ Sq Ft	Service Life (yrs)	Technical Potential Therms	Conserved Energy \$/Therm	Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
PG&E	312	Power Burner Oven	Warehouse	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	313	Power Burner Fryer	Warehouse	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	400	Base Pool Heating	Warehouse	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Warehouse	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	402	Pool Cover	Warehouse	0%	0%	0.00	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
PG&E	403	Solar Pool Heater	Warehouse	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	100	Base Heating	School	0%	0%	0.00	0.2	0.2	0.0	20	0	N/A	N/A	N/A	N/A	N/A
PG&E	102	Ceiling Insulation (In situ R5 to R24)	School	11%	11%	0.47	0.2	0.2	0.0	20	855,467	1.92	0.3	0.2	34.2	1.2
PG&E	105	Double Pane Low Emissivity	School	2%	2%	0.02	0.2	0.2	0.0	60	424,358	0.31	1.4	1.1	7.0	1.2
PG&E	107	Duct Insulation Installed	School	0%	0%	0.01	0.2	0.2	0.0	20	0	N/A	0.0	0.0	N/A	N/A
PG&E	113	High Efficiency Furnace/Boiler 95% Eff	School	18%	18%	0.39	0.2	0.2	0.0	20	6,312,563	1.09	0.5	0.4	19.3	1.2
PG&E	115	Boiler- Heating Pipe Insulation	School	2%	2%	0.12	0.2	0.2	0.0	20	60,389	2.76	0.2	0.2	49.3	1.2
PG&E	117	Boiler Tune-Up	School	2%	2%	0.01	0.2	0.2	0.0	2	117,788	1.04	0.5	0.6	2.7	1.2
PG&E	119	EMS install	School	10%	10%	0.29	0.2	0.2	0.0	20	1,775,380	1.35	0.4	0.3	24.1	1.2
PG&E	121	EMS Optimization	School	1%	1%	0.03	0.2	0.2	0.0	5	282,993	3.61	0.1	0.2	22.2	1.2
PG&E	127	Heat Recovery from Air to Air	School	15%	15%	2.00	0.2	0.2	0.0	20	3,136,505	6.52	0.1	0.1	116.3	1.2
PG&E	200	Base Water Heating	School	0%	0%	0.00	0.2	0.2	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	201	Eff Gas Water Heater System 95% Eff	School	25%	25%	0.26	0.2	0.2	0.0	15	3,357,711	0.58	0.9	0.8	8.9	1.2
PG&E	203	Instantaneous Water Heater <=200 MBTUH	School	10%	10%	0.09	0.2	0.2	0.0	15	140,526	0.49	1.1	1.0	7.5	1.2
PG&E	205	Circulation Pump Timeclocks	School	3%	3%	0.01	0.2	0.2	0.0	15	404,868	0.17	3.1	2.7	2.7	1.2
PG&E	208	Tank Insulation	School	10%	10%	0.02	0.2	0.2	0.0	15	1,455,700	0.11	4.7	4.1	1.7	1.2
PG&E	209	Pipe Insulation	School	2%	2%	0.02	0.2	0.2	0.0	15	74,187	0.42	1.3	1.1	6.5	1.2
PG&E	211	Low Flow Showerheads	School	3%	3%	0.01	0.2	0.2	0.0	10	77,078	0.22	2.4	2.3	2.5	1.2
PG&E	212	Faucet Aerator	School	3%	3%	0.00	0.2	0.2	0.0	10	221,680	0.05	10.1	9.9	0.6	1.2
PG&E	213	Solar DHW System Active	School	60%	60%	1.02	0.2	0.1	0.0	15	8,720,189	0.96	0.6	0.5	14.7	1.2
PG&E	300	Base Cooking	School	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	302	Efficient Infrared Griddle	School	3%	3%	0.06	0.0	0.0	0.0	15	136,866	6.51	0.1	0.1	99.8	1.2
PG&E	303	Convection Oven	School	14%	14%	0.20	0.0	0.0	0.0	15	582,998	4.79	0.1	0.1	73.3	1.2
PG&E	305	Infrared Conveyor Oven	School	5%	5%	0.26	0.0	0.0	0.0	15	228,109	17.72	0.0	0.0	271.5	1.2
PG&E	306	Infrared Fryer	School	15%	15%	0.08	0.0	0.0	0.0	15	684,328	1.85	0.3	0.3	28.4	1.2
PG&E	312	Power Burner Oven	School	4%	4%	0.25	0.0	0.0	0.0	15	194,252	19.41	0.0	0.0	297.4	1.2
PG&E	313	Power Burner Fryer	School	4%	4%	0.10	0.0	0.0	0.0	15	194,252	7.77	0.1	0.1	119.0	1.2
PG&E	400	Base Pool Heating	School	0%	0%	0.00	0.2	0.2	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	School	16%	16%	0.10	0.2	0.1	0.0	10	979,750	0.58	0.9	0.9	6.4	1.2
PG&E	402	Pool Cover	School	35%	35%	0.01	0.2	0.2	0.0	5	753,769	0.02	22.0	24.4	0.1	1.2
PG&E	403	Solar Pool Heater	School	35%	35%	0.44	0.2	0.1	0.0	10	1,085,167	1.17	0.5	0.4	12.9	1.2
PG&E	100	Base Heating	College	0%	0%	0.00	0.3	0.3	0.0	20	0	N/A	N/A	N/A	N/A	N/A
PG&E	102	Ceiling Insulation (In situ R5 to R24)	College	3%	3%	0.30	0.3	0.3	0.0	20	114,874	3.30	0.2	0.1	58.8	1.2
PG&E	105	Double Pane Low Emissivity	College	0%	0%	0.04	0.3	0.3	0.0	60	0	N/A	0.0	0.0	N/A	N/A
PG&E	107	Duct Insulation Installed	College	4%	4%	0.01	0.3	0.3	0.0	20	163,362	0.05	10.5	8.4	0.9	1.2
PG&E	113	High Efficiency Furnace/Boiler 95% Eff	College	18%	18%	0.15	0.3	0.2	0.0	20	6,030,451	0.29	1.9	1.5	5.1	1.2
PG&E	115	Boiler- Heating Pipe Insulation	College	2%	2%	0.04	0.3	0.3	0.0	20	90,730	0.71	0.8	0.6	12.6	1.2
PG&E	117	Boiler Tune-Up	College	2%	2%	0.00	0.3	0.3	0.0	2	176,966	0.17	3.1	3.8	0.5	1.2
PG&E	119	EMS install	College	10%	10%	0.29	0.3	0.3	0.0	20	752,978	0.92	0.6	0.5	16.3	1.2
PG&E	121	EMS Optimization	College	1%	1%	0.01	0.3	0.3	0.0	5	270,346	0.60	0.9	1.0	3.7	1.2
PG&E	127	Heat Recovery from Air to Air	College	9%	9%	2.00	0.3	0.3	0.0	20	1,766,662	7.58	0.1	0.1	135.2	1.2
PG&E	200	Base Water Heating	College	0%	0%	0.00	0.6	0.6	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	201	Eff Gas Water Heater System 95% Eff	College	25%	25%	0.46	0.6	0.4	0.0	15	4,572,767	0.39	1.4	1.2	5.9	1.2

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY															Levelized	
Vintage E												Cost of	Total	Customer		
Batch 1												Conserved	Resource	Participant	Payback	Revenue
Segment	Measure	Building	Energy	Peak	Total	Base	Peak	Service	Technical	Conserved	Resource	Participant	Payback	Revenue		
Number	Measure	Type	Savings	Reduction	Costs/	EUI	EUI	Life (yrs)	Potential	Energy	Cost Test	Test	(Years)	Test		
			Fraction	Fraction	Sq Ft				Therms	\$/Therm	(TRC)					
PG&E 203	Instantaneous Water Heater <=200 MBTUH	College	10%	10%	0.15	0.6	0.5	0.0	15	193,117	0.33	1.4	1.4	5.0	1.2	
PG&E 205	Circulation Pump Timeclocks	College	3%	3%	0.00	0.6	0.5	0.0	15	334,519	0.02	35.2	30.9	0.2	1.2	
PG&E 208	Tank Insulation	College	5%	5%	0.04	0.6	0.5	0.0	15	1,139,834	0.15	3.6	3.2	2.3	1.2	
PG&E 209	Pipe Insulation	College	2%	2%	0.03	0.6	0.6	0.0	15	9,546	0.26	2.0	1.8	4.1	1.2	
PG&E 211	Low Flow Showerheads	College	5%	5%	0.01	0.6	0.5	0.0	10	298,637	0.05	10.8	10.5	0.5	1.2	
PG&E 212	Faucet Aerator	College	3%	3%	0.01	0.6	0.5	0.0	10	356,293	0.09	5.7	5.6	1.0	1.2	
PG&E 213	Solar DHW System Active	College	60%	60%	1.71	0.6	0.2	0.0	15	14,037,957	0.61	0.9	0.8	9.3	1.2	
PG&E 300	Base Cooking	College	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A	
PG&E 302	Efficient Infrared Griddle	College	4%	4%	0.03	0.0	0.0	0.0	15	181,596	2.44	0.2	0.2	37.4	1.2	
PG&E 303	Convection Oven	College	5%	5%	0.11	0.0	0.0	0.0	15	205,322	6.76	0.1	0.1	103.6	1.2	
PG&E 305	Infrared Conveyor Oven	College	15%	15%	0.15	0.0	0.0	0.0	15	680,985	2.95	0.2	0.2	45.3	1.2	
PG&E 306	Infrared Fryer	College	15%	15%	0.05	0.0	0.0	0.0	15	680,985	0.93	0.6	0.5	14.2	1.2	
PG&E 312	Power Burner Oven	College	4%	4%	0.14	0.0	0.0	0.0	15	193,303	9.70	0.1	0.0	148.7	1.2	
PG&E 313	Power Burner Fryer	College	4%	4%	0.06	0.0	0.0	0.0	15	193,303	3.88	0.1	0.1	59.5	1.2	
PG&E 400	Base Pool Heating	College	0%	0%	0.00	0.1	0.1	0.0	10	0	N/A	N/A	N/A	N/A	N/A	
PG&E 401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	College	16%	16%	0.06	0.1	0.1	0.0	10	794,997	0.47	1.1	1.1	5.2	1.2	
PG&E 402	Pool Cover	College	35%	35%	0.01	0.2	0.1	0.0	5	537,275	0.02	22.4	24.8	0.1	1.2	
PG&E 403	Solar Pool Heater	College	35%	35%	0.35	0.1	0.1	0.0	10	880,534	1.17	0.5	0.4	12.9	1.2	
PG&E 100	Base Heating	Hospital	0%	0%	0.00	0.5	0.5	0.0	20	0	N/A	N/A	N/A	N/A	N/A	
PG&E 102	Ceiling Insulation (In situ R5 to R24)	Hospital	0%	0%	0.43	0.5	0.5	0.0	20	0	N/A	0.0	0.0	N/A	N/A	
PG&E 105	Double Pane Low Emissivity	Hospital	3%	3%	0.01	0.5	0.5	0.0	60	1,069,017	0.07	6.2	5.0	1.5	1.2	
PG&E 107	Duct Insulation Installed	Hospital	2%	2%	0.01	0.5	0.5	0.0	20	126,399	0.06	9.3	7.5	1.0	1.2	
PG&E 113	High Efficiency Furnace/Boiler 95% Eff	Hospital	18%	18%	0.13	0.5	0.5	0.0	20	10,840,590	0.14	3.9	3.1	2.5	1.2	
PG&E 115	Boiler- Heating Pipe Insulation	Hospital	2%	2%	0.17	0.5	0.5	0.0	20	174,748	1.57	0.3	0.3	27.9	1.2	
PG&E 117	Boiler Tune-Up	Hospital	2%	2%	0.00	0.5	0.5	0.0	2	340,842	0.21	2.5	3.1	0.6	1.2	
PG&E 119	EMS install	Hospital	10%	10%	0.29	0.6	0.5	0.0	20	4,122,927	0.53	1.0	0.8	9.5	1.2	
PG&E 121	EMS Optimization	Hospital	1%	1%	0.01	0.5	0.5	0.0	5	485,985	0.73	0.7	0.8	4.5	1.2	
PG&E 127	Heat Recovery from Air to Air	Hospital	25%	25%	2.00	0.5	0.4	0.0	20	8,977,222	1.51	0.4	0.3	26.9	1.2	
PG&E 200	Base Water Heating	Hospital	0%	0%	0.00	0.8	0.8	0.0	15	0	N/A	N/A	N/A	N/A	N/A	
PG&E 201	Eff Gas Water Heater System 95% Eff	Hospital	25%	25%	0.40	0.8	0.6	0.0	15	8,446,528	0.23	2.3	2.0	3.5	1.2	
PG&E 203	Instantaneous Water Heater <=200 MBTUH	Hospital	10%	10%	0.13	0.8	0.7	0.0	15	340,004	0.19	2.8	2.4	3.0	1.2	
PG&E 205	Circulation Pump Timeclocks	Hospital	3%	3%	0.00	0.8	0.8	0.0	15	198,011	0.02	22.9	20.1	0.4	1.2	
PG&E 208	Tank Insulation	Hospital	5%	5%	0.04	0.8	0.8	0.0	15	1,728,779	0.13	4.2	3.7	1.9	1.2	
PG&E 209	Pipe Insulation	Hospital	2%	2%	0.01	0.8	0.8	0.0	15	233,812	0.07	8.0	7.0	1.0	1.2	
PG&E 211	Low Flow Showerheads	Hospital	2%	2%	0.01	0.8	0.8	0.0	10	69,924	0.12	4.3	4.2	1.4	1.2	
PG&E 212	Faucet Aerator	Hospital	3%	3%	0.01	0.8	0.8	0.0	10	270,194	0.04	12.6	12.3	0.5	1.2	
PG&E 213	Solar DHW System Active	Hospital	60%	60%	0.63	0.8	0.3	0.0	15	21,291,276	0.15	3.5	3.1	2.3	1.2	
PG&E 300	Base Cooking	Hospital	0%	0%	0.00	0.1	0.1	0.0	15	0	N/A	N/A	N/A	N/A	N/A	
PG&E 302	Efficient Infrared Griddle	Hospital	3%	3%	0.02	0.1	0.1	0.0	15	291,683	0.81	0.7	0.6	12.5	1.2	
PG&E 303	Convection Oven	Hospital	7%	7%	0.08	0.1	0.1	0.0	15	616,853	1.20	0.4	0.4	18.5	1.2	
PG&E 305	Infrared Conveyor Oven	Hospital	15%	15%	0.10	0.1	0.1	0.0	15	1,458,417	0.74	0.7	0.6	11.3	1.2	
PG&E 306	Infrared Fryer	Hospital	15%	15%	0.03	0.1	0.1	0.0	15	1,458,417	0.23	2.3	2.0	3.5	1.2	
PG&E 312	Power Burner Oven	Hospital	4%	4%	0.09	0.1	0.1	0.0	15	413,983	2.43	0.2	0.2	37.2	1.2	
PG&E 313	Power Burner Fryer	Hospital	4%	4%	0.04	0.1	0.1	0.0	15	413,983	0.97	0.6	0.5	14.9	1.2	
PG&E 400	Base Pool Heating	Hospital	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A	
PG&E 401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Hospital	16%	16%	0.01	0.0	0.0	0.0	10	20,263	0.27	2.0	2.0	2.9	1.2	
PG&E 402	Pool Cover	Hospital	35%	35%	0.00	0.0	0.0	0.0	5	24,483	0.03	20.0	22.2	0.2	1.2	
PG&E 403	Solar Pool Heater	Hospital	35%	35%	0.07	0.0	0.0	0.0	10	22,443	1.17	0.5	0.4	12.9	1.2	

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY															Levelized			
Vintage E															Cost of	Total	Customer	
Batch 1															Conserved	Resource	Payback	Revenue
Segment	Measure	Building	Energy	Peak	Total	Base	Peak	Service	Technical	Conserved	Resource	Participant	Payback	Revenue				
Number	Measure	Type	Savings	Reduction	Costs/	EUI	Therms/Day/	Life (yrs)	Potential	Energy	Cost Test	Test	(Years)	Test				
			Fraction	Fraction	Sq Ft	EUI	Sq Ft		Therms	\$/Therm	(TRC)							
PG&E 100	Base Heating	Hotel	0%	0%	0.00	0.1	0.1	0.0	20	0	N/A	N/A	N/A	N/A	N/A			
PG&E 102	Ceiling Insulation (In situ R5 to R24)	Hotel	0%	0%	0.21	0.1	0.1	0.0	20	0	N/A	0.0	0.0	N/A	N/A			
PG&E 105	Double Pane Low Emissivity	Hotel	6%	6%	0.06	0.1	0.1	0.0	60	243,446	0.98	0.4	0.3	22.0	1.2			
PG&E 107	Duct Insulation Installed	Hotel	2%	2%	0.01	0.1	0.1	0.0	20	30,390	0.67	0.8	0.6	11.9	1.2			
PG&E 113	High Efficiency Furnace/Boiler 95% Eff	Hotel	18%	18%	0.10	0.1	0.1	0.0	20	1,272,503	0.62	0.9	0.7	11.1	1.2			
PG&E 115	Boiler- Heating Pipe Insulation	Hotel	2%	2%	0.10	0.1	0.1	0.0	20	7,101	5.34	0.1	0.1	95.2	1.2			
PG&E 117	Boiler Tune-Up	Hotel	2%	2%	0.00	0.1	0.1	0.0	2	13,850	1.09	0.5	0.6	2.9	1.2			
PG&E 119	EMS install	Hotel	10%	10%	0.29	0.1	0.1	0.0	20	454,459	3.20	0.2	0.1	57.0	1.2			
PG&E 121	EMS Optimization	Hotel	1%	1%	0.01	0.1	0.1	0.0	5	57,046	3.78	0.1	0.2	23.2	1.2			
PG&E 127	Heat Recovery from Air to Air	Hotel	5%	5%	2.00	0.1	0.1	0.0	20	210,755	45.50	0.0	0.0	811.4	1.2			
PG&E 200	Base Water Heating	Hotel	0%	0%	0.00	0.4	0.4	0.0	15	0	N/A	N/A	N/A	N/A	N/A			
PG&E 201	Eff Gas Water Heater System 95% Eff	Hotel	25%	25%	0.35	0.4	0.3	0.0	15	6,719,466	0.38	1.4	1.2	5.9	1.2			
PG&E 203	Instantaneous Water Heater <=200 MBTUH	Hotel	10%	10%	0.12	0.4	0.4	0.0	15	290,621	0.33	1.6	1.4	5.0	1.2			
PG&E 205	Circulation Pump Timeclocks	Hotel	3%	3%	0.00	0.4	0.4	0.0	15	6,312	0.04	14.5	12.7	0.6	1.2			
PG&E 208	Tank Insulation	Hotel	5%	5%	0.05	0.4	0.4	0.0	15	997,419	0.26	2.1	1.8	4.0	1.2			
PG&E 209	Pipe Insulation	Hotel	2%	2%	0.03	0.4	0.4	0.0	15	202,706	0.47	1.1	1.0	7.2	1.2			
PG&E 211	Low Flow Showerheads	Hotel	7%	7%	0.04	0.4	0.4	0.0	10	94,527	0.19	2.8	2.8	2.1	1.2			
PG&E 212	Faucet Aerator	Hotel	3%	3%	0.02	0.4	0.4	0.0	10	311,777	0.20	2.7	2.6	2.2	1.2			
PG&E 213	Solar DHW System Active	Hotel	60%	60%	2.33	0.4	0.2	0.0	15	12,284,007	1.07	0.5	0.4	16.4	1.2			
PG&E 300	Base Cooking	Hotel	0%	0%	0.00	0.1	0.1	0.0	15	0	N/A	N/A	N/A	N/A	N/A			
PG&E 302	Efficient Infrared Griddle	Hotel	3%	3%	0.03	0.1	0.1	0.0	15	307,100	0.81	0.7	0.6	12.5	1.2			
PG&E 303	Convection Oven	Hotel	6%	6%	0.09	0.1	0.1	0.0	15	556,117	1.41	0.4	0.3	21.6	1.2			
PG&E 305	Infrared Conveyer Oven	Hotel	5%	5%	0.12	0.1	0.1	0.0	15	511,834	2.21	0.2	0.2	33.9	1.2			
PG&E 306	Infrared Fryer	Hotel	15%	15%	0.04	0.1	0.1	0.0	15	1,535,501	0.23	2.3	2.0	3.5	1.2			
PG&E 312	Power Burner Oven	Hotel	4%	4%	0.11	0.1	0.1	0.0	15	435,864	2.43	0.2	0.2	37.2	1.2			
PG&E 313	Power Burner Fryer	Hotel	4%	4%	0.04	0.1	0.1	0.0	15	435,864	0.97	0.6	0.5	14.9	1.2			
PG&E 400	Base Pool Heating	Hotel	0%	0%	0.00	0.1	0.1	0.0	10	0	N/A	N/A	N/A	N/A	N/A			
PG&E 401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Hotel	16%	16%	0.02	0.1	0.1	0.0	10	1,193,208	0.21	2.5	2.5	2.3	1.2			
PG&E 402	Pool Cover	Hotel	35%	35%	0.00	0.1	0.1	0.0	5	2,046,336	0.03	17.8	19.7	0.2	1.2			
PG&E 403	Solar Pool Heater	Hotel	35%	35%	0.29	0.1	0.1	0.0	10	1,321,592	1.17	0.5	0.4	12.9	1.2			
PG&E 100	Base Heating	Miscellaneous	0%	0%	0.00	0.3	0.3	0.0	20	0	N/A	N/A	N/A	N/A	N/A			
PG&E 102	Ceiling Insulation (In situ R5 to R24)	Miscellaneous	10%	10%	0.44	0.3	0.3	0.0	20	2,403,071	1.69	0.3	0.3	30.1	1.2			
PG&E 105	Double Pane Low Emissivity	Miscellaneous	6%	6%	0.02	0.3	0.2	0.0	60	4,298,873	0.09	4.6	3.7	2.1	1.2			
PG&E 107	Duct Insulation Installed	Miscellaneous	2%	2%	0.01	0.3	0.3	0.0	20	464,784	0.28	1.9	1.5	5.0	1.2			
PG&E 113	High Efficiency Furnace/Boiler 95% Eff	Miscellaneous	18%	18%	0.16	0.3	0.2	0.0	20	20,503,377	0.36	1.5	1.2	6.5	1.2			
PG&E 115	Boiler- Heating Pipe Insulation	Miscellaneous	2%	2%	0.23	0.3	0.3	0.0	20	51,236	4.38	0.1	0.1	78.1	1.2			
PG&E 117	Boiler Tune-Up	Miscellaneous	2%	2%	0.00	0.3	0.3	0.0	2	99,936	0.56	1.0	1.2	1.5	1.2			
PG&E 119	EMS install	Miscellaneous	10%	10%	0.29	0.3	0.2	0.0	20	8,402,131	1.11	0.5	0.4	19.7	1.2			
PG&E 121	EMS Optimization	Miscellaneous	1%	1%	0.02	0.3	0.3	0.0	5	919,169	1.95	0.3	0.3	12.0	1.2			
PG&E 127	Heat Recovery from Air to Air	Miscellaneous	10%	10%	2.00	0.3	0.2	0.0	20	6,754,939	7.78	0.1	0.1	138.8	1.2			
PG&E 200	Base Water Heating	Miscellaneous	0%	0%	0.00	0.4	0.4	0.0	15	0	N/A	N/A	N/A	N/A	N/A			
PG&E 201	Eff Gas Water Heater System 95% Eff	Miscellaneous	25%	25%	0.34	0.4	0.3	0.0	15	12,421,033	0.38	1.4	1.3	5.8	1.2			
PG&E 203	Instantaneous Water Heater <=200 MBTUH	Miscellaneous	10%	10%	0.12	0.4	0.4	0.0	15	545,676	0.32	1.7	1.4	5.0	1.2			
PG&E 205	Circulation Pump Timeclocks	Miscellaneous	3%	3%	0.01	0.4	0.4	0.0	15	588,336	0.06	9.1	8.0	0.9	1.2			
PG&E 208	Tank Insulation	Miscellaneous	10%	10%	0.01	0.4	0.4	0.0	15	4,035,869	0.04	15.2	13.4	0.5	1.2			
PG&E 209	Pipe Insulation	Miscellaneous	2%	2%	0.01	0.4	0.4	0.0	15	478,562	0.13	4.1	3.6	2.0	1.2			
PG&E 211	Low Flow Showerheads	Miscellaneous	1%	1%	0.01	0.4	0.4	0.0	10	75,526	0.34	1.6	1.6	3.7	1.2			
PG&E 212	Faucet Aerator	Miscellaneous	3%	3%	0.00	0.4	0.4	0.0	10	921,899	0.05	11.2	11.0	0.5	1.2			

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY															Levelized	
Vintage E															Cost of	Total
Batch 1															Conserved	Resource
Measure															Energy	Cost Test
Segment	Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Therms/Day/ Sq Ft	Service Life (yrs)	Technical Potential Therms	\$/Therm	Participant Test	Customer Payback (Years)	Revenue Test	
PG&E	213	Solar DHW System Active	Miscellaneous	60%	60%	0.63	0.4	0.2	0.0	15	23,899,194	0.29	1.8	1.6	4.5	1.2
PG&E	300	Base Cooking	Miscellaneous	0%	0%	0.00	0.1	0.1	0.0	15	0	N/A	N/A	N/A	N/A	N/A
PG&E	302	Efficient Infrared Griddle	Miscellaneous	0%	0%	0.25	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	303	Convection Oven	Miscellaneous	0%	0%	0.85	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	305	Infrared Conveyer Oven	Miscellaneous	0%	0%	1.11	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	306	Infrared Fryer	Miscellaneous	15%	15%	0.35	0.1	0.1	0.0	15	1,316,044	1.85	0.3	0.3	28.4	1.2
PG&E	312	Power Burner Oven	Miscellaneous	0%	0%	1.04	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	313	Power Burner Fryer	Miscellaneous	0%	0%	0.41	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
PG&E	400	Base Pool Heating	Miscellaneous	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Miscellaneous	16%	16%	0.94	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
PG&E	402	Pool Cover	Miscellaneous	35%	35%	0.09	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
PG&E	403	Solar Pool Heater	Miscellaneous	35%	35%	5.56	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	100	Base Heating	Office	0%	0%	0.00	0.2	0.2	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SCG	102	Ceiling Insulation (In situ R5 to R24)	Office	4%	4%	0.26	0.2	0.2	0.0	20	195,515	2.82	0.2	0.2	50.3	1.2
SCG	105	Double Pane Low Emissivity	Office	32%	32%	0.06	0.2	0.2	0.0	60	15,440,483	0.06	6.8	5.5	1.4	1.2
SCG	107	Duct Insulation Installed	Office	2%	2%	0.02	0.2	0.2	0.0	20	354,552	0.31	1.7	1.4	5.5	1.2
SCG	113	High Efficiency Furnace/Boiler 95% Eff	Office	18%	18%	0.11	0.2	0.2	0.0	20	14,862,181	0.26	2.0	1.6	4.7	1.2
SCG	115	Boiler- Heating Pipe Insulation	Office	2%	2%	0.15	0.2	0.2	0.0	20	9,032	3.01	0.2	0.1	53.7	1.2
SCG	117	Boiler Tune-Up	Office	2%	2%	0.00	0.2	0.2	0.0	2	17,617	0.30	1.8	2.1	0.8	1.2
SCG	119	EMS install	Office	10%	10%	0.29	0.2	0.2	0.0	20	5,986,642	1.20	0.4	0.4	21.4	1.2
SCG	121	EMS Optimization	Office	1%	1%	0.01	0.2	0.2	0.0	5	666,273	1.06	0.5	0.6	6.5	1.2
SCG	127	Heat Recovery from Air to Air	Office	15%	15%	2.00	0.2	0.2	0.0	20	7,384,529	5.64	0.1	0.1	100.5	1.2
SCG	200	Base Water Heating	Office	0%	0%	0.00	0.1	0.1	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	201	Eff Gas Water Heater System 95% Eff	Office	25%	25%	0.05	0.1	0.1	0.0	15	781,774	0.34	1.6	1.4	5.2	1.2
SCG	203	Instantaneous Water Heater <=200 MBTUH	Office	10%	10%	0.02	0.1	0.1	0.0	15	58,342	0.33	1.6	1.4	5.0	1.2
SCG	205	Circulation Pump Timeclocks	Office	3%	3%	0.00	0.1	0.1	0.0	15	108,011	0.19	2.8	2.5	2.9	1.2
SCG	208	Tank Insulation	Office	15%	15%	0.01	0.1	0.1	0.0	15	641,509	0.06	8.6	7.5	1.0	1.2
SCG	209	Pipe Insulation	Office	2%	2%	0.00	0.1	0.1	0.0	15	65,001	0.36	1.5	1.3	5.5	1.2
SCG	211	Low Flow Showerheads	Office	1%	1%	0.00	0.1	0.1	0.0	10	0	0.00	N/A	N/A	0.0	N/A
SCG	212	Faucet Aerator	Office	1%	1%	0.00	0.1	0.1	0.0	10	39,758	0.75	0.7	0.7	8.3	1.2
SCG	213	Solar DHW System Active	Office	60%	60%	0.26	0.1	0.0	0.0	15	999,403	0.81	0.7	0.6	12.4	1.2
SCG	300	Base Cooking	Office	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	302	Efficient Infrared Griddle	Office	0%	0%	0.08	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	303	Convection Oven	Office	0%	0%	0.27	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	305	Infrared Conveyer Oven	Office	0%	0%	0.35	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	306	Infrared Fryer	Office	0%	0%	0.11	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	312	Power Burner Oven	Office	0%	0%	0.33	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	313	Power Burner Fryer	Office	0%	0%	0.13	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	400	Base Pool Heating	Office	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Office	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	402	Pool Cover	Office	0%	0%	0.00	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
SCG	403	Solar Pool Heater	Office	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	100	Base Heating	Restaurant	0%	0%	0.00	0.1	0.1	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SCG	102	Ceiling Insulation (In situ R5 to R24)	Restaurant	5%	5%	0.47	0.1	0.1	0.0	20	32,215	6.81	0.1	0.1	121.4	1.2
SCG	105	Double Pane Low Emissivity	Restaurant	4%	4%	0.03	0.1	0.1	0.0	60	96,045	0.54	0.8	0.6	12.2	1.2
SCG	107	Duct Insulation Installed	Restaurant	0%	0%	0.03	0.1	0.1	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SCG	113	High Efficiency Furnace/Boiler 95% Eff	Restaurant	18%	18%	0.20	0.1	0.1	0.0	20	782,991	0.94	0.6	0.5	16.8	1.2
SCG	115	Boiler- Heating Pipe Insulation	Restaurant	2%	2%	0.31	0.1	0.1	0.0	20	388	12.19	0.0	0.0	217.3	1.2

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY																
Vintage E		Levelized														
Batch 1		Cost of														
Measure		Total														
Segment	Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Therms/Day/ Sq Ft	Service Life (yrs)	Technical Potential Therms	Conserved Energy \$/Therm	Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
SCG	117	Boiler Tune-Up	Restaurant	2%	2%	0.03	0.1	0.1	0.0	2	756	7.52	0.1	0.1	19.8	1.2
SCG	119	EMS install	Restaurant	10%	10%	0.29	0.1	0.1	0.0	20	386,941	2.35	0.2	0.2	42.0	1.2
SCG	121	EMS Optimization	Restaurant	1%	1%	0.11	0.1	0.1	0.0	5	35,102	26.13	0.0	0.0	160.5	1.2
SCG	127	Heat Recovery from Air to Air	Restaurant	25%	25%	2.00	0.1	0.1	0.0	20	648,404	6.50	0.1	0.1	115.9	1.2
SCG	200	Base Water Heating	Restaurant	0%	0%	0.00	0.9	0.9	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	201	Eff Gas Water Heater System 95% Eff	Restaurant	25%	25%	0.38	1.0	0.8	0.0	15	9,334,190	0.17	3.1	2.7	2.6	1.2
SCG	203	Instantaneous Water Heater <=200 MBTUH	Restaurant	10%	10%	0.13	0.9	0.8	0.0	15	593,145	0.16	3.3	2.9	2.5	1.2
SCG	205	Circulation Pump Timeclocks	Restaurant	3%	3%	0.04	0.9	0.9	0.0	15	209,753	0.17	3.1	2.7	2.6	1.2
SCG	208	Tank Insulation	Restaurant	5%	5%	0.04	0.9	0.9	0.0	15	1,703,126	0.09	6.0	5.3	1.4	1.2
SCG	209	Pipe Insulation	Restaurant	2%	2%	0.03	0.9	0.9	0.0	15	578,158	0.16	3.3	2.9	2.5	1.2
SCG	211	Low Flow Showerheads	Restaurant	1%	1%	0.00	0.9	0.9	0.0	10	0	0.00	N/A	N/A	0.0	N/A
SCG	212	Faucet Aerator	Restaurant	2%	2%	0.01	0.9	0.9	0.0	10	176,560	0.07	8.2	8.0	0.7	1.2
SCG	213	Solar DHW System Active	Restaurant	60%	60%	1.72	0.9	0.4	0.0	15	12,585,206	0.37	1.5	1.3	5.6	1.2
SCG	300	Base Cooking	Restaurant	0%	0%	0.00	4.4	4.4	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	302	Efficient Infrared Griddle	Restaurant	7%	7%	1.04	4.4	4.1	0.0	15	14,466,139	0.40	1.3	1.2	6.1	1.2
SCG	303	Convection Oven	Restaurant	6%	6%	3.63	4.5	4.2	0.0	15	11,155,905	1.60	0.3	0.3	24.6	1.2
SCG	305	Infrared Conveyer Oven	Restaurant	15%	15%	4.73	4.5	3.8	0.0	15	31,123,802	0.84	0.6	0.6	12.8	1.2
SCG	306	Infrared Fryer	Restaurant	15%	15%	1.48	4.5	3.8	0.0	15	31,123,802	0.26	2.0	1.8	4.0	1.2
SCG	312	Power Burner Oven	Restaurant	4%	4%	4.41	4.4	4.3	0.0	15	8,787,189	2.77	0.2	0.2	42.4	1.2
SCG	313	Power Burner Fryer	Restaurant	4%	4%	1.77	4.4	4.3	0.0	15	8,787,189	1.11	0.5	0.4	17.0	1.2
SCG	400	Base Pool Heating	Restaurant	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Restaurant	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	402	Pool Cover	Restaurant	0%	0%	0.00	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
SCG	403	Solar Pool Heater	Restaurant	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	100	Base Heating	Retail	0%	0%	0.00	0.1	0.1	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SCG	102	Ceiling Insulation (In situ R5 to R24)	Retail	3%	3%	0.45	0.1	0.1	0.0	20	41,254	15.86	0.0	0.0	282.9	1.2
SCG	105	Double Pane Low Emissivity	Retail	10%	10%	0.02	0.1	0.1	0.0	60	815,884	0.18	2.4	1.9	3.9	1.2
SCG	107	Duct Insulation Installed	Retail	2%	2%	0.01	0.1	0.1	0.0	20	66,174	0.75	0.7	0.6	13.5	1.2
SCG	113	High Efficiency Furnace/Boiler 95% Eff	Retail	18%	18%	0.09	0.1	0.1	0.0	20	2,419,685	0.60	0.9	0.7	10.7	1.2
SCG	115	Boiler- Heating Pipe Insulation	Retail	2%	2%	0.20	0.1	0.1	0.0	20	0	11.38	N/A	N/A	202.9	N/A
SCG	117	Boiler Tune-Up	Retail	2%	2%	0.01	0.1	0.1	0.0	2	0	2.69	N/A	N/A	7.1	N/A
SCG	119	EMS install	Retail	10%	10%	0.29	0.1	0.1	0.0	20	1,048,626	3.34	0.2	0.1	59.6	1.2
SCG	121	EMS Optimization	Retail	1%	1%	0.03	0.1	0.1	0.0	5	108,475	9.36	0.1	0.1	57.5	1.2
SCG	127	Heat Recovery from Air to Air	Retail	5%	5%	2.00	0.1	0.1	0.0	20	309,832	46.18	0.0	0.0	823.4	1.2
SCG	200	Base Water Heating	Retail	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	201	Eff Gas Water Heater System 95% Eff	Retail	25%	25%	0.03	0.0	0.0	0.0	15	696,224	0.35	1.5	1.4	5.3	1.2
SCG	203	Instantaneous Water Heater <=200 MBTUH	Retail	10%	10%	0.01	0.0	0.0	0.0	15	44,520	0.33	1.6	1.4	5.0	1.2
SCG	205	Circulation Pump Timeclocks	Retail	3%	3%	0.01	0.0	0.0	0.0	15	36,707	1.02	0.5	0.5	15.6	1.2
SCG	208	Tank Insulation	Retail	15%	15%	0.03	0.0	0.0	0.0	15	385,596	0.62	0.9	0.8	9.6	1.2
SCG	209	Pipe Insulation	Retail	2%	2%	0.02	0.0	0.0	0.0	15	46,867	3.61	0.1	0.1	55.3	1.2
SCG	211	Low Flow Showerheads	Retail	1%	1%	0.00	0.0	0.0	0.0	10	0	0.00	N/A	N/A	0.0	N/A
SCG	212	Faucet Aerator	Retail	1%	1%	0.00	0.0	0.0	0.0	10	23,898	2.00	0.3	0.3	22.0	1.2
SCG	213	Solar DHW System Active	Retail	60%	60%	1.60	0.0	0.0	0.0	15	750,897	8.13	0.1	0.1	124.5	1.2
SCG	300	Base Cooking	Retail	0%	0%	0.00	0.1	0.1	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	302	Efficient Infrared Griddle	Retail	0%	0%	0.02	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	303	Convection Oven	Retail	0%	0%	0.08	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	305	Infrared Conveyer Oven	Retail	0%	0%	0.10	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	306	Infrared Fryer	Retail	0%	0%	0.03	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY															Levelized	
Vintage E															Cost of	Total
Batch 1															Conserved	Resource
Measure															Energy	Cost Test
Segment	Number	Measure	Building	Energy	Peak	Total	Base	Peak	Service	Technical	Participant	Customer	Revenue	Test	Test	
			Type	Savings	Reduction	Costs/	EUI	Therms/Day/	Life (yrs)	Potential	Test	Payback	Test	Test	Test	
				Fraction	Fraction	Sq Ft	EUI	Sq Ft		Therms	\$/Therm	(TRC)				
SCG	312	Power Burner Oven	Retail	0%	0%	0.10	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	313	Power Burner Fryer	Retail	0%	0%	0.04	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	400	Base Pool Heating	Retail	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Retail	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	402	Pool Cover	Retail	0%	0%	0.00	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
SCG	403	Solar Pool Heater	Retail	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	100	Base Heating	FoodStore	0%	0%	0.00	0.1	0.1	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SCG	102	Ceiling Insulation (In situ R5 to R24)	FoodStore	11%	11%	0.40	0.1	0.1	0.0	20	109,037	3.35	0.2	0.1	59.7	1.2
SCG	105	Double Pane Low Emissivity	FoodStore	7%	7%	0.03	0.1	0.1	0.0	60	221,902	0.29	1.5	1.2	6.6	1.2
SCG	107	Duct Insulation Installed	FoodStore	0%	0%	0.01	0.1	0.1	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SCG	113	High Efficiency Furnace/Boiler 95% Eff	FoodStore	18%	18%	0.05	0.1	0.1	0.0	20	907,426	0.28	1.9	1.5	5.0	1.2
SCG	115	Boiler- Heating Pipe Insulation	FoodStore	2%	2%	0.23	0.1	0.1	0.0	20	0	11.00	N/A	N/A	196.1	N/A
SCG	117	Boiler Tune-Up	FoodStore	2%	2%	0.02	0.1	0.1	0.0	2	0	7.15	N/A	N/A	18.8	N/A
SCG	119	EMS install	FoodStore	10%	10%	0.29	0.1	0.1	0.0	20	352,365	2.77	0.2	0.2	49.4	1.2
SCG	121	EMS Optimization	FoodStore	1%	1%	0.09	0.1	0.1	0.0	5	40,680	24.82	0.0	0.0	152.5	1.2
SCG	127	Heat Recovery from Air to Air	FoodStore	15%	15%	2.00	0.1	0.1	0.0	20	371,037	12.66	0.0	0.0	225.8	1.2
SCG	200	Base Water Heating	FoodStore	0%	0%	0.00	0.3	0.3	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	201	Eff Gas Water Heater System 95% Eff	FoodStore	25%	25%	0.28	0.4	0.3	0.0	15	4,168,444	0.36	1.5	1.3	5.5	1.2
SCG	203	Instantaneous Water Heater <=200 MBTUH	FoodStore	10%	10%	0.09	0.3	0.3	0.0	15	232,986	0.33	1.6	1.4	5.0	1.2
SCG	205	Circulation Pump Timeclocks	FoodStore	3%	3%	0.03	0.3	0.3	0.0	15	84,608	0.37	1.5	1.3	5.6	1.2
SCG	208	Tank Insulation	FoodStore	10%	10%	0.01	0.4	0.3	0.0	15	1,410,142	0.04	12.4	10.9	0.7	1.2
SCG	209	Pipe Insulation	FoodStore	2%	2%	0.01	0.3	0.3	0.0	15	272,071	0.16	3.3	2.9	2.5	1.2
SCG	211	Low Flow Showerheads	FoodStore	1%	1%	0.00	0.3	0.3	0.0	10	0	0.00	N/A	N/A	0.0	N/A
SCG	212	Faucet Aerator	FoodStore	1%	1%	0.00	0.3	0.3	0.0	10	35,431	0.11	5.1	5.0	1.2	1.2
SCG	213	Solar DHW System Active	FoodStore	60%	60%	0.63	0.3	0.1	0.0	15	8,443,878	0.36	1.5	1.3	5.6	1.2
SCG	300	Base Cooking	FoodStore	0%	0%	0.00	0.4	0.4	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	302	Efficient Infrared Griddle	FoodStore	3%	3%	0.07	0.4	0.4	0.0	15	513,619	0.65	0.8	0.7	10.0	1.2
SCG	303	Convection Oven	FoodStore	9%	9%	0.26	0.4	0.4	0.0	15	1,399,366	0.75	0.7	0.6	11.5	1.2
SCG	305	Infrared Conveyer Oven	FoodStore	0%	0%	0.33	0.4	0.4	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	306	Infrared Fryer	FoodStore	0%	0%	0.10	0.4	0.4	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	312	Power Burner Oven	FoodStore	4%	4%	0.31	0.4	0.4	0.0	15	728,975	1.94	0.3	0.2	29.7	1.2
SCG	313	Power Burner Fryer	FoodStore	4%	4%	0.12	0.4	0.4	0.0	15	728,975	0.78	0.7	0.6	11.9	1.2
SCG	400	Base Pool Heating	FoodStore	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	FoodStore	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	402	Pool Cover	FoodStore	0%	0%	0.00	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
SCG	403	Solar Pool Heater	FoodStore	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	100	Base Heating	Warehouse	0%	0%	0.00	0.1	0.1	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SCG	102	Ceiling Insulation (In situ R5 to R24)	Warehouse	21%	21%	0.49	0.1	0.1	0.0	20	331,747	1.63	0.3	0.3	29.0	1.2
SCG	105	Double Pane Low Emissivity	Warehouse	0%	0%	0.01	0.1	0.1	0.0	60	0	N/A	0.0	0.0	N/A	N/A
SCG	107	Duct Insulation Installed	Warehouse	0%	0%	0.01	0.1	0.1	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SCG	113	High Efficiency Furnace/Boiler 95% Eff	Warehouse	18%	18%	0.08	0.1	0.1	0.0	20	891,958	0.35	1.5	1.2	6.3	1.2
SCG	115	Boiler- Heating Pipe Insulation	Warehouse	2%	2%	0.11	0.1	0.1	0.0	20	0	4.11	N/A	N/A	73.2	N/A
SCG	117	Boiler Tune-Up	Warehouse	2%	2%	0.00	0.1	0.1	0.0	2	0	0.60	N/A	N/A	1.6	N/A
SCG	119	EMS install	Warehouse	10%	10%	0.29	0.1	0.1	0.0	20	443,184	2.23	0.2	0.2	39.8	1.2
SCG	121	EMS Optimization	Warehouse	1%	1%	0.01	0.1	0.1	0.0	5	39,987	2.07	0.3	0.3	12.7	1.2
SCG	127	Heat Recovery from Air to Air	Warehouse	0%	0%	2.00	0.1	0.1	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SCG	200	Base Water Heating	Warehouse	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	201	Eff Gas Water Heater System 95% Eff	Warehouse	25%	25%	0.05	0.0	0.0	0.0	15	207,361	0.52	1.0	0.9	7.9	1.2

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY																
Vintage E		Levelized														
Batch 1		Cost of														
Measure		Total														
Segment	Number	Measure	Building Type	Energy	Peak	Total	Base		Peak	Service	Technical	Conserved	Resource	Participant	Customer	Revenue
				Savings Fraction	Reduction Fraction	Costs/ Sq Ft	EUI	EUI	Therms/Day/ Sq Ft		Potential Therms	Energy \$/Therm	Cost Test (TRC)		Payback (Years)	
SCG	203	Instantaneous Water Heater <=200 MBTUH	Warehouse	10%	10%	0.02	0.0	0.0	0.0	15	14,332	0.49	1.1	1.0	7.5	1.2
SCG	205	Circulation Pump Timeclocks	Warehouse	3%	3%	0.00	0.0	0.0	0.0	15	5,383	0.30	1.8	1.6	4.6	1.2
SCG	208	Tank Insulation	Warehouse	15%	15%	0.00	0.0	0.0	0.0	15	138,209	0.04	13.7	12.0	0.6	1.2
SCG	209	Pipe Insulation	Warehouse	2%	2%	0.00	0.0	0.0	0.0	15	17,820	0.23	2.4	2.1	3.5	1.2
SCG	211	Low Flow Showerheads	Warehouse	1%	1%	0.00	0.0	0.0	0.0	10	0	0.00	N/A	N/A	0.0	N/A
SCG	212	Faucet Aerator	Warehouse	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	0.0	0.0	N/A	N/A
SCG	213	Solar DHW System Active	Warehouse	60%	60%	0.11	0.0	0.0	0.0	15	538,288	0.51	1.0	0.9	7.8	1.2
SCG	300	Base Cooking	Warehouse	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	302	Efficient Infrared Griddle	Warehouse	0%	0%	0.05	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	303	Convection Oven	Warehouse	0%	0%	0.19	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	305	Infrared Conveyor Oven	Warehouse	0%	0%	0.25	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	306	Infrared Fryer	Warehouse	0%	0%	0.08	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	312	Power Burner Oven	Warehouse	0%	0%	0.23	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	313	Power Burner Fryer	Warehouse	0%	0%	0.09	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	400	Base Pool Heating	Warehouse	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Warehouse	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	402	Pool Cover	Warehouse	0%	0%	0.00	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
SCG	403	Solar Pool Heater	Warehouse	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	100	Base Heating	School	0%	0%	0.00	0.1	0.1	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SCG	102	Ceiling Insulation (In situ R5 to R24)	School	5%	5%	0.49	0.1	0.1	0.0	20	153,183	9.64	0.1	0.0	171.8	1.2
SCG	105	Double Pane Low Emissivity	School	1%	1%	0.02	0.1	0.1	0.0	60	116,325	0.98	0.4	0.3	21.9	1.2
SCG	107	Duct Insulation Installed	School	0%	0%	0.01	0.1	0.1	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SCG	113	High Efficiency Furnace/Boiler 95% Eff	School	18%	18%	0.19	0.1	0.1	0.0	20	2,555,168	1.09	0.5	0.4	19.3	1.2
SCG	115	Boiler- Heating Pipe Insulation	School	2%	2%	0.12	0.1	0.1	0.0	20	18,703	5.84	0.1	0.1	104.2	1.2
SCG	117	Boiler Tune-Up	School	2%	2%	0.01	0.1	0.1	0.0	2	36,480	2.20	0.2	0.3	5.8	1.2
SCG	119	EMS install	School	10%	10%	0.29	0.1	0.1	0.0	20	1,200,608	2.98	0.2	0.1	53.2	1.2
SCG	121	EMS Optimization	School	1%	1%	0.03	0.1	0.1	0.0	5	114,548	7.63	0.1	0.1	46.9	1.2
SCG	127	Heat Recovery from Air to Air	School	15%	15%	2.00	0.1	0.1	0.0	20	1,269,579	13.80	0.0	0.0	246.1	1.2
SCG	200	Base Water Heating	School	0%	0%	0.00	0.1	0.1	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	201	Eff Gas Water Heater System 95% Eff	School	25%	25%	0.11	0.1	0.1	0.0	15	1,594,705	0.58	0.9	0.8	8.9	1.2
SCG	203	Instantaneous Water Heater <=200 MBTUH	School	10%	10%	0.04	0.1	0.1	0.0	15	66,741	0.49	1.1	1.0	7.5	1.2
SCG	205	Circulation Pump Timeclocks	School	3%	3%	0.01	0.1	0.1	0.0	15	195,855	0.42	1.3	1.1	6.5	1.2
SCG	208	Tank Insulation	School	10%	10%	0.02	0.1	0.1	0.0	15	704,196	0.28	1.9	1.7	4.3	1.2
SCG	209	Pipe Insulation	School	2%	2%	0.02	0.1	0.1	0.0	15	128,395	1.04	0.5	0.5	16.0	1.2
SCG	211	Low Flow Showerheads	School	3%	3%	0.01	0.1	0.1	0.0	10	37,287	0.55	1.0	1.0	6.0	1.2
SCG	212	Faucet Aerator	School	3%	3%	0.00	0.1	0.1	0.0	10	107,238	0.13	4.1	4.0	1.4	1.2
SCG	213	Solar DHW System Active	School	60%	60%	1.02	0.1	0.0	0.0	15	4,218,400	2.35	0.2	0.2	36.0	1.2
SCG	300	Base Cooking	School	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	302	Efficient Infrared Griddle	School	3%	3%	0.08	0.0	0.0	0.0	15	135,743	6.51	0.1	0.1	99.8	1.2
SCG	303	Convection Oven	School	14%	14%	0.28	0.0	0.0	0.0	15	578,215	4.79	0.1	0.1	73.3	1.2
SCG	305	Infrared Conveyor Oven	School	5%	5%	0.37	0.0	0.0	0.0	15	226,238	17.72	0.0	0.0	271.5	1.2
SCG	306	Infrared Fryer	School	15%	15%	0.12	0.0	0.0	0.0	15	678,714	1.85	0.3	0.3	28.4	1.2
SCG	312	Power Burner Oven	School	4%	4%	0.34	0.0	0.0	0.0	15	192,658	19.41	0.0	0.0	297.4	1.2
SCG	313	Power Burner Fryer	School	4%	4%	0.14	0.0	0.0	0.0	15	192,658	7.77	0.1	0.1	119.0	1.2
SCG	400	Base Pool Heating	School	0%	0%	0.00	0.2	0.2	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	School	16%	16%	0.10	0.2	0.1	0.0	10	426,000	0.58	0.9	0.9	6.4	1.2
SCG	402	Pool Cover	School	35%	35%	0.01	0.2	0.2	0.0	5	337,471	0.02	21.9	24.3	0.2	1.2
SCG	403	Solar Pool Heater	School	47%	47%	0.44	0.2	0.1	0.0	10	633,607	0.87	0.6	0.6	9.6	1.2

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY																
Vintage		Levelized														
Batch		Cost of														
Measure		Total														
Segment	Number	Measure	Building Type	Energy	Peak	Total	Base		Peak	Service	Technical	Conserved	Resource	Participant	Customer	Revenue
				Savings Fraction	Reduction Fraction	Costs/ Sq Ft	EUI	EUI	Therms/Day/ Sq Ft			Life (yrs)	Potential Therms		Energy \$/Therm	
SCG	100	Base Heating	College	0%	0%	0.00	0.3	0.3	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SCG	102	Ceiling Insulation (In situ R5 to R24)	College	0%	0%	0.18	0.3	0.3	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SCG	105	Double Pane Low Emissivity	College	0%	0%	0.04	0.3	0.3	0.0	60	0	N/A	0.0	0.0	N/A	N/A
SCG	107	Duct Insulation Installed	College	4%	4%	0.01	0.3	0.3	0.0	20	34,978	0.06	9.2	7.4	1.0	1.2
SCG	113	High Efficiency Furnace/Boiler 95% Eff	College	18%	18%	0.14	0.3	0.2	0.0	20	1,505,680	0.29	1.9	1.5	5.1	1.2
SCG	115	Boiler- Heating Pipe Insulation	College	2%	2%	0.04	0.3	0.3	0.0	20	24,541	0.74	0.7	0.6	13.2	1.2
SCG	117	Boiler Tune-Up	College	2%	2%	0.00	0.3	0.3	0.0	2	47,866	0.18	3.0	3.6	0.5	1.2
SCG	119	EMS install	College	10%	10%	0.29	0.3	0.3	0.0	20	417,542	0.99	0.5	0.4	17.7	1.2
SCG	121	EMS Optimization	College	1%	1%	0.01	0.3	0.3	0.0	5	67,500	0.63	0.9	0.9	3.9	1.2
SCG	127	Heat Recovery from Air to Air	College	9%	9%	2.00	0.3	0.3	0.0	20	441,099	7.96	0.1	0.1	142.0	1.2
SCG	200	Base Water Heating	College	0%	0%	0.00	0.3	0.3	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	201	Eff Gas Water Heater System 95% Eff	College	25%	25%	0.25	0.3	0.2	0.0	15	3,351,777	0.39	1.4	1.2	5.9	1.2
SCG	203	Instantaneous Water Heater <=200 MBTUH	College	10%	10%	0.08	0.3	0.3	0.0	15	141,170	0.33	1.6	1.4	5.0	1.2
SCG	205	Circulation Pump Timeclocks	College	3%	3%	0.00	0.3	0.3	0.0	15	237,892	0.03	19.4	17.0	0.4	1.2
SCG	208	Tank Insulation	College	5%	5%	0.04	0.3	0.3	0.0	15	810,590	0.27	2.0	1.8	4.1	1.2
SCG	209	Pipe Insulation	College	2%	2%	0.03	0.3	0.3	0.0	15	205,247	0.49	1.1	1.0	7.5	1.2
SCG	211	Low Flow Showerheads	College	5%	5%	0.01	0.3	0.3	0.0	10	212,375	0.09	5.9	5.8	1.0	1.2
SCG	212	Faucet Aerator	College	3%	3%	0.01	0.3	0.3	0.0	10	253,377	0.17	3.2	3.1	1.9	1.2
SCG	213	Solar DHW System Active	College	60%	60%	1.71	0.3	0.1	0.0	15	9,983,057	1.10	0.5	0.4	16.9	1.2
SCG	300	Base Cooking	College	0%	0%	0.00	0.1	0.1	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	302	Efficient Infrared Griddle	College	4%	4%	0.04	0.1	0.0	0.0	15	10,102	2.44	0.2	0.2	37.4	1.2
SCG	303	Convection Oven	College	5%	5%	0.15	0.1	0.0	0.0	15	11,422	6.76	0.1	0.1	103.6	1.2
SCG	305	Infrared Conveyer Oven	College	15%	15%	0.19	0.1	0.0	0.0	15	37,883	2.95	0.2	0.2	45.3	1.2
SCG	306	Infrared Fryer	College	15%	15%	0.06	0.1	0.0	0.0	15	37,883	0.93	0.6	0.5	14.2	1.2
SCG	312	Power Burner Oven	College	4%	4%	0.18	0.1	0.0	0.0	15	10,753	9.70	0.1	0.0	148.7	1.2
SCG	313	Power Burner Fryer	College	4%	4%	0.07	0.1	0.0	0.0	15	10,753	3.88	0.1	0.1	59.5	1.2
SCG	400	Base Pool Heating	College	0%	0%	0.00	0.1	0.1	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	College	16%	16%	0.06	0.1	0.1	0.0	10	524,479	0.47	1.1	1.1	5.2	1.2
SCG	402	Pool Cover	College	35%	35%	0.01	0.2	0.1	0.0	5	633,720	0.03	20.0	22.2	0.2	1.2
SCG	403	Solar Pool Heater	College	47%	47%	0.35	0.1	0.1	0.0	10	780,079	0.87	0.6	0.6	9.6	1.2
SCG	100	Base Heating	Hospital	0%	0%	0.00	0.1	0.1	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SCG	102	Ceiling Insulation (In situ R5 to R24)	Hospital	0%	0%	0.27	0.1	0.1	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SCG	105	Double Pane Low Emissivity	Hospital	3%	3%	0.01	0.1	0.1	0.0	60	105,340	0.44	1.0	0.8	9.8	1.2
SCG	107	Duct Insulation Installed	Hospital	3%	3%	0.01	0.1	0.1	0.0	20	16,802	0.30	1.8	1.5	5.3	1.2
SCG	113	High Efficiency Furnace/Boiler 95% Eff	Hospital	18%	18%	0.02	0.1	0.1	0.0	20	926,236	0.14	3.9	3.1	2.5	1.2
SCG	115	Boiler- Heating Pipe Insulation	Hospital	2%	2%	0.17	0.1	0.1	0.0	20	13,548	11.54	0.0	0.0	205.7	1.2
SCG	117	Boiler Tune-Up	Hospital	2%	2%	0.00	0.1	0.1	0.0	2	26,425	1.55	0.3	0.4	4.1	1.2
SCG	119	EMS install	Hospital	10%	10%	0.29	0.1	0.1	0.0	20	392,868	3.96	0.1	0.1	70.6	1.2
SCG	121	EMS Optimization	Hospital	1%	1%	0.01	0.1	0.1	0.0	5	41,523	5.40	0.1	0.1	33.2	1.2
SCG	127	Heat Recovery from Air to Air	Hospital	25%	25%	2.00	0.1	0.1	0.0	20	767,027	11.09	0.0	0.0	197.8	1.2
SCG	200	Base Water Heating	Hospital	0%	0%	0.00	0.4	0.4	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	201	Eff Gas Water Heater System 95% Eff	Hospital	25%	25%	0.22	0.4	0.3	0.0	15	5,101,062	0.23	2.3	2.0	3.5	1.2
SCG	203	Instantaneous Water Heater <=200 MBTUH	Hospital	10%	10%	0.07	0.4	0.4	0.0	15	221,245	0.20	2.7	2.4	3.0	1.2
SCG	205	Circulation Pump Timeclocks	Hospital	3%	3%	0.00	0.4	0.4	0.0	15	121,010	0.04	12.4	10.9	0.7	1.2
SCG	208	Tank Insulation	Hospital	5%	5%	0.04	0.5	0.4	0.0	15	1,056,509	0.23	2.3	2.0	3.6	1.2
SCG	209	Pipe Insulation	Hospital	2%	2%	0.01	0.4	0.4	0.0	15	253,691	0.12	4.3	3.8	1.9	1.2
SCG	211	Low Flow Showerheads	Hospital	2%	2%	0.01	0.4	0.4	0.0	10	42,733	0.23	2.3	2.3	2.5	1.2
SCG	212	Faucet Aerator	Hospital	3%	3%	0.01	0.5	0.4	0.0	10	165,124	0.08	6.9	6.7	0.9	1.2

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY															Levelized	
Vintage E															Cost of	Total
Batch 1															Conserved	Resource
Measure															Energy	Cost Test
Segment	Number	Measure	Building	Energy	Peak	Total	Base	Peak	Service	Technical	Participant	Customer	Revenue			
			Type	Savings	Reduction	Costs/	EUI	Therms/Day/	Life (yrs)	Potential	Test	Payback	Test			
				Fraction	Fraction	Sq Ft	EUI	Sq Ft		Therms	\$/Therm	(TRC)		(Years)	Test	
SCG	213	Solar DHW System Active	Hospital	60%	60%	0.63	0.4	0.2	0.0	15	13,011,747	0.28	1.9	1.7	4.3	1.2
SCG	300	Base Cooking	Hospital	0%	0%	0.00	0.3	0.3	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	302	Efficient Infrared Griddle	Hospital	3%	3%	0.06	0.3	0.3	0.0	15	365,580	0.81	0.7	0.6	12.5	1.2
SCG	303	Convection Oven	Hospital	7%	7%	0.20	0.3	0.3	0.0	15	773,130	1.20	0.4	0.4	18.5	1.2
SCG	305	Infrared Conveyer Oven	Hospital	15%	15%	0.26	0.3	0.2	0.0	15	1,827,900	0.74	0.7	0.6	11.3	1.2
SCG	306	Infrared Fryer	Hospital	15%	15%	0.08	0.3	0.2	0.0	15	1,827,900	0.23	2.3	2.0	3.5	1.2
SCG	312	Power Burner Oven	Hospital	4%	4%	0.24	0.3	0.3	0.0	15	518,864	2.43	0.2	0.2	37.2	1.2
SCG	313	Power Burner Fryer	Hospital	4%	4%	0.10	0.3	0.3	0.0	15	518,864	0.97	0.6	0.5	14.9	1.2
SCG	400	Base Pool Heating	Hospital	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Hospital	16%	16%	0.01	0.0	0.0	0.0	10	56,865	0.27	2.0	2.0	2.9	1.2
SCG	402	Pool Cover	Hospital	35%	35%	0.00	0.0	0.0	0.0	5	38,431	0.02	22.4	24.8	0.1	1.2
SCG	403	Solar Pool Heater	Hospital	47%	47%	0.07	0.0	0.0	0.0	10	84,578	0.87	0.6	0.6	9.6	1.2
SCG	100	Base Heating	Hotel	0%	0%	0.00	0.4	0.4	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SCG	102	Ceiling Insulation (In situ R5 to R24)	Hotel	0%	0%	0.19	0.4	0.4	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SCG	105	Double Pane Low Emissivity	Hotel	10%	10%	0.06	0.4	0.4	0.0	60	635,098	0.12	3.4	2.7	2.8	1.2
SCG	107	Duct Insulation Installed	Hotel	2%	2%	0.01	0.4	0.4	0.0	20	34,437	0.15	3.6	2.9	2.6	1.2
SCG	113	High Efficiency Furnace/Boiler 95% Eff	Hotel	18%	18%	0.44	0.4	0.3	0.0	20	1,938,950	0.62	0.9	0.7	11.1	1.2
SCG	115	Boiler- Heating Pipe Insulation	Hotel	2%	2%	0.10	0.4	0.4	0.0	20	24,221	1.16	0.5	0.4	20.7	1.2
SCG	117	Boiler Tune-Up	Hotel	2%	2%	0.00	0.4	0.4	0.0	2	47,243	0.24	2.3	2.7	0.6	1.2
SCG	119	EMS install	Hotel	10%	10%	0.29	0.4	0.4	0.0	20	868,735	0.71	0.8	0.6	12.6	1.2
SCG	121	EMS Optimization	Hotel	1%	1%	0.01	0.4	0.4	0.0	5	86,923	0.82	0.7	0.7	5.0	1.2
SCG	127	Heat Recovery from Air to Air	Hotel	5%	5%	2.00	0.4	0.4	0.0	20	321,133	9.88	0.1	0.0	176.2	1.2
SCG	200	Base Water Heating	Hotel	0%	0%	0.00	0.7	0.7	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	201	Eff Gas Water Heater System 95% Eff	Hotel	25%	25%	0.60	0.7	0.6	0.0	15	14,557,459	0.38	1.4	1.2	5.9	1.2
SCG	203	Instantaneous Water Heater <=200 MBTUH	Hotel	10%	10%	0.20	0.7	0.7	0.0	15	629,619	0.33	1.6	1.4	5.0	1.2
SCG	205	Circulation Pump Timeclocks	Hotel	3%	3%	0.00	0.8	0.7	0.0	15	13,676	0.02	24.8	21.7	0.3	1.2
SCG	208	Tank Insulation	Hotel	5%	5%	0.05	0.8	0.7	0.0	15	2,160,870	0.15	3.5	3.1	2.3	1.2
SCG	209	Pipe Insulation	Hotel	2%	2%	0.03	0.7	0.7	0.0	15	373,392	0.28	1.9	1.7	4.2	1.2
SCG	211	Low Flow Showerheads	Hotel	7%	7%	0.04	0.8	0.7	0.0	10	204,790	0.11	4.9	4.7	1.2	1.2
SCG	212	Faucet Aerator	Hotel	3%	3%	0.02	0.7	0.7	0.0	10	675,452	0.12	4.6	4.5	1.3	1.2
SCG	213	Solar DHW System Active	Hotel	60%	60%	2.33	0.7	0.3	0.0	15	26,612,818	0.63	0.9	0.8	9.6	1.2
SCG	300	Base Cooking	Hotel	0%	0%	0.00	0.2	0.2	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	302	Efficient Infrared Griddle	Hotel	3%	3%	0.04	0.2	0.2	0.0	15	221,291	0.81	0.7	0.6	12.5	1.2
SCG	303	Convection Oven	Hotel	6%	6%	0.13	0.2	0.2	0.0	15	400,729	1.41	0.4	0.3	21.6	1.2
SCG	305	Infrared Conveyer Oven	Hotel	5%	5%	0.17	0.2	0.2	0.0	15	368,819	2.21	0.2	0.2	33.9	1.2
SCG	306	Infrared Fryer	Hotel	15%	15%	0.05	0.2	0.2	0.0	15	1,106,456	0.23	2.3	2.0	3.5	1.2
SCG	312	Power Burner Oven	Hotel	4%	4%	0.16	0.2	0.2	0.0	15	314,077	2.43	0.2	0.2	37.2	1.2
SCG	313	Power Burner Fryer	Hotel	4%	4%	0.06	0.2	0.2	0.0	15	314,077	0.97	0.6	0.5	14.9	1.2
SCG	400	Base Pool Heating	Hotel	0%	0%	0.00	0.1	0.1	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Hotel	16%	16%	0.02	0.1	0.1	0.0	10	927,441	0.21	2.5	2.5	2.3	1.2
SCG	402	Pool Cover	Hotel	35%	35%	0.00	0.1	0.1	0.0	5	1,724,466	0.03	17.1	19.0	0.2	1.2
SCG	403	Solar Pool Heater	Hotel	47%	47%	0.29	0.1	0.1	0.0	10	1,379,421	0.87	0.6	0.6	9.6	1.2
SCG	100	Base Heating	Miscellaneous	0%	0%	0.00	0.2	0.2	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SCG	102	Ceiling Insulation (In situ R5 to R24)	Miscellaneous	6%	6%	0.45	0.2	0.2	0.0	20	314,244	5.10	0.1	0.1	90.9	1.2
SCG	105	Double Pane Low Emissivity	Miscellaneous	6%	6%	0.02	0.2	0.1	0.0	60	982,552	0.16	2.7	2.2	3.6	1.2
SCG	107	Duct Insulation Installed	Miscellaneous	2%	2%	0.01	0.2	0.2	0.0	20	100,100	0.44	1.2	1.0	7.9	1.2
SCG	113	High Efficiency Furnace/Boiler 95% Eff	Miscellaneous	18%	18%	0.17	0.2	0.1	0.0	20	4,748,885	0.64	0.8	0.7	11.4	1.2
SCG	115	Boiler- Heating Pipe Insulation	Miscellaneous	2%	2%	0.23	0.2	0.2	0.0	20	29,680	7.32	0.1	0.1	130.6	1.2

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY															Levelized	
Vintage E															Cost of	Total
Batch 1															Conserved	Resource
Measure															Energy	Participant
Segment	Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Therms/Day/ Sq Ft	Service Life (yrs)	Technical Potential Therms	\$/Therm	Cost Test (TRC)	Payback (Years)	Revenue Test	
SCG	117	Boiler Tune-Up	Miscellaneous	2%	2%	0.00	0.2	0.2	0.0	2	57,890	0.94	0.6	0.7	2.5	1.2
SCG	119	EMS install	Miscellaneous	10%	10%	0.29	0.2	0.1	0.0	20	2,319,140	1.88	0.3	0.2	33.6	1.2
SCG	121	EMS Optimization	Miscellaneous	1%	1%	0.02	0.2	0.2	0.0	5	212,893	3.26	0.2	0.2	20.0	1.2
SCG	127	Heat Recovery from Air to Air	Miscellaneous	10%	10%	2.00	0.2	0.1	0.0	20	1,564,544	13.01	0.0	0.0	232.0	1.2
SCG	200	Base Water Heating	Miscellaneous	0%	0%	0.00	0.2	0.2	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	201	Eff Gas Water Heater System 95% Eff	Miscellaneous	25%	25%	0.18	0.2	0.2	0.0	15	8,757,116	0.38	1.4	1.3	5.8	1.2
SCG	203	Instantaneous Water Heater <=200 MBTUH	Miscellaneous	10%	10%	0.06	0.2	0.2	0.0	15	384,714	0.32	1.7	1.4	5.0	1.2
SCG	205	Circulation Pump Timeclocks	Miscellaneous	3%	3%	0.01	0.2	0.2	0.0	15	414,791	0.11	4.7	4.1	1.8	1.2
SCG	208	Tank Insulation	Miscellaneous	10%	10%	0.01	0.2	0.2	0.0	15	2,845,381	0.07	7.8	6.8	1.1	1.2
SCG	209	Pipe Insulation	Miscellaneous	2%	2%	0.01	0.2	0.2	0.0	15	550,660	0.26	2.1	1.8	4.0	1.2
SCG	211	Low Flow Showerheads	Miscellaneous	1%	1%	0.01	0.2	0.2	0.0	10	53,247	0.66	0.8	0.8	7.3	1.2
SCG	212	Faucet Aerator	Miscellaneous	3%	3%	0.00	0.2	0.2	0.0	10	649,960	0.09	5.7	5.6	1.0	1.2
SCG	213	Solar DHW System Active	Miscellaneous	60%	60%	0.63	0.2	0.1	0.0	15	16,849,485	0.57	0.9	0.8	8.8	1.2
SCG	300	Base Cooking	Miscellaneous	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SCG	302	Efficient Infrared Griddle	Miscellaneous	0%	0%	0.08	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	303	Convection Oven	Miscellaneous	0%	0%	0.26	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	305	Infrared Conveyer Oven	Miscellaneous	0%	0%	0.34	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	306	Infrared Fryer	Miscellaneous	15%	15%	0.11	0.0	0.0	0.0	15	376,323	1.85	0.3	0.3	28.4	1.2
SCG	312	Power Burner Oven	Miscellaneous	0%	0%	0.32	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	313	Power Burner Fryer	Miscellaneous	0%	0%	0.13	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SCG	400	Base Pool Heating	Miscellaneous	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Miscellaneous	16%	16%	0.94	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SCG	402	Pool Cover	Miscellaneous	35%	35%	0.09	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
SCG	403	Solar Pool Heater	Miscellaneous	47%	47%	5.56	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	100	Base Heating	Office	0%	0%	0.00	0.2	0.2	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	Office	4%	4%	0.26	0.2	0.2	0.0	20	50,850	2.87	0.2	0.1	51.2	1.2
SDG&E	105	Double Pane Low Emissivity	Office	33%	33%	0.06	0.2	0.2	0.0	60	4,192,391	0.06	7.0	5.6	1.4	1.2
SDG&E	107	Duct Insulation Installed	Office	2%	2%	0.02	0.2	0.2	0.0	20	76,261	0.32	1.7	1.3	5.8	1.2
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	Office	18%	18%	0.11	0.2	0.2	0.0	20	3,935,647	0.26	2.0	1.6	4.7	1.2
SDG&E	115	Boiler- Heating Pipe Insulation	Office	2%	2%	0.15	0.2	0.2	0.0	20	22,243	3.01	0.2	0.1	53.7	1.2
SDG&E	117	Boiler Tune-Up	Office	2%	2%	0.00	0.2	0.2	0.0	2	43,385	0.30	1.8	2.1	0.8	1.2
SDG&E	119	EMS install	Office	10%	10%	0.29	0.2	0.2	0.0	20	1,631,072	1.20	0.4	0.4	21.5	1.2
SDG&E	121	EMS Optimization	Office	1%	1%	0.01	0.2	0.2	0.0	5	176,436	1.06	0.5	0.6	6.5	1.2
SDG&E	127	Heat Recovery from Air to Air	Office	15%	15%	2.00	0.2	0.2	0.0	20	1,955,494	5.64	0.1	0.1	100.5	1.2
SDG&E	200	Base Water Heating	Office	0%	0%	0.00	0.1	0.1	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	201	Eff Gas Water Heater System 95% Eff	Office	25%	25%	0.05	0.1	0.1	0.0	15	207,021	0.34	1.6	1.4	5.2	1.2
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	Office	10%	10%	0.02	0.1	0.1	0.0	15	15,450	0.33	1.6	1.4	5.0	1.2
SDG&E	205	Circulation Pump Timeclocks	Office	3%	3%	0.00	0.1	0.1	0.0	15	28,602	0.19	2.8	2.5	2.9	1.2
SDG&E	208	Tank Insulation	Office	15%	15%	0.01	0.1	0.1	0.0	15	169,878	0.06	8.6	7.5	1.0	1.2
SDG&E	209	Pipe Insulation	Office	2%	2%	0.00	0.1	0.1	0.0	15	17,213	0.36	1.5	1.3	5.5	1.2
SDG&E	211	Low Flow Showerheads	Office	1%	1%	0.00	0.1	0.1	0.0	10	0	0.00	N/A	N/A	0.0	N/A
SDG&E	212	Faucet Aerator	Office	1%	1%	0.00	0.1	0.1	0.0	10	10,528	0.75	0.7	0.7	8.3	1.2
SDG&E	213	Solar DHW System Active	Office	60%	60%	0.26	0.1	0.0	0.0	15	264,651	0.81	0.7	0.6	12.4	1.2
SDG&E	300	Base Cooking	Office	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	302	Efficient Infrared Griddle	Office	0%	0%	0.08	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	303	Convection Oven	Office	0%	0%	0.27	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	305	Infrared Conveyer Oven	Office	0%	0%	0.35	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	306	Infrared Fryer	Office	0%	0%	0.11	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY															Levelized	
Vintage E															Cost of	Total
Batch 1															Conserved	Resource
Measure															Energy	Cost Test
Segment	Number	Measure	Building	Energy	Peak	Total	Base	Peak	Service	Technical	Conserved	Resource	Participant	Customer	Revenue	
			Type	Savings	Reduction	Costs/	EUl	Therms/Day/	Life (yrs)	Potential	Energy	Cost Test	Test	Payback	Test	
				Fraction	Fraction	Sq Ft	EUl	Sq Ft		Therms	\$/Therm	(TRC)		(Years)		
SDG&E	312	Power Burner Oven	Office	0%	0%	0.33	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A	
SDG&E	313	Power Burner Fryer	Office	0%	0%	0.13	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A	
SDG&E	400	Base Pool Heating	Office	0%	0%	0.00	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A	
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Office	0%	0%	0.00	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A	
SDG&E	402	Pool Cover	Office	0%	0%	0.00	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A	
SDG&E	403	Solar Pool Heater	Office	0%	0%	0.00	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A	
SDG&E	100	Base Heating	Restaurant	0%	0%	0.00	0.1	0.1	20	0	N/A	N/A	N/A	N/A	N/A	
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	Restaurant	5%	5%	0.47	0.1	0.1	20	8,148	6.72	0.1	0.1	119.9	1.2	
SDG&E	105	Double Pane Low Emissivity	Restaurant	3%	3%	0.03	0.1	0.1	60	21,411	0.61	0.7	0.6	13.7	1.2	
SDG&E	107	Duct Insulation Installed	Restaurant	0%	0%	0.03	0.1	0.1	20	0	N/A	0.0	0.0	N/A	N/A	
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	Restaurant	18%	18%	0.20	0.1	0.1	20	195,638	0.94	0.6	0.5	16.8	1.2	
SDG&E	115	Boiler- Heating Pipe Insulation	Restaurant	2%	2%	0.31	0.1	0.1	20	0	12.19	N/A	N/A	217.3	N/A	
SDG&E	117	Boiler Tune-Up	Restaurant	2%	2%	0.03	0.1	0.1	2	0	7.52	N/A	N/A	19.8	N/A	
SDG&E	119	EMS install	Restaurant	10%	10%	0.29	0.1	0.1	20	74,774	2.30	0.2	0.2	41.0	1.2	
SDG&E	121	EMS Optimization	Restaurant	1%	1%	0.11	0.1	0.1	5	8,770	26.13	0.0	0.0	160.5	1.2	
SDG&E	127	Heat Recovery from Air to Air	Restaurant	25%	25%	2.00	0.1	0.1	20	162,010	6.50	0.1	0.1	115.9	1.2	
SDG&E	200	Base Water Heating	Restaurant	0%	0%	0.00	0.9	0.9	15	0	N/A	N/A	N/A	N/A	N/A	
SDG&E	201	Eff Gas Water Heater System 95% Eff	Restaurant	25%	25%	0.38	1.0	0.8	15	2,332,240	0.17	3.1	2.7	2.6	1.2	
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	Restaurant	10%	10%	0.13	0.9	0.8	15	148,203	0.16	3.3	2.9	2.5	1.2	
SDG&E	205	Circulation Pump Timeclocks	Restaurant	3%	3%	0.04	0.9	0.9	15	52,409	0.17	3.1	2.7	2.6	1.2	
SDG&E	208	Tank Insulation	Restaurant	5%	5%	0.04	0.9	0.9	15	425,543	0.09	6.0	5.3	1.4	1.2	
SDG&E	209	Pipe Insulation	Restaurant	2%	2%	0.03	0.9	0.9	15	144,459	0.16	3.3	2.9	2.5	1.2	
SDG&E	211	Low Flow Showerheads	Restaurant	1%	1%	0.00	0.9	0.9	10	0	0.00	N/A	N/A	0.0	N/A	
SDG&E	212	Faucet Aerator	Restaurant	2%	2%	0.01	0.9	0.9	10	44,115	0.07	8.2	8.0	0.7	1.2	
SDG&E	213	Solar DHW System Active	Restaurant	60%	60%	1.72	0.9	0.4	15	3,144,539	0.37	1.5	1.3	5.6	1.2	
SDG&E	300	Base Cooking	Restaurant	0%	0%	0.00	4.4	4.4	15	0	N/A	N/A	N/A	N/A	N/A	
SDG&E	302	Efficient Infrared Griddle	Restaurant	7%	7%	1.04	4.4	4.1	15	3,614,509	0.40	1.3	1.2	6.1	1.2	
SDG&E	303	Convection Oven	Restaurant	6%	6%	3.63	4.5	4.2	15	2,787,414	1.60	0.3	0.3	24.6	1.2	
SDG&E	305	Infrared Conveyor Oven	Restaurant	15%	15%	4.73	4.5	3.8	15	7,776,591	0.84	0.6	0.6	12.8	1.2	
SDG&E	306	Infrared Fryer	Restaurant	15%	15%	1.48	4.5	3.8	15	7,776,591	0.26	2.0	1.8	4.0	1.2	
SDG&E	312	Power Burner Oven	Restaurant	4%	4%	4.41	4.4	4.3	15	2,195,566	2.77	0.2	0.2	42.4	1.2	
SDG&E	313	Power Burner Fryer	Restaurant	4%	4%	1.77	4.4	4.3	15	2,195,566	1.11	0.5	0.4	17.0	1.2	
SDG&E	400	Base Pool Heating	Restaurant	0%	0%	0.00	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A	
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Restaurant	0%	0%	0.00	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A	
SDG&E	402	Pool Cover	Restaurant	0%	0%	0.00	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A	
SDG&E	403	Solar Pool Heater	Restaurant	0%	0%	0.00	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A	
SDG&E	100	Base Heating	Retail	0%	0%	0.00	0.1	0.1	20	0	N/A	N/A	N/A	N/A	N/A	
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	Retail	3%	3%	0.45	0.1	0.1	20	10,255	18.73	0.0	0.0	334.1	1.2	
SDG&E	105	Double Pane Low Emissivity	Retail	8%	8%	0.02	0.1	0.1	60	196,610	0.21	2.0	1.6	4.8	1.2	
SDG&E	107	Duct Insulation Installed	Retail	2%	2%	0.01	0.1	0.1	20	17,275	0.85	0.6	0.5	15.2	1.2	
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	Retail	18%	18%	0.09	0.1	0.1	20	710,330	0.60	0.9	0.7	10.7	1.2	
SDG&E	115	Boiler- Heating Pipe Insulation	Retail	2%	2%	0.20	0.1	0.1	20	0	11.38	N/A	N/A	202.9	N/A	
SDG&E	117	Boiler Tune-Up	Retail	2%	2%	0.01	0.1	0.1	2	0	2.69	N/A	N/A	7.1	N/A	
SDG&E	119	EMS install	Retail	10%	10%	0.29	0.1	0.1	20	325,708	3.36	0.2	0.1	59.9	1.2	
SDG&E	121	EMS Optimization	Retail	1%	1%	0.03	0.1	0.1	5	31,844	9.36	0.1	0.1	57.5	1.2	
SDG&E	127	Heat Recovery from Air to Air	Retail	5%	5%	2.00	0.1	0.1	20	90,955	46.18	0.0	0.0	823.4	1.2	
SDG&E	200	Base Water Heating	Retail	0%	0%	0.00	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A	
SDG&E	201	Eff Gas Water Heater System 95% Eff	Retail	25%	25%	0.03	0.0	0.0	15	204,386	0.35	1.5	1.4	5.3	1.2	

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY																
Vintage E		Levelized														
Batch 1		Cost of														
Measure		Total														
Segment	Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Therms/Day/ Sq Ft	Service Life (yrs)	Technical Potential Therms	Levelized Conserved Energy \$/Therm	Total Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	Retail	10%	10%	0.01	0.0	0.0	0.0	15	13,069	0.33	1.6	1.4	5.0	1.2
SDG&E	205	Circulation Pump Timeclocks	Retail	3%	3%	0.01	0.0	0.0	0.0	15	10,776	1.02	0.5	0.5	15.6	1.2
SDG&E	208	Tank Insulation	Retail	15%	15%	0.03	0.0	0.0	0.0	15	113,197	0.62	0.9	0.8	9.6	1.2
SDG&E	209	Pipe Insulation	Retail	2%	2%	0.02	0.0	0.0	0.0	15	13,758	3.61	0.1	0.1	55.3	1.2
SDG&E	211	Low Flow Showerheads	Retail	1%	1%	0.00	0.0	0.0	0.0	10	0	0.00	N/A	N/A	0.0	N/A
SDG&E	212	Faucet Aerator	Retail	1%	1%	0.00	0.0	0.0	0.0	10	7,016	2.00	0.3	0.3	22.0	1.2
SDG&E	213	Solar DHW System Active	Retail	60%	60%	1.60	0.0	0.0	0.0	15	220,436	8.13	0.1	0.1	124.5	1.2
SDG&E	300	Base Cooking	Retail	0%	0%	0.00	0.1	0.1	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	302	Efficient Infrared Griddle	Retail	0%	0%	0.02	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	303	Convection Oven	Retail	0%	0%	0.08	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	305	Infrared Conveyor Oven	Retail	0%	0%	0.10	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	306	Infrared Fryer	Retail	0%	0%	0.03	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	312	Power Burner Oven	Retail	0%	0%	0.10	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	313	Power Burner Fryer	Retail	0%	0%	0.04	0.1	0.1	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	400	Base Pool Heating	Retail	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Retail	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	402	Pool Cover	Retail	0%	0%	0.00	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
SDG&E	403	Solar Pool Heater	Retail	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	100	Base Heating	FoodStore	0%	0%	0.00	0.1	0.1	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	FoodStore	10%	10%	0.40	0.1	0.1	0.0	20	26,688	3.58	0.1	0.1	63.9	1.2
SDG&E	105	Double Pane Low Emissivity	FoodStore	7%	7%	0.03	0.1	0.1	0.0	60	53,412	0.32	1.3	1.1	7.2	1.2
SDG&E	107	Duct Insulation Installed	FoodStore	0%	0%	0.01	0.1	0.1	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	FoodStore	18%	18%	0.05	0.1	0.1	0.0	20	237,559	0.28	1.9	1.5	5.0	1.2
SDG&E	115	Boiler- Heating Pipe Insulation	FoodStore	2%	2%	0.23	0.1	0.1	0.0	20	0	11.00	N/A	N/A	196.1	N/A
SDG&E	117	Boiler Tune-Up	FoodStore	2%	2%	0.02	0.1	0.1	0.0	2	0	7.15	N/A	N/A	18.8	N/A
SDG&E	119	EMS install	FoodStore	10%	10%	0.29	0.1	0.1	0.0	20	94,694	2.78	0.2	0.2	49.6	1.2
SDG&E	121	EMS Optimization	FoodStore	1%	1%	0.09	0.1	0.1	0.0	5	10,650	24.82	0.0	0.0	152.5	1.2
SDG&E	127	Heat Recovery from Air to Air	FoodStore	15%	15%	2.00	0.1	0.1	0.0	20	97,135	12.66	0.0	0.0	225.8	1.2
SDG&E	200	Base Water Heating	FoodStore	0%	0%	0.00	0.3	0.3	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	201	Eff Gas Water Heater System 95% Eff	FoodStore	25%	25%	0.28	0.4	0.3	0.0	15	1,091,277	0.36	1.5	1.3	5.5	1.2
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	FoodStore	10%	10%	0.09	0.3	0.3	0.0	15	60,994	0.33	1.6	1.4	5.0	1.2
SDG&E	205	Circulation Pump Timeclocks	FoodStore	3%	3%	0.03	0.3	0.3	0.0	15	22,150	0.37	1.5	1.3	5.6	1.2
SDG&E	208	Tank Insulation	FoodStore	10%	10%	0.01	0.4	0.3	0.0	15	369,168	0.04	12.4	10.9	0.7	1.2
SDG&E	209	Pipe Insulation	FoodStore	2%	2%	0.01	0.3	0.3	0.0	15	71,227	0.16	3.3	2.9	2.5	1.2
SDG&E	211	Low Flow Showerheads	FoodStore	1%	1%	0.00	0.3	0.3	0.0	10	0	0.00	N/A	N/A	0.0	N/A
SDG&E	212	Faucet Aerator	FoodStore	1%	1%	0.00	0.3	0.3	0.0	10	9,276	0.11	5.1	5.0	1.2	1.2
SDG&E	213	Solar DHW System Active	FoodStore	60%	60%	0.63	0.3	0.1	0.0	15	2,210,562	0.36	1.5	1.3	5.6	1.2
SDG&E	300	Base Cooking	FoodStore	0%	0%	0.00	0.4	0.4	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	302	Efficient Infrared Griddle	FoodStore	3%	3%	0.07	0.4	0.4	0.0	15	134,463	0.65	0.8	0.7	10.0	1.2
SDG&E	303	Convection Oven	FoodStore	9%	9%	0.26	0.4	0.4	0.0	15	366,347	0.75	0.7	0.6	11.5	1.2
SDG&E	305	Infrared Conveyor Oven	FoodStore	0%	0%	0.33	0.4	0.4	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	306	Infrared Fryer	FoodStore	0%	0%	0.10	0.4	0.4	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	312	Power Burner Oven	FoodStore	4%	4%	0.31	0.4	0.4	0.0	15	190,842	1.94	0.3	0.2	29.7	1.2
SDG&E	313	Power Burner Fryer	FoodStore	4%	4%	0.12	0.4	0.4	0.0	15	190,842	0.78	0.7	0.6	11.9	1.2
SDG&E	400	Base Pool Heating	FoodStore	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	FoodStore	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	402	Pool Cover	FoodStore	0%	0%	0.00	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
SDG&E	403	Solar Pool Heater	FoodStore	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY																
Vintage E		Levelized														
Batch 1		Cost of														
Measure		Total														
Segment	Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUI	Peak Therms/Day/ Sq Ft	Service Life (yrs)	Technical Potential Therms	Conserved Energy \$/Therm	Resource Cost Test (TRC)	Participant Test	Customer Payback (Years)	Revenue Test
SDG&E	100	Base Heating	Warehouse	0%	0%	0.00	0.1	0.1	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	Warehouse	21%	21%	0.49	0.1	0.1	0.0	20	65,725	1.56	0.3	0.3	27.8	1.2
SDG&E	105	Double Pane Low Emissivity	Warehouse	0%	0%	0.01	0.1	0.1	0.0	60	0	N/A	0.0	0.0	N/A	N/A
SDG&E	107	Duct Insulation Installed	Warehouse	0%	0%	0.01	0.1	0.1	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	Warehouse	18%	18%	0.08	0.1	0.1	0.0	20	169,414	0.35	1.5	1.2	6.3	1.2
SDG&E	115	Boiler- Heating Pipe Insulation	Warehouse	2%	2%	0.11	0.1	0.1	0.0	20	0	4.11	N/A	N/A	73.2	N/A
SDG&E	117	Boiler Tune-Up	Warehouse	2%	2%	0.00	0.1	0.1	0.0	2	0	0.60	N/A	N/A	1.6	N/A
SDG&E	119	EMS install	Warehouse	10%	10%	0.29	0.1	0.1	0.0	20	64,751	2.18	0.2	0.2	38.8	1.2
SDG&E	121	EMS Optimization	Warehouse	1%	1%	0.01	0.1	0.1	0.0	5	7,595	2.07	0.3	0.3	12.7	1.2
SDG&E	127	Heat Recovery from Air to Air	Warehouse	0%	0%	2.00	0.1	0.1	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SDG&E	200	Base Water Heating	Warehouse	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	201	Eff Gas Water Heater System 95% Eff	Warehouse	25%	25%	0.05	0.0	0.0	0.0	15	39,385	0.52	1.0	0.9	7.9	1.2
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	Warehouse	10%	10%	0.02	0.0	0.0	0.0	15	2,722	0.49	1.1	1.0	7.5	1.2
SDG&E	205	Circulation Pump Timeclocks	Warehouse	3%	3%	0.00	0.0	0.0	0.0	15	1,022	0.30	1.8	1.6	4.6	1.2
SDG&E	208	Tank Insulation	Warehouse	15%	15%	0.00	0.0	0.0	0.0	15	26,251	0.04	13.7	12.0	0.6	1.2
SDG&E	209	Pipe Insulation	Warehouse	2%	2%	0.00	0.0	0.0	0.0	15	3,385	0.23	2.4	2.1	3.5	1.2
SDG&E	211	Low Flow Showerheads	Warehouse	1%	1%	0.00	0.0	0.0	0.0	10	0	0.00	N/A	N/A	0.0	N/A
SDG&E	212	Faucet Aerator	Warehouse	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	0.0	0.0	N/A	N/A
SDG&E	213	Solar DHW System Active	Warehouse	60%	60%	0.11	0.0	0.0	0.0	15	102,240	0.51	1.0	0.9	7.8	1.2
SDG&E	300	Base Cooking	Warehouse	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	302	Efficient Infrared Griddle	Warehouse	0%	0%	0.05	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	303	Convection Oven	Warehouse	0%	0%	0.19	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	305	Infrared Conveyor Oven	Warehouse	0%	0%	0.25	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	306	Infrared Fryer	Warehouse	0%	0%	0.08	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	312	Power Burner Oven	Warehouse	0%	0%	0.23	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	313	Power Burner Fryer	Warehouse	0%	0%	0.09	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	400	Base Pool Heating	Warehouse	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Warehouse	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	402	Pool Cover	Warehouse	0%	0%	0.00	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
SDG&E	403	Solar Pool Heater	Warehouse	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	100	Base Heating	School	0%	0%	0.00	0.1	0.1	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	School	6%	6%	0.49	0.1	0.1	0.0	20	44,264	8.40	0.1	0.1	149.9	1.2
SDG&E	105	Double Pane Low Emissivity	School	2%	2%	0.02	0.1	0.1	0.0	60	43,445	0.66	0.6	0.5	14.8	1.2
SDG&E	107	Duct Insulation Installed	School	0%	0%	0.01	0.1	0.1	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	School	18%	18%	0.19	0.1	0.1	0.0	20	643,985	1.09	0.5	0.4	19.3	1.2
SDG&E	115	Boiler- Heating Pipe Insulation	School	2%	2%	0.12	0.1	0.1	0.0	20	2,368	5.84	0.1	0.1	104.2	1.2
SDG&E	117	Boiler Tune-Up	School	2%	2%	0.01	0.1	0.1	0.0	2	4,618	2.20	0.2	0.3	5.8	1.2
SDG&E	119	EMS install	School	10%	10%	0.29	0.1	0.1	0.0	20	301,717	2.98	0.2	0.1	53.2	1.2
SDG&E	121	EMS Optimization	School	1%	1%	0.03	0.1	0.1	0.0	5	28,870	7.63	0.1	0.1	46.9	1.2
SDG&E	127	Heat Recovery from Air to Air	School	15%	15%	2.00	0.1	0.1	0.0	20	319,975	13.80	0.0	0.0	246.1	1.2
SDG&E	200	Base Water Heating	School	0%	0%	0.00	0.1	0.1	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	201	Eff Gas Water Heater System 95% Eff	School	25%	25%	0.11	0.1	0.1	0.0	15	401,917	0.58	0.9	0.8	8.9	1.2
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	School	10%	10%	0.04	0.1	0.1	0.0	15	16,821	0.49	1.1	1.0	7.5	1.2
SDG&E	205	Circulation Pump Timeclocks	School	3%	3%	0.01	0.1	0.1	0.0	15	49,362	0.42	1.3	1.1	6.5	1.2
SDG&E	208	Tank Insulation	School	10%	10%	0.02	0.1	0.1	0.0	15	177,480	0.28	1.9	1.7	4.3	1.2
SDG&E	209	Pipe Insulation	School	2%	2%	0.02	0.1	0.1	0.0	15	32,360	1.04	0.5	0.5	16.0	1.2
SDG&E	211	Low Flow Showerheads	School	3%	3%	0.01	0.1	0.1	0.0	10	9,397	0.55	1.0	1.0	6.0	1.2
SDG&E	212	Faucet Aerator	School	3%	3%	0.00	0.1	0.1	0.0	10	27,027	0.13	4.1	4.0	1.4	1.2

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY															Levelized	
Vintage E															Cost of	Total
Batch 1															Conserved	Resource
Measure															Energy	Cost Test
Segment	Number	Measure	Building	Energy	Peak	Total	Base	Peak	Service	Technical	Participant	Customer	Revenue	Test	Test	Test
			Type	Savings	Reduction	Costs/	EUI	EUI	Therms/Day/	Potential	Therms	Payback	Test	Test	Test	Test
				Fraction	Fraction	Sq Ft			Sq Ft	\$/Therm	\$/Therm	(TRC)	Test	Test	Test	Test
SDG&E	213	Solar DHW System Active	School	60%	60%	1.02	0.1	0.0	0.0	15	1,063,173	2.35	0.2	0.2	36.0	1.2
SDG&E	300	Base Cooking	School	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	302	Efficient Infrared Griddle	School	3%	3%	0.08	0.0	0.0	0.0	15	34,212	6.51	0.1	0.1	99.8	1.2
SDG&E	303	Convection Oven	School	14%	14%	0.28	0.0	0.0	0.0	15	145,729	4.79	0.1	0.1	73.3	1.2
SDG&E	305	Infrared Conveyer Oven	School	5%	5%	0.37	0.0	0.0	0.0	15	57,019	17.72	0.0	0.0	271.5	1.2
SDG&E	306	Infrared Fryer	School	15%	15%	0.12	0.0	0.0	0.0	15	171,058	1.85	0.3	0.3	28.4	1.2
SDG&E	312	Power Burner Oven	School	4%	4%	0.34	0.0	0.0	0.0	15	48,556	19.41	0.0	0.0	297.4	1.2
SDG&E	313	Power Burner Fryer	School	4%	4%	0.14	0.0	0.0	0.0	15	48,556	7.77	0.1	0.1	119.0	1.2
SDG&E	400	Base Pool Heating	School	0%	0%	0.00	0.2	0.2	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	School	16%	16%	0.10	0.2	0.1	0.0	10	107,366	0.58	0.9	0.9	6.4	1.2
SDG&E	402	Pool Cover	School	35%	35%	0.01	0.2	0.2	0.0	5	85,054	0.02	21.9	24.3	0.2	1.2
SDG&E	403	Solar Pool Heater	School	50%	50%	0.44	0.2	0.1	0.0	10	169,882	0.82	0.7	0.6	9.0	1.2
SDG&E	100	Base Heating	College	0%	0%	0.00	0.3	0.3	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	College	0%	0%	0.18	0.3	0.3	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SDG&E	105	Double Pane Low Emissivity	College	0%	0%	0.04	0.3	0.3	0.0	60	0	N/A	0.0	0.0	N/A	N/A
SDG&E	107	Duct Insulation Installed	College	4%	4%	0.01	0.3	0.3	0.0	20	16,268	0.06	9.6	7.7	1.0	1.2
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	College	18%	18%	0.14	0.3	0.2	0.0	20	390,491	0.29	1.9	1.5	5.1	1.2
SDG&E	115	Boiler- Heating Pipe Insulation	College	2%	2%	0.04	0.3	0.3	0.0	20	1,270	0.74	0.7	0.6	13.2	1.2
SDG&E	117	Boiler Tune-Up	College	2%	2%	0.00	0.3	0.3	0.0	2	2,478	0.18	3.0	3.6	0.5	1.2
SDG&E	119	EMS install	College	10%	10%	0.29	0.3	0.3	0.0	20	155,289	1.02	0.5	0.4	18.2	1.2
SDG&E	121	EMS Optimization	College	1%	1%	0.01	0.3	0.3	0.0	5	17,506	0.63	0.9	0.9	3.9	1.2
SDG&E	127	Heat Recovery from Air to Air	College	9%	9%	2.00	0.3	0.3	0.0	20	114,397	7.96	0.1	0.1	142.0	1.2
SDG&E	200	Base Water Heating	College	0%	0%	0.00	0.3	0.3	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	201	Eff Gas Water Heater System 95% Eff	College	25%	25%	0.25	0.3	0.2	0.0	15	869,269	0.39	1.4	1.2	5.9	1.2
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	College	10%	10%	0.08	0.3	0.3	0.0	15	36,612	0.33	1.6	1.4	5.0	1.2
SDG&E	205	Circulation Pump Timeclocks	College	3%	3%	0.00	0.3	0.3	0.0	15	61,696	0.03	19.4	17.0	0.4	1.2
SDG&E	208	Tank Insulation	College	5%	5%	0.04	0.3	0.3	0.0	15	210,223	0.27	2.0	1.8	4.1	1.2
SDG&E	209	Pipe Insulation	College	2%	2%	0.03	0.3	0.3	0.0	15	53,230	0.49	1.1	1.0	7.5	1.2
SDG&E	211	Low Flow Showerheads	College	5%	5%	0.01	0.3	0.3	0.0	10	55,078	0.09	5.9	5.8	1.0	1.2
SDG&E	212	Faucet Aerator	College	3%	3%	0.01	0.3	0.3	0.0	10	65,712	0.17	3.2	3.1	1.9	1.2
SDG&E	213	Solar DHW System Active	College	60%	60%	1.71	0.3	0.1	0.0	15	2,589,062	1.10	0.5	0.4	16.9	1.2
SDG&E	300	Base Cooking	College	0%	0%	0.00	0.1	0.1	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	302	Efficient Infrared Griddle	College	4%	4%	0.04	0.1	0.0	0.0	15	2,620	2.44	0.2	0.2	37.4	1.2
SDG&E	303	Convection Oven	College	5%	5%	0.15	0.1	0.0	0.0	15	2,962	6.76	0.1	0.1	103.6	1.2
SDG&E	305	Infrared Conveyer Oven	College	15%	15%	0.19	0.1	0.0	0.0	15	9,825	2.95	0.2	0.2	45.3	1.2
SDG&E	306	Infrared Fryer	College	15%	15%	0.06	0.1	0.0	0.0	15	9,825	0.93	0.6	0.5	14.2	1.2
SDG&E	312	Power Burner Oven	College	4%	4%	0.18	0.1	0.0	0.0	15	2,789	9.70	0.1	0.0	148.7	1.2
SDG&E	313	Power Burner Fryer	College	4%	4%	0.07	0.1	0.0	0.0	15	2,789	3.88	0.1	0.1	59.5	1.2
SDG&E	400	Base Pool Heating	College	0%	0%	0.00	0.1	0.1	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	College	16%	16%	0.06	0.1	0.1	0.0	10	136,021	0.47	1.1	1.1	5.2	1.2
SDG&E	402	Pool Cover	College	35%	35%	0.01	0.2	0.1	0.0	5	164,353	0.03	20.0	22.2	0.2	1.2
SDG&E	403	Solar Pool Heater	College	50%	50%	0.35	0.1	0.1	0.0	10	215,224	0.82	0.7	0.6	9.0	1.2
SDG&E	100	Base Heating	Hospital	0%	0%	0.00	0.1	0.1	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	Hospital	0%	0%	0.27	0.1	0.1	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SDG&E	105	Double Pane Low Emissivity	Hospital	3%	3%	0.01	0.1	0.1	0.0	60	29,402	0.51	0.8	0.7	11.6	1.2
SDG&E	107	Duct Insulation Installed	Hospital	2%	2%	0.01	0.1	0.1	0.0	20	5,353	0.37	1.5	1.2	6.6	1.2
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	Hospital	18%	18%	0.02	0.1	0.1	0.0	20	305,689	0.14	3.9	3.1	2.5	1.2
SDG&E	115	Boiler- Heating Pipe Insulation	Hospital	2%	2%	0.17	0.1	0.1	0.0	20	3,243	11.54	0.0	0.0	205.7	1.2

APPENDIX D

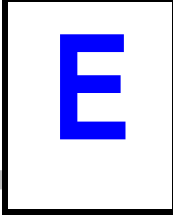
NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY															Levelized	
Vintage E															Cost of	Total
Batch 1															Conserved	Resource
Measure															Energy	Cost Test
Segment	Number	Measure	Building	Energy	Peak	Total	Base	Peak	Service	Technical	Energy	Participant	Payback	Revenue		
			Type	Savings	Reduction	Costs/	EUI	Therms/Day/	Life (yrs)	Potential	\$/Therm	Test	(Years)	Test		
				Fraction	Fraction	Sq Ft	EUI	Sq Ft		Therms						
SDG&E	117	Boiler Tune-Up	Hospital	2%	2%	0.00	0.1	0.1	0.0	2	6,325	1.55	0.3	0.4	4.1	1.2
SDG&E	119	EMS install	Hospital	10%	10%	0.29	0.1	0.1	0.0	20	149,696	4.02	0.1	0.1	71.6	1.2
SDG&E	121	EMS Optimization	Hospital	1%	1%	0.01	0.1	0.1	0.0	5	13,704	5.40	0.1	0.1	33.2	1.2
SDG&E	127	Heat Recovery from Air to Air	Hospital	25%	25%	2.00	0.1	0.1	0.0	20	253,145	11.09	0.0	0.0	197.8	1.2
SDG&E	200	Base Water Heating	Hospital	0%	0%	0.00	0.4	0.4	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	201	Eff Gas Water Heater System 95% Eff	Hospital	25%	25%	0.22	0.4	0.3	0.0	15	1,683,521	0.23	2.3	2.0	3.5	1.2
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	Hospital	10%	10%	0.07	0.4	0.4	0.0	15	73,018	0.20	2.7	2.4	3.0	1.2
SDG&E	205	Circulation Pump Timeclocks	Hospital	3%	3%	0.00	0.4	0.4	0.0	15	39,937	0.04	12.4	10.9	0.7	1.2
SDG&E	208	Tank Insulation	Hospital	5%	5%	0.04	0.5	0.4	0.0	15	348,683	0.23	2.3	2.0	3.6	1.2
SDG&E	209	Pipe Insulation	Hospital	2%	2%	0.01	0.4	0.4	0.0	15	83,727	0.12	4.3	3.8	1.9	1.2
SDG&E	211	Low Flow Showerheads	Hospital	2%	2%	0.01	0.4	0.4	0.0	10	14,103	0.23	2.3	2.3	2.5	1.2
SDG&E	212	Faucet Aerator	Hospital	3%	3%	0.01	0.5	0.4	0.0	10	54,496	0.08	6.9	6.7	0.9	1.2
SDG&E	213	Solar DHW System Active	Hospital	60%	60%	0.63	0.4	0.2	0.0	15	4,294,310	0.28	1.9	1.7	4.3	1.2
SDG&E	300	Base Cooking	Hospital	0%	0%	0.00	0.3	0.3	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	302	Efficient Infrared Griddle	Hospital	3%	3%	0.06	0.3	0.3	0.0	15	120,654	0.81	0.7	0.6	12.5	1.2
SDG&E	303	Convection Oven	Hospital	7%	7%	0.20	0.3	0.3	0.0	15	255,159	1.20	0.4	0.4	18.5	1.2
SDG&E	305	Infrared Conveyer Oven	Hospital	15%	15%	0.26	0.3	0.2	0.0	15	603,268	0.74	0.7	0.6	11.3	1.2
SDG&E	306	Infrared Fryer	Hospital	15%	15%	0.08	0.3	0.2	0.0	15	603,268	0.23	2.3	2.0	3.5	1.2
SDG&E	312	Power Burner Oven	Hospital	4%	4%	0.24	0.3	0.3	0.0	15	171,242	2.43	0.2	0.2	37.2	1.2
SDG&E	313	Power Burner Fryer	Hospital	4%	4%	0.10	0.3	0.3	0.0	15	171,242	0.97	0.6	0.5	14.9	1.2
SDG&E	400	Base Pool Heating	Hospital	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Hospital	16%	16%	0.01	0.0	0.0	0.0	10	18,767	0.27	2.0	2.0	2.9	1.2
SDG&E	402	Pool Cover	Hospital	35%	35%	0.00	0.0	0.0	0.0	5	12,683	0.02	22.4	24.8	0.1	1.2
SDG&E	403	Solar Pool Heater	Hospital	50%	50%	0.07	0.0	0.0	0.0	10	29,695	0.82	0.7	0.6	9.0	1.2
SDG&E	100	Base Heating	Hotel	0%	0%	0.00	0.4	0.4	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	Hotel	0%	0%	0.19	0.4	0.4	0.0	20	0	N/A	0.0	0.0	N/A	N/A
SDG&E	105	Double Pane Low Emissivity	Hotel	9%	9%	0.06	0.4	0.4	0.0	60	247,771	0.13	3.2	2.5	3.0	1.2
SDG&E	107	Duct Insulation Installed	Hotel	2%	2%	0.01	0.4	0.4	0.0	20	18,313	0.15	3.6	2.9	2.6	1.2
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	Hotel	18%	18%	0.44	0.4	0.3	0.0	20	815,334	0.62	0.9	0.7	11.1	1.2
SDG&E	115	Boiler- Heating Pipe Insulation	Hotel	2%	2%	0.10	0.4	0.4	0.0	20	5,438	1.16	0.5	0.4	20.7	1.2
SDG&E	117	Boiler Tune-Up	Hotel	2%	2%	0.00	0.4	0.4	0.0	2	10,606	0.24	2.3	2.7	0.6	1.2
SDG&E	119	EMS install	Hotel	10%	10%	0.29	0.4	0.4	0.0	20	311,625	0.70	0.8	0.6	12.5	1.2
SDG&E	121	EMS Optimization	Hotel	1%	1%	0.01	0.4	0.4	0.0	5	36,552	0.82	0.7	0.7	5.0	1.2
SDG&E	127	Heat Recovery from Air to Air	Hotel	5%	5%	2.00	0.4	0.4	0.0	20	135,038	9.88	0.1	0.0	176.2	1.2
SDG&E	200	Base Water Heating	Hotel	0%	0%	0.00	0.7	0.7	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	201	Eff Gas Water Heater System 95% Eff	Hotel	25%	25%	0.60	0.7	0.6	0.0	15	6,121,454	0.38	1.4	1.2	5.9	1.2
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	Hotel	10%	10%	0.20	0.7	0.7	0.0	15	264,757	0.33	1.6	1.4	5.0	1.2
SDG&E	205	Circulation Pump Timeclocks	Hotel	3%	3%	0.00	0.8	0.7	0.0	15	5,751	0.02	24.8	21.7	0.3	1.2
SDG&E	208	Tank Insulation	Hotel	5%	5%	0.05	0.8	0.7	0.0	15	908,652	0.15	3.5	3.1	2.3	1.2
SDG&E	209	Pipe Insulation	Hotel	2%	2%	0.03	0.7	0.7	0.0	15	157,013	0.28	1.9	1.7	4.2	1.2
SDG&E	211	Low Flow Showerheads	Hotel	7%	7%	0.04	0.8	0.7	0.0	10	86,115	0.11	4.9	4.7	1.2	1.2
SDG&E	212	Faucet Aerator	Hotel	3%	3%	0.02	0.7	0.7	0.0	10	284,030	0.12	4.6	4.5	1.3	1.2
SDG&E	213	Solar DHW System Active	Hotel	60%	60%	2.33	0.7	0.3	0.0	15	11,190,767	0.63	0.9	0.8	9.6	1.2
SDG&E	300	Base Cooking	Hotel	0%	0%	0.00	0.2	0.2	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	302	Efficient Infrared Griddle	Hotel	3%	3%	0.04	0.2	0.2	0.0	15	93,054	0.81	0.7	0.6	12.5	1.2
SDG&E	303	Convection Oven	Hotel	6%	6%	0.13	0.2	0.2	0.0	15	168,508	1.41	0.4	0.3	21.6	1.2
SDG&E	305	Infrared Conveyer Oven	Hotel	5%	5%	0.17	0.2	0.2	0.0	15	155,089	2.21	0.2	0.2	33.9	1.2
SDG&E	306	Infrared Fryer	Hotel	15%	15%	0.05	0.2	0.2	0.0	15	465,268	0.23	2.3	2.0	3.5	1.2

APPENDIX D

NON-ADDITIVE MEASURE-LEVEL RESULTS

DSM ASSYST SUMMARY															Levelized	
Vintage E															Cost of	Total
Batch 1															Conserved	Resource
Measure															Energy	Cost Test
Segment	Number	Measure	Building Type	Energy Savings Fraction	Peak Reduction Fraction	Total Costs/ Sq Ft	Base EUI	EUl	Peak Therms/Day/ Sq Ft	Service Life (yrs)	Technical Potential Therms	\$/Therm	Participant Test	Customer Payback (Years)	Revenue Test	
SDG&E	312	Power Burner Oven	Hotel	4%	4%	0.16	0.2	0.2	0.0	15	132,070	2.43	0.2	0.2	37.2	1.2
SDG&E	313	Power Burner Fryer	Hotel	4%	4%	0.06	0.2	0.2	0.0	15	132,070	0.97	0.6	0.5	14.9	1.2
SDG&E	400	Base Pool Heating	Hotel	0%	0%	0.00	0.1	0.1	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Hotel	16%	16%	0.02	0.1	0.1	0.0	10	389,991	0.21	2.5	2.5	2.3	1.2
SDG&E	402	Pool Cover	Hotel	35%	35%	0.00	0.1	0.1	0.0	5	725,143	0.03	17.1	19.0	0.2	1.2
SDG&E	403	Solar Pool Heater	Hotel	50%	50%	0.29	0.1	0.1	0.0	10	617,075	0.82	0.7	0.6	9.0	1.2
SDG&E	100	Base Heating	Miscellaneous	0%	0%	0.00	0.2	0.2	0.0	20	0	N/A	N/A	N/A	N/A	N/A
SDG&E	102	Ceiling Insulation (In situ R5 to R24)	Miscellaneous	6%	6%	0.45	0.2	0.2	0.0	20	60,764	5.03	0.1	0.1	89.8	1.2
SDG&E	105	Double Pane Low Emissivity	Miscellaneous	9%	9%	0.02	0.2	0.1	0.0	60	253,163	0.12	3.6	2.9	2.6	1.2
SDG&E	107	Duct Insulation Installed	Miscellaneous	2%	2%	0.01	0.2	0.2	0.0	20	20,648	0.47	1.1	0.9	8.5	1.2
SDG&E	113	High Efficiency Furnace/Boiler 95% Eff	Miscellaneous	18%	18%	0.17	0.2	0.1	0.0	20	906,740	0.64	0.8	0.7	11.4	1.2
SDG&E	115	Boiler- Heating Pipe Insulation	Miscellaneous	2%	2%	0.23	0.2	0.2	0.0	20	1,547	7.32	0.1	0.1	130.6	1.2
SDG&E	117	Boiler Tune-Up	Miscellaneous	2%	2%	0.00	0.2	0.2	0.0	2	3,018	0.94	0.6	0.7	2.5	1.2
SDG&E	119	EMS install	Miscellaneous	10%	10%	0.29	0.2	0.1	0.0	20	384,179	1.86	0.3	0.2	33.1	1.2
SDG&E	121	EMS Optimization	Miscellaneous	1%	1%	0.02	0.2	0.2	0.0	5	40,649	3.26	0.2	0.2	20.0	1.2
SDG&E	127	Heat Recovery from Air to Air	Miscellaneous	10%	10%	2.00	0.2	0.1	0.0	20	298,730	13.01	0.0	0.0	232.0	1.2
SDG&E	200	Base Water Heating	Miscellaneous	0%	0%	0.00	0.2	0.2	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	201	Eff Gas Water Heater System 95% Eff	Miscellaneous	25%	25%	0.18	0.2	0.2	0.0	15	1,672,061	0.38	1.4	1.3	5.8	1.2
SDG&E	203	Instantaneous Water Heater <=200 MBTUH	Miscellaneous	10%	10%	0.06	0.2	0.2	0.0	15	73,456	0.32	1.7	1.4	5.0	1.2
SDG&E	205	Circulation Pump Timeclocks	Miscellaneous	3%	3%	0.01	0.2	0.2	0.0	15	79,199	0.11	4.7	4.1	1.8	1.2
SDG&E	208	Tank Insulation	Miscellaneous	10%	10%	0.01	0.2	0.2	0.0	15	543,290	0.07	7.8	6.8	1.1	1.2
SDG&E	209	Pipe Insulation	Miscellaneous	2%	2%	0.01	0.2	0.2	0.0	15	105,142	0.26	2.1	1.8	4.0	1.2
SDG&E	211	Low Flow Showerheads	Miscellaneous	1%	1%	0.01	0.2	0.2	0.0	10	10,167	0.66	0.8	0.8	7.3	1.2
SDG&E	212	Faucet Aerator	Miscellaneous	3%	3%	0.00	0.2	0.2	0.0	10	124,102	0.09	5.7	5.6	1.0	1.2
SDG&E	213	Solar DHW System Active	Miscellaneous	60%	60%	0.63	0.2	0.1	0.0	15	3,217,196	0.57	0.9	0.8	8.8	1.2
SDG&E	300	Base Cooking	Miscellaneous	0%	0%	0.00	0.0	0.0	0.0	15	0	N/A	N/A	N/A	N/A	N/A
SDG&E	302	Efficient Infrared Griddle	Miscellaneous	0%	0%	0.08	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	303	Convection Oven	Miscellaneous	0%	0%	0.26	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	305	Infrared Conveyor Oven	Miscellaneous	0%	0%	0.34	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	306	Infrared Fryer	Miscellaneous	15%	15%	0.11	0.0	0.0	0.0	15	71,854	1.85	0.3	0.3	28.4	1.2
SDG&E	312	Power Burner Oven	Miscellaneous	0%	0%	0.32	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	313	Power Burner Fryer	Miscellaneous	0%	0%	0.13	0.0	0.0	0.0	15	0	N/A	0.0	0.0	N/A	N/A
SDG&E	400	Base Pool Heating	Miscellaneous	0%	0%	0.00	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	Miscellaneous	16%	16%	0.94	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A
SDG&E	402	Pool Cover	Miscellaneous	35%	35%	0.09	0.0	0.0	0.0	5	0	N/A	N/A	N/A	N/A	N/A
SDG&E	403	Solar Pool Heater	Miscellaneous	50%	50%	5.56	0.0	0.0	0.0	10	0	N/A	N/A	N/A	N/A	N/A



FLOOR SPACE INPUTS

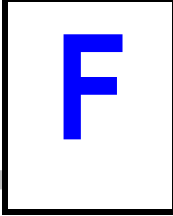
APPENDIX E

FLOOR SPACE INPUTS

BUILDING TABLE

SECTOR COM
 YEAR 2000
 BATCH # 1 EXISTING CONSTRUCTION

Ref #		PG&E Square Feet	SCG Square Feet	SDG&E Square Feet
1	Office	685,179,239	781,414,556	206,926,010
2	Restaurant	66,881,950	85,667,412	21,404,855
3	Retail	481,402,558	460,786,347	135,269,870
4	FoodStore	128,274,220	119,676,732	31,330,734
5	Warehouse	418,449,713	442,095,124	83,969,153
6	School	260,837,252	236,255,269	59,543,942
7	College	154,431,823	139,453,104	36,166,544
8	Hospital	164,780,312	135,189,572	44,617,065
9	Hotel	148,239,332	128,218,375	53,916,200
10	Miscellaneous	562,851,250	526,414,951	100,512,286



PROGRAM POTENTIAL RESULTS

Percent of Incremental Measure Cost Paid By Funding Level

Measure Number	Measure	% Incentive			
		Level 1	Level 2	Level 3	Level 4
102	Ceiling Insulation (In situ R5 to R24)	33%	60%	75%	100%
105	Double Pane Low Emissivity	50%	60%	75%	100%
107	Duct Insulation Installed	33%	60%	75%	100%
109	Duct Leakage Repair	33%	60%	75%	100%
113	High Efficiency Furnace/Boiler 95% Eff	50%	60%	75%	100%
115	Boiler- Heating Pipe Insulation	50%	60%	75%	100%
117	Boiler Tune-Up	33%	60%	75%	100%
119	EMS install	33%	60%	75%	100%
121	EMS Optimization	33%	60%	75%	100%
125	Stack Heat Exchanger	33%	60%	75%	100%
127	Heat Recovery from Air to Air	33%	60%	75%	100%
131	Heat Recovery from AC	33%	60%	75%	100%
201	Eff Gas Water Heater System 95% Eff	33%	60%	75%	100%
203	Instantaneous Water Heater <=200 MBTUH	47%	60%	75%	100%
205	Circulation Pump Timeclocks	33%	60%	75%	100%
208	Tank Insulation	50%	60%	75%	100%
209	Pipe Insulation	33%	60%	75%	100%
211	Low Flow Showerheads	33%	60%	75%	100%
212	Faucet Aerator	33%	60%	75%	100%
213	Solar DHW System Active	33%	60%	75%	100%
302	Efficient Infrared Griddle	33%	60%	75%	100%
303	Convection Oven	33%	60%	75%	100%
305	Infrared Conveyer Oven	33%	60%	75%	100%
306	Infrared Fryer	33%	60%	75%	100%
312	Power Burner Oven	33%	60%	75%	100%
313	Power Burner Fryer	33%	60%	75%	100%
401	High Efficiency Pool Heater, eff.=0.97 320 kbtu	33%	60%	75%	100%
402	Pool Cover	33%	60%	75%	100%
403	Solar Pool Heater	33%	60%	75%	100%

DSM ASSYST ANNUAL POTENTIAL ANALYSIS OUTPUTS

BASE ENERGY COSTS, LEVEL 1 FUNDING

Awareness Parameters:										
Ad effectiveness ratio	0.01									
Aware decay rate	0.25									
Target effectiveness	0.00									
Starting awareness	25%									
Program Budget:										
Year	1	2	3	4	5	6	7	8	9	10
Administration	\$2,000,000	\$2,060,000	\$2,121,800	\$2,185,454	\$2,251,018	\$2,318,548	\$2,388,105	\$2,459,748	\$2,533,540	\$2,609,546
Administration (Adjusted)	\$2,000,000	\$2,456,615	\$2,678,414	\$2,743,111	\$2,714,198	\$2,636,873	\$2,540,143	\$2,441,002	\$2,348,464	\$2,266,639
Advertising	\$5,000,000	\$5,150,000	\$5,304,500	\$5,463,635	\$5,627,544	\$5,796,370	\$5,970,261	\$6,149,369	\$6,333,850	\$6,523,866
Incentive Constraints	1	1	1	1	1	1	1	1	1	1
Incentive Adjuster	1	1	1	1	1	1	1	1	1	1

Vintcrit:	5
Batch:	1

OUTPUT										
Year	1	2	3	4	5	6	7	8	9	10
TRC for Program	1.39									
Utility Test for Program	1.53									
RIM Test for Program	0.53									
Annual TRC	1.67	1.66	1.61	1.54	1.45	1.36	1.28	1.20	1.13	1.08
Annual Utility Test	1.54	1.71	1.76	1.74	1.68	1.60	1.52	1.43	1.36	1.30
Annual RIM Test	0.46	0.47	0.48	0.48	0.47	0.46	0.45	0.45	0.44	0.43
Net Energy Savings	2,723,419	5,971,182	9,409,037	12,827,384	16,111,186	19,208,517	22,105,321	24,807,984	27,332,456	29,698,004
Net Peak Demand Savings	7	16	26	35	44	53	61	68	75	81
Net 2nd Peak Demand Savings	0	0	0	0	0	0	0	0	0	0
Naturally Occurring Energy Savings	1,119,839	2,032,613	2,790,985	3,432,318	3,983,536	4,464,287	4,889,064	5,268,666	5,611,215	5,922,880
Naturally Occurring Peak Demand Savings	3	6	8	9	11	12	13	14	15	16
Peak Period Net Energy Savings	2,723,419	5,971,182	9,409,037	12,827,384	16,111,186	19,208,517	22,105,321	24,807,984	27,332,456	29,698,004
Program Costs	\$8,525,604	\$8,330,711	\$8,071,719	\$7,772,492	\$7,451,680	\$7,122,678	\$6,794,527	\$6,473,006	\$6,161,612	\$5,862,306
Program Costs (Adjusted)	\$8,525,604	\$8,697,947	\$8,548,926	\$8,215,179	\$7,792,131	\$7,339,325	\$6,890,336	\$6,462,068	\$6,061,621	\$5,690,767
Participant Costs	\$2,566,968	\$2,767,809	\$2,832,204	\$2,805,698	\$2,723,237	\$2,609,336	\$2,480,121	\$2,345,684	\$2,212,059	\$2,082,680
Total 20 Year Avoided Costs	\$18,523,975	\$19,013,212	\$18,321,843	\$16,945,901	\$15,261,793	\$13,561,880	\$11,979,681	\$10,568,891	\$9,339,113	\$8,365,382
Net 20 Year Avoided Costs (TRC)	\$13,126,506	\$14,841,930	\$15,010,590	\$14,268,850	\$13,068,174	\$11,739,708	\$10,447,672	\$9,267,259	\$8,223,283	\$7,391,536
Discounted Lost Revenue	\$16,113,918	\$18,219,749	\$18,426,793	\$17,516,243	\$16,042,309	\$14,411,504	\$12,825,418	\$11,376,360	\$10,094,788	\$9,073,748

DSM ASSYST ANNUAL POTENTIAL ANALYSIS OUTPUTS

BASE ENERGY COSTS, LEVEL 2 FUNDING

Awareness Parameters:										
Ad effectiveness ratio	0.01									
Aware decay rate	0.25									
Target effectiveness	0.00									
Starting awareness	25%									
Program Budget:										
Year	1	2	3	4	5	6	7	8	9	10
Administration	\$2,000,000	\$2,060,000	\$2,183,600	\$2,314,616	\$2,453,493	\$2,600,703	\$2,756,745	\$2,922,149	\$3,097,478	\$3,283,327
Administration (Adjusted)	\$2,000,000	\$3,110,406	\$3,421,191	\$3,485,985	\$3,474,689	\$3,443,574	\$3,426,381	\$3,439,929	\$3,490,437	\$3,578,551
Advertising	\$5,000,000	\$5,150,000	\$5,459,000	\$5,786,540	\$6,133,732	\$6,501,756	\$6,891,862	\$7,305,373	\$7,743,696	\$8,208,318
Incentive Constraints	1	1	1	1	1	1	1	1	1	1
Incentive Adjuster	0.85	1	1	1	1	1	1	1	1	1

Vintcrit:	5
Batch:	1

OUTPUT										
Year	1	2	3	4	5	6	7	8	9	10
TRC for Program	1.46									
Utility Test for Program	1.69									
RIM Test for Program	0.55									
Annual TRC	1.90	1.96	1.83	1.69	1.55	1.42	1.31	1.22	1.15	1.10
Annual Utility Test	1.93	2.21	2.11	1.98	1.83	1.69	1.57	1.46	1.38	1.32
Annual RIM Test	0.49	0.51	0.50	0.49	0.48	0.47	0.46	0.45	0.44	0.43
Net Energy Savings	3,849,679	9,662,332	15,523,176	21,156,989	26,454,685	31,407,757	36,057,136	40,460,686	44,675,975	48,753,052
Net Peak Demand Savings	11	26	43	58	72	86	99	111	122	134
Net 2nd Peak Demand Savings	0	0	0	0	0	0	0	0	0	0
Naturally Occurring Energy Savings	1,119,839	2,032,613	2,790,985	3,432,318	3,983,536	4,464,287	4,889,064	5,268,666	5,611,215	5,922,880
Naturally Occurring Peak Demand Savings	3	6	8	9	11	12	13	14	15	16
Peak Period Net Energy Savings	3,849,679	9,662,332	15,523,176	21,156,989	26,454,685	31,407,757	36,057,136	40,460,686	44,675,975	48,753,052
Program Costs	\$9,598,317	\$11,065,252	\$11,070,162	\$10,951,265	\$10,756,925	\$10,521,287	\$10,266,699	\$10,006,922	\$9,749,960	\$9,500,167
Program Costs (Adjusted)	\$9,598,317	\$12,037,850	\$12,131,197	\$11,881,135	\$11,507,534	\$11,094,931	\$10,688,683	\$10,309,041	\$9,962,264	\$9,647,852
Participant Costs	\$3,022,282	\$3,613,863	\$3,670,783	\$3,623,448	\$3,518,793	\$3,387,817	\$3,249,020	\$3,112,417	\$2,982,831	\$2,862,151
Total 20 Year Avoided Costs	\$23,952,398	\$30,734,486	\$28,901,250	\$26,193,696	\$23,276,254	\$20,595,634	\$18,300,553	\$16,401,122	\$14,846,829	\$13,713,328
Net 20 Year Avoided Costs (TRC)	\$18,554,929	\$26,563,205	\$25,589,997	\$23,516,645	\$21,082,635	\$18,773,461	\$16,768,544	\$15,099,490	\$13,730,998	\$12,739,483
Discounted Lost Revenue	\$22,777,774	\$32,608,623	\$31,413,928	\$28,868,709	\$25,880,751	\$23,046,042	\$20,584,833	\$18,535,925	\$16,855,984	\$15,638,814

DSM ASSYST ANNUAL POTENTIAL ANALYSIS OUTPUTS

BASE ENERGY COSTS, LEVEL 3 FUNDING

Awareness Parameters:										
Ad effectiveness ratio	0.01									
Aware decay rate	0.25									
Target effectiveness	0.00									
Starting awareness	25%									
Program Budget:										
Year	1	2	3	4	5	6	7	8	9	10
Administration	\$2,000,000	\$2,060,000	\$2,163,000	\$2,325,225	\$2,499,617	\$2,687,088	\$2,888,620	\$3,105,266	\$3,338,161	\$3,588,523
Administration (Adjusted)	\$2,000,000	\$8,150,554	\$8,429,971	\$8,825,917	\$8,691,905	\$8,585,438	\$8,593,011	\$8,752,503	\$9,072,432	\$9,547,538
Advertising	\$5,000,000	\$5,150,000	\$5,407,500	\$5,813,063	\$6,249,042	\$6,717,720	\$7,221,549	\$7,763,166	\$8,345,403	\$8,971,308
Incentive Constraints	1	1	1	1	1	1	1	1	1	1
Incentive Adjuster	0.5	1	1	1	1	1	1	1	1	1

Vintcrit:	5
Batch:	1

OUTPUT										
Year	1	2	3	4	5	6	7	8	9	10
TRC for Program	1.36									
Utility Test for Program	1.51									
RIM Test for Program	0.53									
Annual TRC	1.62	1.91	1.77	1.60	1.46	1.33	1.23	1.14	1.08	1.03
Annual Utility Test	1.49	2.10	1.98	1.79	1.64	1.50	1.38	1.29	1.22	1.17
Annual RIM Test	0.45	0.50	0.49	0.48	0.47	0.45	0.44	0.43	0.42	0.41
Net Energy Savings	2,571,137	12,744,045	22,573,799	31,707,140	40,074,267	47,762,302	54,920,270	61,702,433	68,242,033	74,643,956
Net Peak Demand Savings	7	35	62	87	110	131	150	169	187	205
Net 2nd Peak Demand Savings	0	0	0	0	0	0	0	0	0	0
Naturally Occurring Energy Savings	1,119,839	2,032,613	2,790,985	3,432,318	3,983,536	4,464,287	4,889,064	5,268,666	5,611,215	5,922,880
Naturally Occurring Peak Demand Savings	3	6	8	9	11	12	13	14	15	16
Peak Period Net Energy Savings	2,571,137	12,744,045	22,573,799	31,707,140	40,074,267	47,762,302	54,920,270	61,702,433	68,242,033	74,643,956
Program Costs	\$8,343,060	\$16,447,987	\$16,333,184	\$16,127,229	\$15,798,751	\$15,428,768	\$15,063,714	\$14,726,094	\$14,423,777	\$14,156,695
Program Costs (Adjusted)	\$8,343,060	\$22,087,388	\$21,706,102	\$21,287,688	\$20,350,267	\$19,443,086	\$18,658,447	\$18,021,202	\$17,521,825	\$17,137,686
Participant Costs	\$2,626,670	\$4,391,910	\$4,343,642	\$4,188,232	\$3,991,199	\$3,791,724	\$3,609,248	\$3,450,741	\$3,316,421	\$3,203,483
Total 20 Year Avoided Costs	\$17,789,998	\$50,660,383	\$46,230,571	\$40,801,410	\$35,491,315	\$30,961,875	\$27,348,079	\$24,557,234	\$22,418,102	\$20,977,684
Net 20 Year Avoided Costs (TRC)	\$12,392,530	\$46,489,103	\$42,919,317	\$38,124,358	\$33,297,696	\$29,139,702	\$25,816,071	\$23,255,602	\$21,302,272	\$20,003,838
Discounted Lost Revenue	\$15,212,898	\$57,069,380	\$52,687,163	\$46,800,937	\$40,875,792	\$35,771,497	\$31,691,452	\$28,548,256	\$26,150,375	\$24,556,436

DSM ASSYST ANNUAL POTENTIAL ANALYSIS OUTPUTS

BASE ENERGY COSTS, LEVEL 4 FUNDING

Awareness Parameters:										
Ad effectiveness ratio	0.01									
Aware decay rate	0.25									
Target effectiveness	0.00									
Starting awareness	25%									
Program Budget:										
Year	1	2	3	4	5	6	7	8	9	10
Administration	\$2,000,000	\$2,100,000	\$2,205,000	\$2,370,375	\$2,607,413	\$2,868,154	\$3,154,969	\$3,470,466	\$3,817,513	\$4,199,264
Administration (Adjusted)	\$2,000,000	\$26,157,519	\$21,770,315	\$17,736,271	\$14,521,642	\$11,276,250	\$9,508,278	\$9,064,705	\$9,629,585	\$10,844,068
Advertising	\$5,000,000	\$5,250,000	\$5,512,500	\$5,925,938	\$6,518,531	\$7,170,384	\$7,887,423	\$8,676,165	\$9,543,782	\$10,498,160
Incentive Constraints	1	1	1	1	1	1	1	1	1	1
Incentive Adjuster	0.5	1	1	1	1	1	1	1	1	1

Vintcrit:	5
Batch:	1

OUTPUT										
Year	1	2	3	4	5	6	7	8	9	10
TRC for Program	1.36									
Utility Test for Program	1.38									
RIM Test for Program	0.51									
Annual TRC	1.89	1.69	1.63	1.52	1.37	1.23	1.09	1.00	0.95	0.93
Annual Utility Test	1.97	1.75	1.68	1.56	1.39	1.23	1.09	1.00	0.94	0.93
Annual RIM Test	0.50	0.48	0.47	0.46	0.44	0.42	0.40	0.38	0.37	0.37
Net Energy Savings	3,980,991	53,568,062	92,873,018	121,291,320	141,034,004	154,970,785	165,654,122	174,913,165	183,855,013	193,009,190
Net Peak Demand Savings	11	147	254	332	386	425	454	479	504	529
Net 2nd Peak Demand Savings	0	0	0	0	0	0	0	0	0	0
Naturally Occurring Energy Savings	1,119,839	2,032,613	2,790,985	3,432,318	3,983,536	4,464,287	4,889,064	5,268,666	5,611,215	5,922,880
Naturally Occurring Peak Demand Savings	3	6	8	9	11	12	13	14	15	16
Peak Period Net Energy Savings	3,980,991	53,568,062	92,873,018	121,291,320	141,034,004	154,970,785	165,654,122	174,913,165	183,855,013	193,009,190
Program Costs	\$9,716,338	\$107,298,140	\$85,315,820	\$63,794,279	\$47,575,058	\$37,100,692	\$31,308,872	\$28,637,753	\$27,723,220	\$27,542,794
Program Costs (Adjusted)	\$9,716,338	\$129,573,620	\$102,089,924	\$75,992,223	\$56,332,372	\$42,823,101	\$35,312,534	\$31,901,937	\$30,863,302	\$30,866,850
Participant Costs	\$3,265,778	\$6,978,408	\$5,343,360	\$3,747,467	\$2,536,636	\$1,749,945	\$1,307,217	\$1,093,292	\$1,008,281	\$980,256
Total 20 Year Avoided Costs	\$24,585,303	\$230,778,901	\$174,927,123	\$121,300,625	\$80,761,318	\$54,646,287	\$40,062,746	\$33,050,295	\$30,243,252	\$29,577,543
Net 20 Year Avoided Costs (TRC)	\$19,187,835	\$226,607,624	\$171,615,866	\$118,623,571	\$78,567,700	\$52,824,114	\$38,530,737	\$31,748,663	\$29,127,421	\$28,603,697
Discounted Lost Revenue	\$23,554,721	\$278,180,388	\$210,673,276	\$145,620,663	\$96,448,623	\$64,846,155	\$47,299,801	\$38,974,221	\$35,756,421	\$35,113,505

DSM ASSYST ANNUAL POTENTIAL ANALYSIS OUTPUTS

LOW ENERGY COSTS, LEVEL 1 FUNDING

Awareness Parameters:										
Ad effectiveness ratio	0.02									
Aware decay rate	0.25									
Target effectiveness	0.00									
Starting awareness	25%									
Program Budget:										
Year	1	2	3	4	5	6	7	8	9	10
Administration (Original)	\$2,000,000	\$2,060,000	\$2,121,800	\$2,185,454	\$2,251,018	\$2,318,548	\$2,388,105	\$2,459,748	\$2,533,540	\$2,609,546
Administration (Adjusted)	\$2,000,000	\$2,014,510	\$2,006,631	\$1,982,104	\$1,945,373	\$1,899,904	\$1,848,404	\$1,792,970	\$1,735,213	\$1,676,358
Advertising	\$5,000,000	\$5,150,000	\$5,304,500	\$5,463,635	\$5,627,544	\$5,796,370	\$5,970,261	\$6,149,369	\$6,333,850	\$6,523,866
Incentive Constraints	0	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Incentive Adjuster	1	1	1	1	1	1	1	1	1	1

Vintcrit:	5
Batch:	1

OUTPUT										
TRC for Program	0.44									
Utility Test for Program	0.35									
RIM Test for Program	0.24									
Year	1	2	3	4	5	6	7	8	9	10
Annual TRC	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
Annual Utility Test	0.57	0.53	0.50	0.47	0.44	0.41	0.38	0.36	0.33	0.31
Annual RIM Test	0.36	0.35	0.34	0.33	0.32	0.31	0.30	0.28	0.27	0.26
Net Energy Savings	1,231,362	2,435,532	3,600,057	4,716,845	5,781,012	6,790,036	7,743,116	8,640,685	9,484,041	10,275,061
Net Peak Demand Savings	3	7	10	13	16	19	21	24	26	28
Net 2nd Peak Demand Savings	0	0	0	0	0	0	0	0	0	0
Naturally Occurring Energy Savings	485,646	884,192	1,218,120	1,503,407	1,751,562	1,970,969	2,167,790	2,346,590	2,510,773	2,662,897
Naturally Occurring Peak Demand Savings	1	2	3	4	5	5	6	6	7	7
Peak Period Net Energy Savings	1,231,362	2,435,532	3,600,057	4,716,845	5,781,012	6,790,036	7,743,116	8,640,685	9,484,041	10,275,061
Program Costs (Original)	\$7,282,345	\$6,927,141	\$6,592,959	\$6,277,346	\$5,978,487	\$5,694,980	\$5,425,703	\$5,169,720	\$4,926,231	\$4,694,526
Program Costs (Adjusted)	\$7,282,345	\$6,885,020	\$6,494,220	\$6,115,921	\$5,753,829	\$5,410,058	\$5,085,600	\$4,780,662	\$4,494,919	\$4,227,699
Participant Costs	\$461,994	\$408,477	\$365,936	\$331,095	\$301,797	\$276,607	\$254,558	\$234,985	\$217,422	\$201,536
Total 20 Year Avoided Costs	\$4,137,872	\$3,662,121	\$3,271,323	\$2,926,267	\$2,611,248	\$2,328,040	\$2,073,629	\$1,845,401	\$1,640,992	\$1,473,503
Net 20 Year Avoided Costs (TRC)	\$2,967,499	\$2,751,465	\$2,542,313	\$2,330,845	\$2,117,471	\$1,912,234	\$1,718,699	\$1,538,854	\$1,373,585	\$1,235,835
Discounted Lost Revenue	\$3,642,860	\$3,377,661	\$3,120,908	\$2,861,314	\$2,599,379	\$2,347,433	\$2,109,851	\$1,889,076	\$1,686,194	\$1,517,094

DSM ASSYST ANNUAL POTENTIAL ANALYSIS OUTPUTS

LOW ENERGY COSTS, LEVEL 2 FUNDING

Awareness Parameters:										
Ad effectiveness ratio	0.02									
Aware decay rate	0.25									
Target effectiveness	0.00									
Starting awareness	25%									
Program Budget:										
Year	1	2	3	4	5	6	7	8	9	10
Administration (Original)	\$2,000,000	\$2,060,000	\$2,183,600	\$2,314,616	\$2,453,493	\$2,600,703	\$2,756,745	\$2,922,149	\$3,097,478	\$3,283,327
Administration (Adjusted)	\$2,000,000	\$2,943,320	\$3,008,781	\$2,979,576	\$2,943,414	\$2,902,196	\$2,857,665	\$2,811,376	\$2,764,681	\$2,718,746
Advertising	\$5,000,000	\$5,150,000	\$5,459,000	\$5,786,540	\$6,133,732	\$6,501,756	\$6,891,862	\$7,305,373	\$7,743,696	\$8,208,318
Incentive Constraints	0	0.03	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Incentive Adjuster	1	1	1	1	1	1	1	1	1	1

Vintcrit:	5
Batch:	1

OUTPUT										
TRC for Program	0.56									
Utility Test for Program	0.50									
RIM Test for Program	0.31									
Year	1	2	3	4	5	6	7	8	9	10
Annual TRC	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Annual Utility Test	0.71	0.88	0.80	0.72	0.65	0.59	0.53	0.48	0.43	0.39
Annual RIM Test	0.44	0.53	0.50	0.48	0.45	0.42	0.40	0.37	0.34	0.32
Net Energy Savings	1,710,107	4,153,503	6,443,169	8,582,265	10,575,788	12,430,134	14,152,675	15,751,391	17,234,563	18,610,533
Net Peak Demand Savings	5	11	18	24	29	34	39	43	47	51
Net 2nd Peak Demand Savings	0	0	0	0	0	0	0	0	0	0
Naturally Occurring Energy Savings	485,646	884,192	1,218,120	1,503,407	1,751,562	1,970,969	2,167,790	2,346,590	2,510,773	2,662,897
Naturally Occurring Peak Demand Savings	1	2	3	4	5	5	6	6	7	7
Peak Period Net Energy Savings	1,710,107	4,153,503	6,443,169	8,582,265	10,575,788	12,430,134	14,152,675	15,751,391	17,234,563	18,610,533
Program Costs (Original)	\$7,477,534	\$7,374,381	\$7,178,055	\$6,998,337	\$6,831,148	\$6,673,732	\$6,524,197	\$6,381,218	\$6,243,851	\$6,111,404
Program Costs (Adjusted)	\$7,477,534	\$8,192,270	\$7,885,514	\$7,526,204	\$7,191,254	\$6,878,923	\$6,587,793	\$6,316,582	\$6,064,051	\$5,828,973
Participant Costs	\$581,756	\$619,769	\$554,302	\$501,177	\$456,982	\$419,431	\$386,966	\$358,505	\$333,282	\$310,736
Total 20 Year Avoided Costs	\$5,291,616	\$6,493,683	\$5,727,656	\$5,059,925	\$4,460,475	\$3,930,038	\$3,461,205	\$3,047,493	\$2,683,070	\$2,387,389
Net 20 Year Avoided Costs (TRC)	\$4,121,242	\$5,583,027	\$4,998,645	\$4,464,503	\$3,966,698	\$3,514,233	\$3,106,275	\$2,740,947	\$2,415,663	\$2,149,721
Discounted Lost Revenue	\$5,059,180	\$6,853,647	\$6,136,268	\$5,480,563	\$4,869,464	\$4,314,024	\$3,813,220	\$3,364,748	\$2,965,434	\$2,638,968

DSM ASSYST ANNUAL POTENTIAL ANALYSIS OUTPUTS

LOW ENERGY COSTS, LEVEL 3 FUNDING

Awareness Parameters:										
Ad effectiveness ratio	0.02									
Aware decay rate	0.25									
Target effectiveness	0.00									
Starting awareness	25%									
Program Budget:										
Year	1	2	3	4	5	6	7	8	9	10
Administration (Original)	\$2,000,000	\$2,060,000	\$2,163,000	\$2,325,225	\$2,499,617	\$2,687,088	\$2,888,620	\$3,105,266	\$3,338,161	\$3,588,523
Administration (Adjusted)	\$2,000,000	\$10,638,426	\$10,237,028	\$10,346,984	\$9,963,261	\$9,588,327	\$9,230,174	\$8,895,527	\$8,589,928	\$8,317,894
Advertising	\$5,000,000	\$5,150,000	\$5,407,500	\$5,813,063	\$6,249,042	\$6,717,720	\$7,221,549	\$7,763,166	\$8,345,403	\$8,971,308
Incentive Constraints	0	0.03	0.05	0.075	0.075	0.075	0.075	0.075	0.075	0.075
Incentive Adjuster	1	1	1	1	1	1	1	1	1	1

Vintcrit:	5
Batch:	1

OUTPUT										
TRC for Program	0.52									
Utility Test for Program	0.49									
RIM Test for Program	0.30									
Year	1	2	3	4	5	6	7	8	9	10
Annual TRC	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02
Annual Utility Test	0.49	1.47	1.32	1.15	1.00	0.87	0.75	0.65	0.57	0.50
Annual RIM Test	0.30	0.71	0.68	0.64	0.59	0.55	0.51	0.47	0.42	0.39
Net Energy Savings	975,333	6,012,233	10,540,358	14,602,093	18,240,328	21,497,372	24,414,009	27,028,791	29,377,585	31,493,316
Net Peak Demand Savings	3	16	29	40	50	59	67	74	80	86
Net 2nd Peak Demand Savings	0	0	0	0	0	0	0	0	0	0
Naturally Occurring Energy Savings	485,646	884,192	1,218,120	1,503,407	1,751,562	1,970,969	2,167,790	2,346,590	2,510,773	2,662,897
Naturally Occurring Peak Demand Savings	1	2	3	4	5	5	6	6	7	7
Peak Period Net Energy Savings	975,333	6,012,233	10,540,358	14,602,093	18,240,328	21,497,372	24,414,009	27,028,791	29,377,585	31,493,316
Program Costs (Original)	\$7,232,445	\$8,443,973	\$8,061,716	\$7,872,114	\$7,710,435	\$7,570,140	\$7,446,602	\$7,336,469	\$7,237,250	\$7,147,054
Program Costs (Adjusted)	\$7,232,445	\$16,386,960	\$14,983,894	\$14,240,045	\$13,196,436	\$12,267,007	\$11,442,857	\$10,715,030	\$10,074,616	\$9,512,917
Participant Costs	\$466,928	\$890,515	\$784,559	\$697,815	\$625,673	\$564,923	\$513,260	\$468,976	\$430,772	\$397,636
Total 20 Year Avoided Costs	\$3,520,861	\$12,419,702	\$10,614,509	\$9,072,660	\$7,733,111	\$6,588,339	\$5,614,529	\$4,789,508	\$4,092,920	\$3,543,139
Net 20 Year Avoided Costs (TRC)	\$2,350,487	\$11,509,047	\$9,885,498	\$8,477,238	\$7,239,335	\$6,172,533	\$5,259,599	\$4,482,961	\$3,825,513	\$3,305,470
Discounted Lost Revenue	\$2,885,426	\$14,128,347	\$12,135,302	\$10,406,541	\$8,886,907	\$7,577,316	\$6,456,611	\$5,503,221	\$4,696,147	\$4,057,750

DSM ASSYST ANNUAL POTENTIAL ANALYSIS OUTPUTS

LOW ENERGY COSTS, LEVEL 4 FUNDING

Awareness Parameters:										
Ad effectiveness ratio	0.02									
Aware decay rate	0.25									
Target effectiveness	0.00									
Starting awareness	25%									
Program Budget:										
Year	1	2	3	4	5	6	7	8	9	10
Administration (Original)	\$2,000,000	\$2,100,000	\$2,205,000	\$2,370,375	\$2,607,413	\$2,868,154	\$3,154,969	\$3,470,466	\$3,817,513	\$4,199,264
Administration (Adjusted)	\$2,000,000	\$23,283,305	\$19,936,379	\$18,015,150	\$16,847,984	\$14,583,106	\$12,553,128	\$10,789,024	\$9,308,848	\$8,120,405
Advertising	\$5,000,000	\$5,250,000	\$5,512,500	\$5,925,938	\$6,518,531	\$7,170,384	\$7,887,423	\$8,676,165	\$9,543,782	\$10,498,160
Incentive Constraints	0	0.05	0.05	0.075	0.1	0.1	0.1	0.1	0.1	0.1
Incentive Adjuster	1	1	1	1	1	1	1	1	1	1

Vintcrit:	5
Batch:	1

OUTPUT										
TRC for Program	0.76									
Utility Test for Program	0.76									
RIM Test for Program	0.39									
Year	1	2	3	4	5	6	7	8	9	10
Annual TRC	0.04	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01
Annual Utility Test	0.72	2.09	1.89	1.66	1.41	1.17	0.95	0.75	0.59	0.47
Annual RIM Test	0.44	0.82	0.80	0.76	0.71	0.65	0.59	0.52	0.44	0.38
Net Energy Savings	1,765,625	21,341,614	37,305,407	50,107,497	60,266,371	68,260,203	74,515,735	79,403,403	83,237,145	86,277,413
Net Peak Demand Savings	5	58	102	137	165	187	204	218	228	236
Net 2nd Peak Demand Savings	0	0	0	0	0	0	0	0	0	0
Naturally Occurring Energy Savings	485,646	884,192	1,218,120	1,503,407	1,751,562	1,970,969	2,167,790	2,346,590	2,510,773	2,662,897
Naturally Occurring Peak Demand Savings	1	2	3	4	5	5	6	6	7	7
Peak Period Net Energy Savings	1,765,625	21,341,614	37,305,407	50,107,497	60,266,371	68,260,203	74,515,735	79,403,403	83,237,145	86,277,413
Program Costs (Original)	\$7,506,485	\$21,833,606	\$18,812,895	\$16,423,148	\$14,658,345	\$13,298,906	\$12,277,293	\$11,530,996	\$11,004,573	\$10,650,547
Program Costs (Adjusted)	\$7,506,485	\$41,447,778	\$34,014,695	\$28,842,474	\$25,125,590	\$21,271,905	\$18,199,728	\$15,801,305	\$13,971,370	\$12,612,093
Participant Costs	\$636,857	\$1,344,245	\$1,070,732	\$844,003	\$663,389	\$521,986	\$413,095	\$330,554	\$268,931	\$223,591
Total 20 Year Avoided Costs	\$5,425,409	\$45,640,747	\$35,580,088	\$27,314,639	\$20,707,832	\$15,565,182	\$11,635,593	\$8,686,298	\$6,511,474	\$4,987,572
Net 20 Year Avoided Costs (TRC)	\$4,255,035	\$44,730,092	\$34,851,077	\$26,719,218	\$20,214,056	\$15,149,376	\$11,280,663	\$8,379,752	\$6,244,067	\$4,749,904
Discounted Lost Revenue	\$5,223,422	\$54,910,043	\$42,782,703	\$32,800,144	\$24,814,496	\$18,597,165	\$13,847,986	\$10,286,867	\$7,665,131	\$5,830,916

DSM ASSYST ANNUAL POTENTIAL ANALYSIS OUTPUTS

HIGH ENERGY COSTS, LEVEL 1 FUNDING

Awareness Parameters:										
Ad effectiveness ratio	0.01									
Aware decay rate	0.25									
Target effectiveness	0.00									
Starting awareness	25%									
Program Budget:										
Year	1	2	3	4	5	6	7	8	9	10
Administration	\$2,000,000	\$2,060,000	\$2,121,800	\$2,185,454	\$2,251,018	\$2,318,548	\$2,388,105	\$2,459,748	\$2,533,540	\$2,609,546
Administration (Adjusted)	\$2,000,000	\$2,456,615	\$2,678,414	\$2,743,111	\$2,714,198	\$2,636,873	\$2,540,143	\$2,441,002	\$2,348,464	\$2,266,639
Advertising	\$5,000,000	\$5,150,000	\$5,304,500	\$5,463,635	\$5,627,544	\$5,796,370	\$5,970,261	\$6,149,369	\$6,333,850	\$6,523,866
Incentive Constraints	1	1	1	1	1	1	1	1	1	1
Incentive Adjuster	1	1	1	1	1	1	1	1	1	1

Vintcrit:	5
Batch:	1

OUTPUT										
TRC for Program	1.39									
Utility Test for Program	1.53									
RIM Test for Program	0.53									
Year	1	2	3	4	5	6	7	8	9	10
Annual TRC	1.67	1.66	1.61	1.54	1.45	1.36	1.28	1.20	1.13	1.08
Annual Utility Test	1.54	1.71	1.76	1.74	1.68	1.60	1.52	1.43	1.36	1.30
Annual RIM Test	0.46	0.47	0.48	0.48	0.47	0.46	0.45	0.45	0.44	0.43
Net Energy Savings	2,723,419	5,971,182	9,409,037	12,827,384	16,111,186	19,208,517	22,105,321	24,807,984	27,332,456	29,698,004
Net Peak Demand Savings	7	16	26	35	44	53	61	68	75	81
Net 2nd Peak Demand Savings	0	0	0	0	0	0	0	0	0	0
Naturally Occurring Energy Savings	1,119,839	2,032,613	2,790,985	3,432,318	3,983,536	4,464,287	4,889,064	5,268,666	5,611,215	5,922,880
Naturally Occurring Peak Demand Savings	3	6	8	9	11	12	13	14	15	16
Peak Period Net Energy Savings	2,723,419	5,971,182	9,409,037	12,827,384	16,111,186	19,208,517	22,105,321	24,807,984	27,332,456	29,698,004
Program Costs	\$8,525,604	\$8,330,711	\$8,071,719	\$7,772,492	\$7,451,680	\$7,122,678	\$6,794,527	\$6,473,006	\$6,161,612	\$5,862,306
Program Costs (Adjusted)	\$8,525,604	\$8,697,947	\$8,548,926	\$8,215,179	\$7,792,131	\$7,339,325	\$6,890,336	\$6,462,068	\$6,061,621	\$5,690,767
Participant Costs	\$2,566,968	\$2,767,809	\$2,832,204	\$2,805,698	\$2,723,237	\$2,609,336	\$2,480,121	\$2,345,684	\$2,212,059	\$2,082,680
Total 20 Year Avoided Costs	\$18,523,975	\$19,013,212	\$18,321,843	\$16,945,901	\$15,261,793	\$13,561,880	\$11,979,681	\$10,568,891	\$9,339,113	\$8,365,382
Net 20 Year Avoided Costs (TRC)	\$13,126,506	\$14,841,930	\$15,010,590	\$14,268,850	\$13,068,174	\$11,739,708	\$10,447,672	\$9,267,259	\$8,223,283	\$7,391,536
Discounted Lost Revenue	\$16,113,918	\$18,219,749	\$18,426,793	\$17,516,243	\$16,042,309	\$14,411,504	\$12,825,418	\$11,376,360	\$10,094,788	\$9,073,748

DSM ASSYST ANNUAL POTENTIAL ANALYSIS OUTPUTS

HIGH ENERGY COSTS, LEVEL 2 FUNDING

Awareness Parameters:										
Ad effectiveness ratio	0.01									
Aware decay rate	0.25									
Target effectiveness	0.00									
Starting awareness	25%									
Program Budget:										
Year	1	2	3	4	5	6	7	8	9	10
Administration	\$2,000,000	\$2,060,000	\$2,183,600	\$2,314,616	\$2,453,493	\$2,600,703	\$2,756,745	\$2,922,149	\$3,097,478	\$3,283,327
Administration (Adjusted)	\$2,000,000	\$3,110,406	\$3,421,191	\$3,485,985	\$3,474,689	\$3,443,574	\$3,426,381	\$3,439,929	\$3,490,437	\$3,578,551
Advertising	\$5,000,000	\$5,150,000	\$5,459,000	\$5,786,540	\$6,133,732	\$6,501,756	\$6,891,862	\$7,305,373	\$7,743,696	\$8,208,318
Incentive Constraints	1	1	1	1	1	1	1	1	1	1
Incentive Adjuster	0.85	1	1	1	1	1	1	1	1	1

Vintcrit:	5
Batch:	1

OUTPUT										
Year	1	2	3	4	5	6	7	8	9	10
TRC for Program	1.46									
Utility Test for Program	1.69									
RIM Test for Program	0.55									
Annual TRC	1.90	1.96	1.83	1.69	1.55	1.42	1.31	1.22	1.15	1.10
Annual Utility Test	1.93	2.21	2.11	1.98	1.83	1.69	1.57	1.46	1.38	1.32
Annual RIM Test	0.49	0.51	0.50	0.49	0.48	0.47	0.46	0.45	0.44	0.43
Net Energy Savings	3,849,679	9,662,332	15,523,176	21,156,989	26,454,685	31,407,757	36,057,136	40,460,686	44,675,975	48,753,052
Net Peak Demand Savings	11	26	43	58	72	86	99	111	122	134
Net 2nd Peak Demand Savings	0	0	0	0	0	0	0	0	0	0
Naturally Occurring Energy Savings	1,119,839	2,032,613	2,790,985	3,432,318	3,983,536	4,464,287	4,889,064	5,268,666	5,611,215	5,922,880
Naturally Occurring Peak Demand Savings	3	6	8	9	11	12	13	14	15	16
Peak Period Net Energy Savings	3,849,679	9,662,332	15,523,176	21,156,989	26,454,685	31,407,757	36,057,136	40,460,686	44,675,975	48,753,052
Program Costs	\$9,598,317	\$11,065,252	\$11,070,162	\$10,951,265	\$10,756,925	\$10,521,287	\$10,266,699	\$10,006,922	\$9,749,960	\$9,500,167
Program Costs (Adjusted)	\$9,598,317	\$12,037,850	\$12,131,197	\$11,881,135	\$11,507,534	\$11,094,931	\$10,688,683	\$10,309,041	\$9,962,264	\$9,647,852
Participant Costs	\$3,022,282	\$3,613,863	\$3,670,783	\$3,623,448	\$3,518,793	\$3,387,817	\$3,249,020	\$3,112,417	\$2,982,831	\$2,862,151
Total 20 Year Avoided Costs	\$23,952,398	\$30,734,486	\$28,901,250	\$26,193,696	\$23,276,254	\$20,595,634	\$18,300,553	\$16,401,122	\$14,846,829	\$13,713,328
Net 20 Year Avoided Costs (TRC)	\$18,554,929	\$26,563,205	\$25,589,997	\$23,516,645	\$21,082,635	\$18,773,461	\$16,768,544	\$15,099,490	\$13,730,998	\$12,739,483
Discounted Lost Revenue	\$22,777,774	\$32,608,623	\$31,413,928	\$28,868,709	\$25,880,751	\$23,046,042	\$20,584,833	\$18,535,925	\$16,855,984	\$15,638,814

DSM ASSYST ANNUAL POTENTIAL ANALYSIS OUTPUTS

HIGH ENERGY COSTS, LEVEL 3 FUNDING

Awareness Parameters:										
Ad effectiveness ratio	0.01									
Aware decay rate	0.25									
Target effectiveness	0.00									
Starting awareness	25%									
Program Budget:										
Year	1	2	3	4	5	6	7	8	9	10
Administration	\$2,000,000	\$2,060,000	\$2,163,000	\$2,325,225	\$2,499,617	\$2,687,088	\$2,888,620	\$3,105,266	\$3,338,161	\$3,588,523
Administration (Adjusted)	\$2,000,000	\$8,150,554	\$8,429,971	\$8,825,917	\$8,691,905	\$8,585,438	\$8,593,011	\$8,752,503	\$9,072,432	\$9,547,538
Advertising	\$5,000,000	\$5,150,000	\$5,407,500	\$5,813,063	\$6,249,042	\$6,717,720	\$7,221,549	\$7,763,166	\$8,345,403	\$8,971,308
Incentive Constraints	1	1	1	1	1	1	1	1	1	1
Incentive Adjuster	0.5	1	1	1	1	1	1	1	1	1

Vintcrit:	5
Batch:	1

OUTPUT										
TRC for Program	1.36									
Utility Test for Program	1.51									
RIM Test for Program	0.53									
Year	1	2	3	4	5	6	7	8	9	10
Annual TRC	1.62	1.91	1.77	1.60	1.46	1.33	1.23	1.14	1.08	1.03
Annual Utility Test	1.49	2.10	1.98	1.79	1.64	1.50	1.38	1.29	1.22	1.17
Annual RIM Test	0.45	0.50	0.49	0.48	0.47	0.45	0.44	0.43	0.42	0.41
Net Energy Savings	2,571,137	12,744,045	22,573,799	31,707,140	40,074,267	47,762,302	54,920,270	61,702,433	68,242,033	74,643,956
Net Peak Demand Savings	7	35	62	87	110	131	150	169	187	205
Net 2nd Peak Demand Savings	0	0	0	0	0	0	0	0	0	0
Naturally Occurring Energy Savings	1,119,839	2,032,613	2,790,985	3,432,318	3,983,536	4,464,287	4,889,064	5,268,666	5,611,215	5,922,880
Naturally Occurring Peak Demand Savings	3	6	8	9	11	12	13	14	15	16
Peak Period Net Energy Savings	2,571,137	12,744,045	22,573,799	31,707,140	40,074,267	47,762,302	54,920,270	61,702,433	68,242,033	74,643,956
Program Costs	\$8,343,060	\$16,447,987	\$16,333,184	\$16,127,229	\$15,798,751	\$15,428,768	\$15,063,714	\$14,726,094	\$14,423,777	\$14,156,695
Program Costs (Adjusted)	\$8,343,060	\$22,087,388	\$21,706,102	\$21,287,688	\$20,350,267	\$19,443,086	\$18,658,447	\$18,021,202	\$17,521,825	\$17,137,686
Participant Costs	\$2,626,670	\$4,391,910	\$4,343,642	\$4,188,232	\$3,991,199	\$3,791,724	\$3,609,248	\$3,450,741	\$3,316,421	\$3,203,483
Total 20 Year Avoided Costs	\$17,789,998	\$50,660,383	\$46,230,571	\$40,801,410	\$35,491,315	\$30,961,875	\$27,348,079	\$24,557,234	\$22,418,102	\$20,977,684
Net 20 Year Avoided Costs (TRC)	\$12,392,530	\$46,489,103	\$42,919,317	\$38,124,358	\$33,297,696	\$29,139,702	\$25,816,071	\$23,255,602	\$21,302,272	\$20,003,838
Discounted Lost Revenue	\$15,212,898	\$57,069,380	\$52,687,163	\$46,800,937	\$40,875,792	\$35,771,497	\$31,691,452	\$28,548,256	\$26,150,375	\$24,556,436

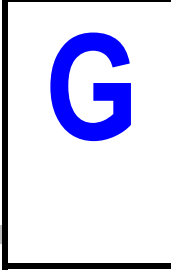
DSM ASSYST ANNUAL POTENTIAL ANALYSIS OUTPUTS

HIGH ENERGY COSTS, LEVEL 4 FUNDING

Awareness Parameters:										
Ad effectiveness ratio	0.01									
Aware decay rate	0.25									
Target effectiveness	0.00									
Starting awareness	25%									
Program Budget:										
Year	1	2	3	4	5	6	7	8	9	10
Administration	\$2,000,000	\$2,100,000	\$2,205,000	\$2,370,375	\$2,607,413	\$2,868,154	\$3,154,969	\$3,470,466	\$3,817,513	\$4,199,264
Administration (Adjusted)	\$2,000,000	\$26,157,519	\$21,770,315	\$17,736,271	\$14,521,642	\$11,276,250	\$9,508,278	\$9,064,705	\$9,629,585	\$10,844,068
Advertising	\$5,000,000	\$5,250,000	\$5,512,500	\$5,925,938	\$6,518,531	\$7,170,384	\$7,887,423	\$8,676,165	\$9,543,782	\$10,498,160
Incentive Constraints	1	1	1	1	1	1	1	1	1	1
Incentive Adjuster	0.5	1	1	1	1	1	1	1	1	1

Vintcrit:	5
Batch:	1

OUTPUT										
Year	1	2	3	4	5	6	7	8	9	10
TRC for Program	1.36									
Utility Test for Program	1.38									
RIM Test for Program	0.51									
Annual TRC	1.89	1.69	1.63	1.52	1.37	1.23	1.09	1.00	0.95	0.93
Annual Utility Test	1.97	1.75	1.68	1.56	1.39	1.23	1.09	1.00	0.94	0.93
Annual RIM Test	0.50	0.48	0.47	0.46	0.44	0.42	0.40	0.38	0.37	0.37
Net Energy Savings	3,980,991	53,568,062	92,873,018	121,291,320	141,034,004	154,970,785	165,654,122	174,913,165	183,855,013	193,009,190
Net Peak Demand Savings	11	147	254	332	386	425	454	479	504	529
Net 2nd Peak Demand Savings	0	0	0	0	0	0	0	0	0	0
Naturally Occurring Energy Savings	1,119,839	2,032,613	2,790,985	3,432,318	3,983,536	4,464,287	4,889,064	5,268,666	5,611,215	5,922,880
Naturally Occurring Peak Demand Savings	3	6	8	9	11	12	13	14	15	16
Peak Period Net Energy Savings	3,980,991	53,568,062	92,873,018	121,291,320	141,034,004	154,970,785	165,654,122	174,913,165	183,855,013	193,009,190
Program Costs	\$9,716,338	\$107,298,140	\$85,315,820	\$63,794,279	\$47,575,058	\$37,100,692	\$31,308,872	\$28,637,753	\$27,723,220	\$27,542,794
Program Costs (Adjusted)	\$9,716,338	\$129,573,620	\$102,089,924	\$75,992,223	\$56,332,372	\$42,823,101	\$35,312,534	\$31,901,937	\$30,863,302	\$30,866,850
Participant Costs	\$3,265,778	\$6,978,408	\$5,343,360	\$3,747,467	\$2,536,636	\$1,749,945	\$1,307,217	\$1,093,292	\$1,008,281	\$980,256
Total 20 Year Avoided Costs	\$24,585,303	\$230,778,901	\$174,927,123	\$121,300,625	\$80,761,318	\$54,646,287	\$40,062,746	\$33,050,295	\$30,243,252	\$29,577,543
Net 20 Year Avoided Costs (TRC)	\$19,187,835	\$226,607,624	\$171,615,866	\$118,623,571	\$78,567,700	\$52,824,114	\$38,530,737	\$31,748,663	\$29,127,421	\$28,603,697
Discounted Lost Revenue	\$23,554,721	\$278,180,388	\$210,673,276	\$145,620,663	\$96,448,623	\$64,846,155	\$47,299,801	\$38,974,221	\$35,756,421	\$35,113,505



SEGMENT AND END USE SUMMARY POTENTIALS

APPENDIX G

SEGMENT AND END USE SUMMARY OF POTENTIALS

Utility	Building Type	End Use	Total Mth	Mth Potentials						
				Technical	Economic	Max Ach	100% Ach	50% Ach	Curr Ach	Nat Occur
PG&E	Office	Heating	98.47	39.6%	31.5%	4.4%	2.3%	1.7%	1.3%	0.2%
PG&E	Office	Water Heating	22.32	29.3%	18.9%	11.7%	9.5%	7.0%	4.5%	0.3%
PG&E	Office	Cooking	6.56							
PG&E	Office	Pool Heating								
PG&E	Office	Other	0.65							
PG&E	Restaurant	Heating	4.32	33.8%						
PG&E	Restaurant	Water Heating	28.07	33.0%	17.7%	8.1%	4.9%	3.3%	1.9%	0.3%
PG&E	Restaurant	Cooking	75.57	41.3%	20.6%	6.4%	2.9%	1.8%	0.8%	0.1%
PG&E	Restaurant	Pool Heating								
PG&E	Restaurant	Other								
PG&E	Retail	Heating	39.80	26.1%	19.8%	4.1%	1.6%	0.9%	0.6%	0.0%
PG&E	Retail	Water Heating	47.08	28.8%	15.7%	10.3%	5.6%	2.7%	1.4%	0.1%
PG&E	Retail	Cooking	2.35							
PG&E	Retail	Pool Heating								
PG&E	Retail	Other	81.63							
PG&E	FoodStore	Heating	11.40	30.3%	18.2%	3.8%	1.7%	1.1%	0.7%	0.0%
PG&E	FoodStore	Water Heating	5.70	28.3%	17.6%	7.6%	3.2%	1.7%	0.9%	0.1%
PG&E	FoodStore	Cooking	20.14	18.8%						
PG&E	FoodStore	Pool Heating								
PG&E	FoodStore	Other	1.59							
PG&E	Warehouse	Heating	13.40	28.5%	15.8%	3.7%	1.4%	0.8%	0.5%	0.0%
PG&E	Warehouse	Water Heating	1.64	45.4%	8.7%	7.9%	1.8%	0.7%	0.4%	0.0%
PG&E	Warehouse	Cooking								
PG&E	Warehouse	Pool Heating								
PG&E	Warehouse	Other	3.23							
PG&E	School	Heating	40.77	28.6%	1.0%	0.1%	0.0%	0.0%	0.0%	0.0%
PG&E	School	Water Heating	28.91	43.3%	8.0%	7.2%	4.6%	2.6%	1.3%	0.1%
PG&E	School	Cooking	4.45	38.3%						
PG&E	School	Pool Heating	6.20	39.0%	12.2%	6.5%	6.4%	6.4%	5.9%	4.6%
PG&E	School	Other								
PG&E	College	Heating	38.95	22.6%	16.2%	4.1%	2.1%	1.4%	1.1%	0.3%
PG&E	College	Water Heating	44.26	42.2%	15.0%	7.2%	3.4%	2.0%	1.0%	0.6%
PG&E	College	Cooking	4.43	40.3%						
PG&E	College	Pool Heating	5.03	38.0%	24.8%	12.1%	7.5%	6.5%	5.4%	4.2%
PG&E	College	Other								
PG&E	Hospital	Heating	70.02	32.9%	17.3%	4.0%	2.7%	2.2%	1.8%	0.3%
PG&E	Hospital	Water Heating	70.02	41.3%	41.3%	32.5%	10.5%	4.2%	1.6%	0.4%
PG&E	Hospital	Cooking	9.73	39.8%	15.0%	4.7%	2.5%	1.8%	0.8%	0.1%
PG&E	Hospital	Pool Heating	0.13	43.8%	31.9%	17.1%	13.8%	12.7%	10.6%	6.4%
PG&E	Hospital	Other								
PG&E	Hotel	Heating	8.22	25.6%						
PG&E	Hotel	Water Heating	39.92	45.3%	20.3%	8.8%	2.8%	1.6%	0.7%	0.1%
PG&E	Hotel	Cooking	9.98	32.9%	15.4%	4.8%	2.6%	1.8%	0.9%	0.1%
PG&E	Hotel	Pool Heating	7.55	49.4%	38.6%	22.9%	20.1%	19.0%	15.6%	7.3%
PG&E	Hotel	Other								
PG&E	Miscellaneous	Heating	135.83	28.8%	18.1%	3.9%	1.6%	1.0%	0.7%	0.0%
PG&E	Miscellaneous	Water Heating	78.70	46.4%	36.2%	32.1%	7.5%	6.1%	4.7%	0.9%
PG&E	Miscellaneous	Cooking	8.55	15.4%						
PG&E	Miscellaneous	Pool Heating								
PG&E	Miscellaneous	Other	2.22							

APPENDIX G

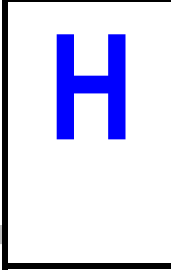
SEGMENT AND END USE SUMMARY OF POTENTIALS

Utility	Building Type	End Use	Total Mth	Mth Potentials						
				Technical	Economic	Max Ach	100% Ach	50% Ach	Curr Ach	Nat Occur
SCG	Office	Heating	96.00	39.6%	29.4%	4.5%	2.4%	1.6%	1.2%	0.1%
SCG	Office	Water Heating	8.12	29.5%	19.1%	12.0%	9.4%	6.4%	3.9%	0.3%
SCG	Office	Cooking	0.83							
SCG	Office	Pool Heating								
SCG	Office	Other	2.25							
SCG	Restaurant	Heating	5.06	34.3%						
SCG	Restaurant	Water Heating	68.17	33.0%	33.0%	22.1%	6.2%	4.3%	2.5%	0.3%
SCG	Restaurant	Cooking	211.36	41.3%	20.6%	6.4%	2.9%	1.8%	0.8%	0.1%
SCG	Restaurant	Pool Heating								
SCG	Restaurant	Other	0.08							
SCG	Retail	Heating	15.63	27.8%	5.2%	0.4%	0.2%	0.1%	0.1%	0.0%
SCG	Retail	Water Heating	4.88	35.4%	15.0%	5.2%	2.5%	1.7%	0.9%	0.1%
SCG	Retail	Cooking	3.63							
SCG	Retail	Pool Heating								
SCG	Retail	Other								
SCG	FoodStore	Heating	5.86	30.3%	18.7%	3.9%	1.7%	1.1%	0.7%	0.0%
SCG	FoodStore	Water Heating	27.50	45.7%	45.5%	32.6%	7.8%	6.0%	4.2%	0.4%
SCG	FoodStore	Cooking	16.69	18.8%						
SCG	FoodStore	Pool Heating								
SCG	FoodStore	Other								
SCG	Warehouse	Heating	5.76	27.0%	15.5%	3.6%	1.3%	0.8%	0.5%	0.0%
SCG	Warehouse	Water Heating	1.75	45.2%	9.1%	7.6%	7.4%	6.5%	5.3%	0.7%
SCG	Warehouse	Cooking	0.86							
SCG	Warehouse	Pool Heating								
SCG	Warehouse	Other								
SCG	School	Heating	16.50	29.6%						
SCG	School	Water Heating	13.73	44.3%	7.7%	7.0%	1.6%	0.7%	0.3%	0.0%
SCG	School	Cooking	4.41	38.3%						
SCG	School	Pool Heating	2.70	43.6%	12.5%	6.7%	6.7%	6.6%	6.1%	4.7%
SCG	School	Other								
SCG	College	Heating	9.73	24.2%	16.2%	4.1%	2.1%	1.5%	1.1%	0.3%
SCG	College	Water Heating	32.44	41.5%	14.8%	7.1%	2.5%	1.4%	0.7%	0.5%
SCG	College	Cooking	0.25	40.3%						
SCG	College	Pool Heating	3.32	47.9%	19.1%	11.1%	11.1%	11.0%	9.9%	6.3%
SCG	College	Other								
SCG	Hospital	Heating	5.98	33.6%	15.7%	3.8%	2.5%	1.9%	1.5%	0.2%
SCG	Hospital	Water Heating	42.29	41.9%	41.9%	30.9%	4.5%	2.8%	1.6%	0.3%
SCG	Hospital	Cooking	12.19	39.8%	15.0%	4.7%	2.5%	1.8%	0.8%	0.1%
SCG	Hospital	Pool Heating	0.36	42.5%	24.8%	12.2%	8.8%	7.7%	6.1%	4.3%
SCG	Hospital	Other	8.67							
SCG	Hotel	Heating	12.52	28.4%	5.7%	0.9%	0.7%	0.6%	0.5%	0.1%
SCG	Hotel	Water Heating	86.49	45.3%	20.7%	9.2%	3.9%	2.1%	0.9%	0.1%
SCG	Hotel	Cooking	7.19	32.9%	15.4%	4.8%	2.6%	1.8%	0.9%	0.1%
SCG	Hotel	Pool Heating	5.87	54.5%	40.5%	24.7%	22.0%	20.8%	17.0%	7.4%
SCG	Hotel	Other								
SCG	Miscellaneous	Heating	30.67	30.0%	3.5%	0.5%	0.4%	0.2%	0.1%	0.0%
SCG	Miscellaneous	Water Heating	55.48	46.6%	23.0%	12.1%	8.1%	5.1%	2.8%	0.2%
SCG	Miscellaneous	Cooking	2.45	15.4%						
SCG	Miscellaneous	Pool Heating								
SCG	Miscellaneous	Other	54.05							

APPENDIX G

SEGMENT AND END USE SUMMARY OF POTENTIALS

Utility	Building Type	End Use	Total Mth	Mth Potentials						
				Technical	Economic	Max Ach	100% Ach	50% Ach	Curr Ach	Nat Occur
SDG&E	Office	Heating	25.42	40.1%	29.8%	4.5%	2.4%	1.7%	1.2%	0.2%
SDG&E	Office	Water Heating	2.15	29.5%	19.1%	12.0%	9.4%	6.4%	3.9%	0.3%
SDG&E	Office	Cooking	0.22							
SDG&E	Office	Pool Heating								
SDG&E	Office	Other	0.60							
SDG&E	Restaurant	Heating	1.26	32.9%						
SDG&E	Restaurant	Water Heating	17.03	33.0%	33.0%	22.1%	6.2%	4.3%	2.5%	0.3%
SDG&E	Restaurant	Cooking	52.81	41.3%	20.6%	6.4%	2.9%	1.8%	0.8%	0.1%
SDG&E	Restaurant	Pool Heating								
SDG&E	Restaurant	Other	0.02							
SDG&E	Retail	Heating	4.59	27.4%	4.3%	0.3%	0.2%	0.1%	0.1%	0.0%
SDG&E	Retail	Water Heating	1.43	35.4%	15.0%	5.2%	2.5%	1.7%	0.9%	0.1%
SDG&E	Retail	Cooking	1.07							
SDG&E	Retail	Pool Heating								
SDG&E	Retail	Other								
SDG&E	FoodStore	Heating	1.53	30.1%	18.4%	3.9%	1.7%	1.1%	0.7%	0.0%
SDG&E	FoodStore	Water Heating	7.20	45.7%	45.5%	32.6%	7.8%	6.0%	4.2%	0.4%
SDG&E	FoodStore	Cooking	4.37	18.8%						
SDG&E	FoodStore	Pool Heating								
SDG&E	FoodStore	Other								
SDG&E	Warehouse	Heating	1.09	25.8%	15.5%	3.6%	1.3%	0.8%	0.5%	0.0%
SDG&E	Warehouse	Water Heating	0.33	45.2%	9.1%	7.6%	7.4%	6.5%	5.3%	0.7%
SDG&E	Warehouse	Cooking	0.16							
SDG&E	Warehouse	Pool Heating								
SDG&E	Warehouse	Other								
SDG&E	School	Heating	4.16	29.9%						
SDG&E	School	Water Heating	3.46	44.3%	7.7%	7.0%	1.6%	0.7%	0.3%	0.0%
SDG&E	School	Cooking	1.11	38.3%						
SDG&E	School	Pool Heating	0.68	44.8%	12.5%	6.7%	6.7%	6.6%	6.1%	4.7%
SDG&E	School	Other								
SDG&E	College	Heating	2.52	25.5%	16.1%	3.9%	1.9%	1.3%	1.0%	0.4%
SDG&E	College	Water Heating	8.41	41.5%	14.8%	7.1%	2.5%	1.4%	0.7%	0.5%
SDG&E	College	Cooking	0.06	40.3%						
SDG&E	College	Pool Heating	0.86	48.9%	19.1%	11.1%	11.1%	11.0%	9.9%	6.3%
SDG&E	College	Other								
SDG&E	Hospital	Heating	1.97	34.0%	15.7%	3.8%	2.5%	1.9%	1.5%	0.2%
SDG&E	Hospital	Water Heating	13.96	41.9%	41.9%	30.9%	4.5%	2.8%	1.6%	0.3%
SDG&E	Hospital	Cooking	4.02	39.8%	15.0%	4.7%	2.5%	1.8%	0.8%	0.1%
SDG&E	Hospital	Pool Heating	0.12	43.6%	24.8%	12.2%	8.8%	7.7%	6.1%	4.3%
SDG&E	Hospital	Other	2.86							
SDG&E	Hotel	Heating	5.27	27.2%	5.2%	0.8%	0.6%	0.5%	0.4%	0.1%
SDG&E	Hotel	Water Heating	36.37	45.3%	20.7%	9.2%	3.9%	2.1%	0.9%	0.1%
SDG&E	Hotel	Cooking	3.02	32.9%	15.4%	4.8%	2.6%	1.8%	0.9%	0.1%
SDG&E	Hotel	Pool Heating	2.47	55.4%	40.5%	24.7%	22.0%	20.8%	17.0%	7.4%
SDG&E	Hotel	Other								
SDG&E	Miscellaneous	Heating	5.86	29.9%	4.7%	0.6%	0.4%	0.3%	0.2%	0.0%
SDG&E	Miscellaneous	Water Heating	10.59	46.6%	23.0%	12.1%	8.1%	5.1%	2.8%	0.2%
SDG&E	Miscellaneous	Cooking	0.47	15.4%						
SDG&E	Miscellaneous	Pool Heating								
SDG&E	Miscellaneous	Other	10.32							



SUMMARY OF PY2001 NONRES PROGRAMS

This appendix contains a memorandum prepared in mid-2001 that qualitatively describes the major IOUs' PY2001 nonresidential energy-efficiency programs.

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- MEMORANDUM -

TO: Chris Ann Dickerson, PG&E
FROM: Kathleen McElroy, XENERGY
DATE: August 15, 2001
RE: PY2001 Nonresidential Energy Efficiency Program Summaries
CC: Mike Rufo, XENERGY

This memo provides a brief overview of nonresidential energy efficiency programs offered by the California investor-owned utilities (IOUs) in PY2001. This summary includes both statewide and utility-specific programs, and highlights third-party initiatives and Summer Initiative projects.

We have gathered information on PY2001 budgets and energy savings/demand reduction targets through our review of utility filings, PY2001 1st Quarterly Reports, and program manager interviews.

H.1 COMMON PROGRAMS

There are a number of programs – both statewide and utility-specific – that are common to all utilities. Table 1 lists these program categories, and summarizes budgets and energy savings/demand reduction targets by utility for PY2001. The following describes each common program activity.

H.1.1 Standard Performance Contract (SPC)

Over \$25 million has been allocated to the Statewide Standard Performance Contract (SPC) Program in PY2001. Offered by PG&E, SCE and SDG&E in 2001, this performance-based program provides financial incentives to customers or EESPs for installation of energy efficient equipment. The program is targeted to both large, and small/medium customers within the commercial, industrial and agricultural segments. Incentives are provided for a variety of nonresidential end-uses, including HVAC, lighting, water heating, and other building-type specific end-uses. Utilities use EESPs and account reps to promote the program. Both the large and the small/medium program elements are standardized statewide, although there are some differences that reflect different service territory needs.

H.1.2 Express Efficiency

With an annual budget of over \$41 million statewide, the Express Efficiency Program is the largest nonresidential energy efficiency program in PY2001. All four utilities offer customer rebates through the Express Efficiency Program, targeting small and medium nonresidential customers and addressing HVAC, lighting, refrigeration, water heating, and other building-type specific end-uses. In 2001, PG&E and SCE also target large customers with Express Efficiency incentives. Generally, the utilities use a combination of utility representatives, vendors, and contractors to deliver the program to nonresidential customers.

H.1.3 Energy Audits

All four utilities offer some form of energy audit program; that is, a program that provides customers with site-specific energy efficiency information designed to help them reduce their energy bills. Utilities have allocated 2-6% of their overall nonresidential program budgets to these programs. These energy audits, or “surveys,” often provide an opportunity to introduce the utilities’ other energy efficiency programs such as Express Efficiency. Each utility offers a variety of survey types, including on-site, on-line, direct mail, and phone.

H.1.4 HVAC Programs

SCE, SDG&E, SCG and PG&E offer upstream financial incentives to HVAC market actors to encourage the installation of energy efficient HVAC equipment in the nonresidential sectors. Most of these programs involve offering financial incentives to HVAC distributors and/or installation contractors to encourage greater supply of energy efficient HVAC equipment and to influence the ultimate customers’ HVAC purchase decisions. SCE tracks the budget for marketing to and networking with upstream HVAC market actors under this program category, but the incentives are actually included within SCE’s budget for Express Efficiency. The following table summarizes each utility’s Upstream HVAC Program and provides PY2001 budget information.

Utility	Program Name	Description	PY2001 Budget
SCE	Nonresidential Upstream HVAC Pilot	Targets HVAC installation contractors with “quick start bonus” incentives to influence small/medium customer HVAC purchase decisions	\$70,000 (Incentives offered through Express Efficiency)
SDG&E	Midstream HVAC Incentives	Provides incentives to contractors to promote and install high efficiency HVAC equipment	\$400,000
SCG	Small Commercial Upstream Gas Air Conditioning Program	Promotes gas air conditioning projects	\$708,000
	Nonresidential HVAC Training	Provides training to HVAC contractors in proper installation of gas cooling systems	\$147,000
PG&E	Nonresidential HVAC Turnover	Provides incentives to HVAC distributors	\$2,000,000

H.1.5 Upstream Motor Programs

SCE, SDG&E and PG&E offer programs designed to encourage premium efficiency motor stocking and sales. These programs provide incentives to motor distributors. The following table summarizes each utility’s Upstream Motors Program and provides PY2001 budget information.

Utility	Program name	Description	PY2001 Budget
SCE	Nonresidential Upstream Motors Pilot	Targets motor distributors with incentives to encourage premium efficiency motor stocking and sales	\$330,000
SDG&E	Upstream Motors Incentives	Provides incentives to motor distributors to encourage premium efficiency stocking and sales	\$123,000
PG&E	Nonresidential Motor Turnover	Provides incentives to motor distributors to encourage premium efficiency motor stocking and sales	\$1,000,000

H.1.6 Process Overhaul Programs

SCE, SDG&E, SCG and PG&E offer programs designed to increase the level of energy-efficient process overhauls among nonresidential customers. Most of these programs provide specialized, technical consulting services to study opportunities related to customer process loads. SCE's program targets process load-improvements, but is delivered and funded through other nonresidential programs. The following table summarizes each utility's Process Overhaul Programs and provides PY2001 budget information.

Utility	Program Name	Description	PY2001 Budget
SCE	Nonresidential Process	Uses other programs to deliver and fund targeted process-load improvements	\$0 (budget included in other programs)
SDG&E	Technical Assistance, Process	Provides technical consultants to conduct study of process load improvements	\$297,000
SCG	Furnace/Kiln/Oven Program	Provides audits and incentives to stimulate efficiency investments in industrial process equipment	\$1,418,000
	Process Energy Conservation Program	Provides audits and incentives to encourage adoption of unique process equipment not covered through other programs	\$2,305,000
	Advanced Engine Technology Program	Provides audits and incentives to improve availability of gas-fired engine-driven end-uses	\$1,074,000
PG&E	Compressed Air Management Program	Provides analysis of compressed air management systems to identify low-cost/no-cost improvements	\$300,000

H.2 INFORMATION, OUTREACH, AND TECHNICAL SUPPORT

H.2.1 Business Energy Guide

PG&E, SCE, SDG&E and SCG distribute the statewide Business Energy Guides to small, nonresidential customers. (All but PG&E still show line-item budget funding for this program element in PY2001.) The Energy Guides provide energy information and education to customers to better manage their business energy costs. The Energy Guides provide energy information for office buildings, grocery stores, restaurants, retail outlets, and manufacturing facilities. Statewide, the Energy Guides are currently available in English, Spanish and Chinese. SCE has developed several other non-English language versions of the Energy Guides. The Energy Guides are delivered through targeted marketing efforts focused on small commercial businesses, relevant business trade/vendor shows, Small Business Associations, Chambers of Commerce, building permits and government offices, etc.

H.2.2 Energy Centers

PG&E, SCE and SCG operate Energy Centers. The Energy Centers are designed to educate customers about energy efficient business solutions. The Energy Centers use training, outreach, education, and tool development to support the delivery of statewide energy efficiency programs. The utilities have worked together to collaboratively build on a statewide program for the Energy Centers, including seminar/program coordination, a web-based energy efficiency library, partnership program with third parties and/or other state agencies. The Energy Centers target all nonresidential customers and all applicable end-uses, although elements of all three utilities'

Energy Centers specifically target food service equipment [???]. Each of the utilities' Energy Centers is listed below:

- PG&E – Pacific Energy Center (PEC), Food Service Technology Center (FSTC), and Energy Training Center – Stockton (ETC).
- SCE – Customer Technology Application Center (CTAC), Agricultural Technology Application Center (AGTAC).
- SCG – Energy Resource Center (ERC).

H.2.3 Emerging Technologies

PG&E, SCE, SDG&E, and SCG have set aside funding for statewide Emerging Technologies program activity. These activities focus on demonstrating energy efficiency options not widely adopted by various market actors. The Emerging Technologies Coordinating Council (ETTC) was established to seek opportunities to coordinate efforts between each of the utilities Emerging Technologies Programs, as well as the CEC's PIER Program. The utilities and the CEC continue discussions on emerging technologies through the ETTC, and are working with individual customers to develop showcase emerging technologies projects in their service territories. Results from these projects (e.g., detailed designs and performance criteria) are widely distributed.

H.2.4 Renovation and Remodeling Programs

Through the statewide Savings By Design Program, the utilities encourage high performance nonresidential building design and reconstruction practices for all nonresidential buildings undergoing remodeling and/or renovation. The following summarizes PY2001 budgets for renovation and remodeling activity by utility:

- SCE: \$1,150,000
- SDG&E: \$855,000
- SCG: \$1,130,000
- PG&E: \$1,000,000 (additional \$100,000 for commissioning projects, and \$1,000,000 for renovation and remodeling measures delivered through Express Efficiency).

H.2.5 Other Support Programs

Each of the utilities offers a number of programs that are designed to support the financial incentives programs (e.g., Express Efficiency, SPC). These programs include such activities as providing special services to upstream market actors such as technical assistance, incentives, etc., targeting more complex applications such as chillers or compressed air systems, and/or providing marketing and outreach support to target market segments such as hard-to-reach. The following table summarizes each utility's other program support activities and provides PY2001 budget information.

Utility	Program Name	Description	PY2001 Budget
SCE	Small/Medium Energy Management Services	Targets underserved market segments with on-site energy audits and program promotion via trade associations and community-based organizations	\$350,000
	Small Nonresidential Mass Market Information	Includes distribution of English and non-English versions of the Energy Guide, and development of English and non-English "quick tips" guides, technical briefs, and energy kiosks	\$1,413,000 (includes Consumer Affairs Agency's statewide media campaign)
	Space Rental Update (pilot component of Small/Medium Nonresidential SPC)	Promotes implementation of weatherization measures in strip malls and other commercial properties.	(Part of Small/Medium SPC budget)
	Commercial Energy Efficiency Information Services (EEIS)	Involves direct contact with large commercial customers to promote SCE programs (e.g., SPC, Express)	\$575,000
	Industrial Energy Efficiency Information Services (EEIS)	Involves direct contact with large industrial customers to promote SCE programs (e.g., SPC, Express)	\$575,000
	Beat the Peak	Targets municipalities and other large commercial/industrial customers looking for voluntary peak load reduction during State 2 and 3 alerts	(Part of Commercial and Industrial EEIS budgets)
	Agricultural/Pumping Services Program	Provides pump testing services to encourage pumping customers to adopt preventative maintenance practices that ultimately improve overall pumping system efficiency.	\$2,100,000
SDG&E	Large Nonresidential Information Program	Promotes incentive programs and offers seminars targeting large nonresidential customers	\$95,000
	EnVINTA One-2-Five	Offers building efficiency rating tool to large customers	\$75,000
	Energy Information Center (EIC)	Uses trained reps to assist small customers with specific energy efficiency issues	\$100,000
	Small Nonresidential Information Program	Promotes incentive programs and offers seminars targeting small/medium nonresidential customers	\$453,000
	Small Comprehensive Technical Assistance	Provides technical consulting expertise to small/medium businesses for specific end-use retrofit applications	\$150,000
	Building Operator Certification	Trains/certifies facility managers of commercial/governmental buildings	\$50,000
	Small Nonresidential Commercial Horizontal Washers Program	Provides incentives for high efficiency, H-axis washing machines in apartment complexes and Laundromats	\$250,000
	Small Business "EZ" Turnkey Program	Offers rebates to smallest commercial customers (peak demand less than 50 kW), with special emphasis directed to state-identified Enterprise Zones	\$450,000
SCG	Comprehensive Space Conditioning Efficiency Improvement Program	Offers information, audits and incentives for efficiency improvements in gas space conditioning systems	\$1,457,000
	Advanced Water Heating Systems Program	Offers information, audits and incentives for high efficiency water heating equipment	\$875,000
	Integrated Food Services Equipment Retrofit Program	Provides information, audits, and financial incentives to encourage small commercial cooking customers to make energy efficiency improvements	\$2,474,000
PG&E	Chiller Analysis Program (CAP)	Provides analysis of chiller/cooling systems to identify low-cost/no-cost improvements	\$500,000
	Lighting System Analysis (LSA)	Provides analysis of lighting systems to identify low-cost/no-cost improvements	\$1,500,000

H.2.6 Other Nonresidential Programs

SCE, SDG&E and SCG offer other nonresidential programs that do not fit in any of the above, standard nonresidential categories. These include:

- SCE Agricultural/Pumping Services Program – provides pump testing services to encourage pumping customers to adopt preventative maintenance practices that ultimately improve overall pumping system efficiency. PY2001 Budget: \$2,100,000.
- SDG&E Small Nonresidential Commercial Horizontal Washers Program – provides incentives for high efficiency, H-axis washing machines in apartment complexes and laundromats. PY2001 Budget: \$250,000.
- SDG&E Small Business “EZ” Turnkey Program – offers rebates to smallest commercial customers (peak demand less than 50 kW), with special emphasis directed to state-identified Enterprise Zones. PY2001 Budget: \$450,000.
- SCG Integrated Food Services Equipment Retrofit Program – provides information, audits, and financial incentives to encourage small commercial cooking customers to make energy efficiency improvements. PY2001 Budget: \$2,474,000.

H.3 THIRD PARTY INITIATIVES

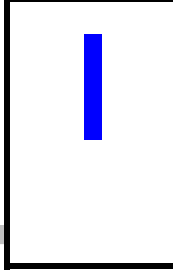
Most of the utilities are offering programs referred to as Third Party Initiatives, or “TPIs.” The strategy behind the TPIs has been to solicit innovative programs and technologies from the marketplace for delivering cost-effective energy savings and demand reductions. Most of the TPIs were initiated in 2000 and some have been extended through 2001. The following summarizes utility-specific TPIs.

Utility	Project Description	Budget
SCE	Beverage vending machine retrofits	\$6,390,000 (includes all Residential, Nonresidential, and New Construction TPIs)
	Small/Medium business air conditioning retrofits	
	Commercial building commissioning	
	Hard-to-reach small business lighting retrofits and HVAC enhancements	
	Small/medium commercial lighting audits, design and retrofits	
SDG&E	Building Recommissioning TPI	\$270,000
	Peak Load Reduction TPI	\$1,300,000
	Retrofits in Leased Spaces TPI	\$405,000
SCG	Mobile Energy Clinic	\$300,000
	Lodging Education (Audits, Website)	\$268,000
	Coin Laundry and Dry Cleaner Education (Workshops, Newsletter, Website)	\$351,000
	High Efficiency Medium Tonnage Natural Gas Cooling Field Demonstration	\$248,000
PG&E	Marketing/Outreach Support for HTR Market Segment	\$2,500,000 (includes all Nonresidential TPIs)
	Audits/Installation in Oakland and Berkeley communities (Aspen)	
	Hotel Financing Project (ICF)	
	Small Business Website (DR International)	
	Engineering Support for SPC (KW Engineering)	
	Long Term Care Facility (IMT)	
	Environmental Waste Management in Restaurants (SAIC)	
	Historical Preservation (Presidio)	
Small Business Improvements in East Palo Alto (SEI)		

H.4 SUMMER INITIATIVE PROGRAMS

Most of the utilities have also solicited TPIs as part of the Summer 2000 Initiative. These TPIs have also been solicited to deliver cost-effective energy savings and demand reductions prior to June 2001. The following summarizes the various Summer 2000 Initiative Projects.

Utility	Project Type	Project Description	Budget
SCE	Statewide Summer Initiative Programs	Campus Energy Efficiency Project	\$3,500,000
		Beat the Heat	\$250,000
		LED Traffic Signal Rebates	
		COPE Peak Load Reduction Program	\$1,500,000
	Summer Initiative TPIs	Small/medium commercial lighting retrofits	\$340,000
		Small/medium commercial HVAC retrofits (evaporative pre-coolers)	\$560,000
SDG&E	Statewide Summer Initiative Programs	Campus Energy Efficiency Project	\$2,000,000
		Beat the Heat	\$150,000
		LED Traffic Signal Rebates	
	Summer Initiative TPIs	HID Lighting Control Project	\$1,000,000
		Compressed Air Efficiency Project	
		HID Fixture Replacement Projects	
		Skylight Lighting Control Projects	
		Evaporative Pre-Cooler Project	
		Rooftop AC Repair Projects	
PG&E	Statewide Summer Initiative Programs	Beat the Heat	
		Campus Energy Efficiency Project	
		LED Traffic Signal Rebates	
		COPE Peak Load Reduction	
	Summer Initiative TPIs	Active Load Management Program	
		Commercial Building Energy Efficiency Program – Lighting	
		Commercial Building Energy Efficiency Program – Other	
		Evaporative Cooling Program	
		Industrial Refrigeration Program (Glycol Heat Transfer Fluid Optimization)	
		Industrial Refrigeration Program (Direct Expansion Valve Upgrade)	
		Office Equipment Efficiency Program	
		Vendor Coupon Program	
		Wastewater Plant Aeration System Optimization Program	
		Cool Roofs	
	Utility-Specific Projects	Energy Efficient Design Improvement, City of Oakland	
		Museum Chiller Improvement, City of Oakland	
		Energy Efficiency Measures, Humboldt Creamery	



DSM ASSYST MODEL DOCUMENTATION

I.1 INTRODUCTION

DSM ASSYST | (Demand-Side Management Technology Assessment System) is a tool developed to assess the technical, economic and market potential of DSM technologies in the Residential, Commercial and Industrial sectors. Based on user specified information about base technologies, conservation technologies, load shapes, utility avoided costs, utility service rates, and economic parameters, DSM ASSYST yields numeric data for a variety of criteria. The user can then evaluate and compare technologies. DSM ASSYST allows the user to analyze each DSM technology in multiple combinations of building types, market segments, end uses, and vintages both individually and compared to other DSM technology options.

DSM ASSYST is a series of spreadsheets designed to run on Microsoft's Excel for Windows Version 4. The majority of the DSM ASSYST analysis is performed within a spreadsheet model called ASSYST. ASSYST is an input-output model. In the course of a user specified analytic run, input files are automatically brought in to ASSYST, and corresponding results files are automatically saved.

I.2 SYSTEM REQUIREMENTS

The following hardware and software was used to develop DSM ASSYST. We suggest running DSM ASSYST on a similar system.

Personal Computer:
486 PC

Hard Disk:
A hard disk with at least 10 megabytes of free space.

Memory:
8 Megabytes

Operating System:
DOS 5.0

Software:
Microsoft Windows and Excel for Windows 4.0

I.3 GETTING AROUND IN EXCEL

DSM ASSYST was written for use by trained analysts. The user should be familiar with basic spreadsheet operations in Excel for Windows and with movement within spreadsheets, copy commands, delete commands, transferring data between spreadsheet files, and running macros.

DSM ASSYST is not protected against accidental user error. As spreadsheets are extremely susceptible to the accidental overwriting of data and/or formulas, it is recommended that a copy of the model is preserved for reference.

I.4 PRE-ANALYSIS INSTRUCTIONS

I.4.1 Preliminaries

The following spreadsheet files are discussed in this manual.

ASSYST3.XLS: This is the actual DSM ASSYST spreadsheet model. ASSYST is used for the Basic Analysis, Supply Analysis and to produce input for the Market Potential Analysis.

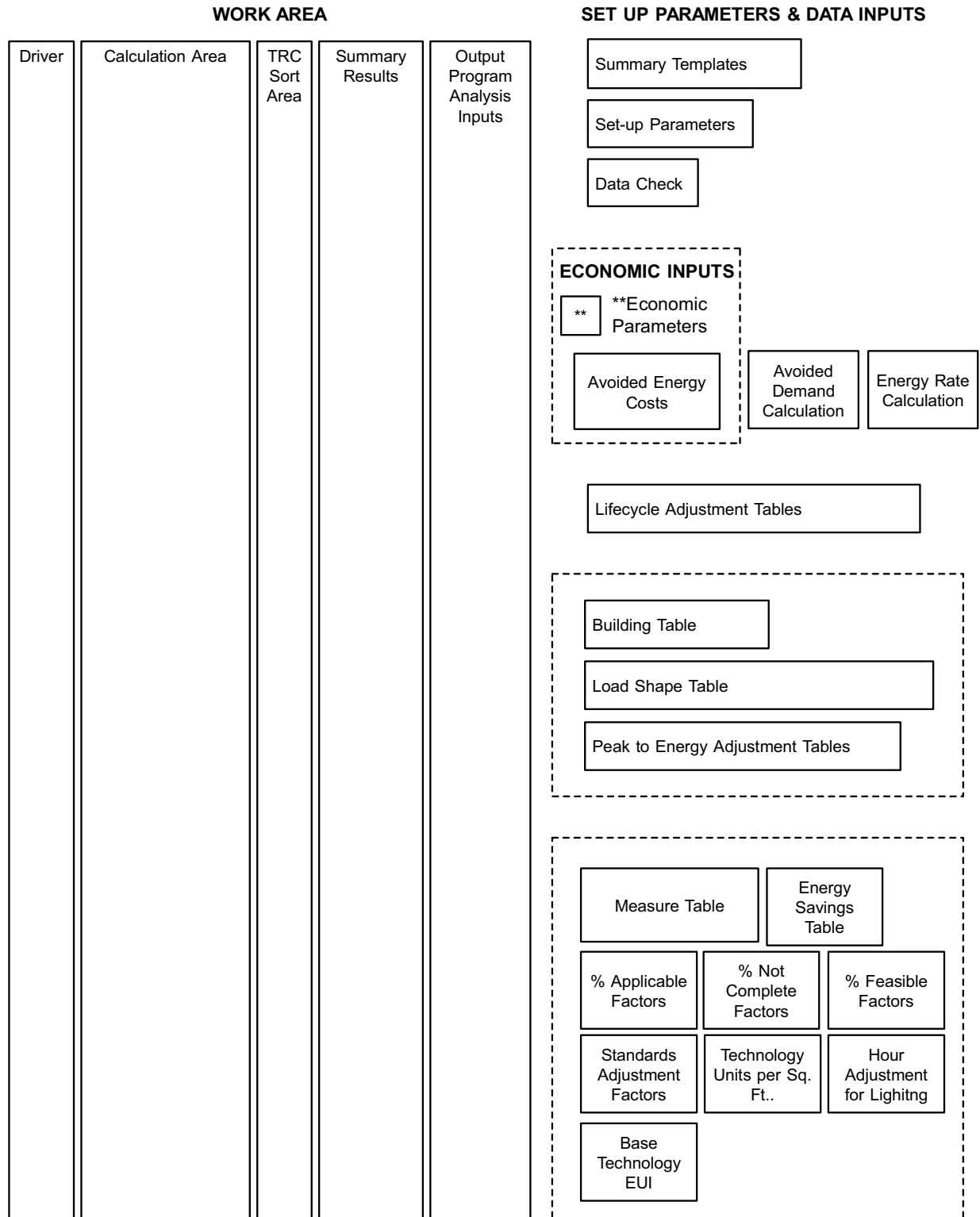
See Figure I-1 for an overview of the ASSYST spreadsheet layout.

The ASSYST work area consists of the Driver area (Columns A through E), the Calculation area (Columns F through BT), the TRC Sort area (Column BU through BY), the Summary Results area (Columns CA through CV), and the ASSYST output that are inputs for the Market Potential Analysis (Column CX through DS). The work area expands or contracts to the number of rows necessary to perform and report the analysis. The number of rows are governed by the number of rows in the Driver. An 8 megabyte ram PC can handle approximately 400 rows of analysis at one time.

The other portion of ASSYST consists of set up parameters and data inputs. This area occupies Columns EU through HH. All data and formulas in this section of the model are spatially relative and therefore it is imperative that no rows or columns are added or deleted from the model.

ASSYST is completely macro driven and will automatically import Drivers, Economic Inputs, Building Based Inputs and Technology Based Inputs and will automatically name and output results. Users have full access to all algorithms and intermediary results in ASSYST for analytic inquiry and quality control purposes, yet never need to work within the ASSYST directly. **Do not save ASSYST.**

**Figure I-1
Overview of Technical Potential Spreadsheet**



BATCHXYZ.XLS: The BATCHXYZ file is the main file that guides the DSM ASSYST analytic process. BATCHXYZ first translates user defined characteristics into the names of files that are needed to perform each DSM ASSYST analytic run. These characteristics may take the form of market segments, end uses, sectors, vintages, and types of analysis. BATCHXYZ then works in conjunction with DSM ASSYST macros to guide DSM ASSYST through the analytic process. The BATCHXYZ spreadsheet automatically names input and output files that will be called upon by the DSM ASSYST Macro.

Figure I-2. is the Map of the BATCHXYZ File. Columns A through J are for the user to specify characteristics. Column A is for the type of analysis (BASIC or SUPPLY). Column B is for Sector (RES, COM, or IND). Column C is for Vintage (EXISTING or NEW). Column D is for End Use. End Use names can reflect how the end uses are defined (e.g. ALL, CONDITIONING, COOLING, HEATING, LIGHTING, REFRIGERATION, HVAC, etc.) Column E is for Segment (0 through 9). Column G is for identifying the input Batch # (1 through 9). Column H is for identifying the output Batch # (1 through 9). Separating the input and output Batch numbers allows use of the same input files for economic sensitivity analysis while maintaining means of labeling output files differently. Column I is for the utility building data file name. Column J is for the utility economic data file name. These two files usually have a three letter utility name abbreviation plus a number. The number is useful in identifying different building sectors or sets of economic input data such as alternative avoided costs. Shaded Columns K through U are the names of files that DSM ASSYST will import, create and/or use in the analytic process.

Figure I-2
Map of the BATCHXYZ File

INPUT AREA	FILE NAMES CREATED FROM INPUTS
Column A-J	Column K-U

ASSYST will run all rows of run characteristics defined in the BATCHXYZ starting with Row 5 until it reaches a row in Column A with no data. Each row of characteristics is used for a separate run of ASSYST.

ASMAC2B.XLM: This is the macro file that contains the macros that run DSM ASSYST. These macros manage data movement, including opening and saving files, and oversee all the analytic processes.

M_*.XLS Technology Input Files: These files contain sets of tables with technology based input data which are loaded into ASSYST. Names for the M_ files are derived in the BATCHXYZ. M_B*.XLS files contain data for the Basic Analysis and M_S*.XLS files contain data for the Supply Analysis. For a more detailed description of these tables, refer to Section 10.

D_*.XLS Drivers: The first five columns of the work area within ASSYST contain information that informs the model of technologies being analyzed, end uses, building types and segment context. This information is used to operate the lookup tables and thereby specify which parameters are to be used in the analysis. Names for the D_ files are derived in the BATCHXYZ. D_B*.XLS files are used for the Basic Analysis and D_S*.XLS files are used for the Supply Analysis. For a more detailed description of these files, refer to Section 11.

BLD_*.XLS Building Files: These files contain the Building Tables, Load Shape Tables, and Peak to Load Shape Tables. Names for the BLD_ files are derived in the BATCHXYZ. For a more detailed description of these files, refer to Section 9.

ECO_*.XLS Economic Parameters Files: These files contain utility specific economic parameters including discount rates, inflation rates, technology implementation rates, avoided cost tables, and customer rates. Names for the ECO_ files are derived in the BATCHXYZ. For a more detailed description of these files, refer to Section 8.

B_*.XLS Basic Output Files: These files contain the results from the Basic Analysis. Names for the B_ files are derived in the BATCHXYZ.

S_*.XLS Supply Output Files: These files contain the results from the Supply Analysis. Names for the S_ files are derived in the BATCHXYZ.

POSTBAT.XLS: This file is used to control post ASSYST processing of Supply Output and the Market Potential Analysis. The file contains the names of Supply Output files and Program Input and Output files. Supply Output file names are listed in Column A and the Program Input names are listed in Column D. The Supply Output File names can be found in BATCHXYZ and can be copied.

POSTBAT works similar to BATCHXYZ. It starts running at Row 6 and continues until it encounters a row without data. Post Supply Analysis and Program Analysis are completely independent and are run by separate macros.

POSTBAT will automatically name Program Output file based on the names of Program Input files by changing the first letter "P" (P_*.XLS) to an "O" (e.g. O_*.XLS). The algorithm to create the output name is located in the shaded Column F.

PENWORK.XLS: This file is used for the final portion of the market potential analysis. For a more detailed description of this file, refer to Section 5.3.

IB_*.XLS : These files are produced in Basic ASSYST and are inputs for the P_*.XLS Program Input Files. For a more detailed description of how these files are used, refer to Section I.5.3.

IS_*.XLS : These files are produced in Supply ASSYST and are inputs for the P_*.XLS Program Input Files. For a more detailed description of how these files are used, refer to Section I.5.3.

P_*.XLS Program Input Files: These files are produced in ASSYST and are inputs for the final portion of the Market Potential Analysis. For a more detailed description of how these files are used, refer to Section I.5.3.

O_*.XLS Program Output Files: These files are output from PENWORK and contain the results of the Market Potential Analysis. For a more detailed description of how these files are used, refer to Section I.5.3.

TR_*.XLS TRC Files: These files contain the TRC Sort resulting from the Basic Analysis. These files are used to establish the Driver order used in the Supply Analysis. For a more detailed description of how these files are used, refer to Section I.5.

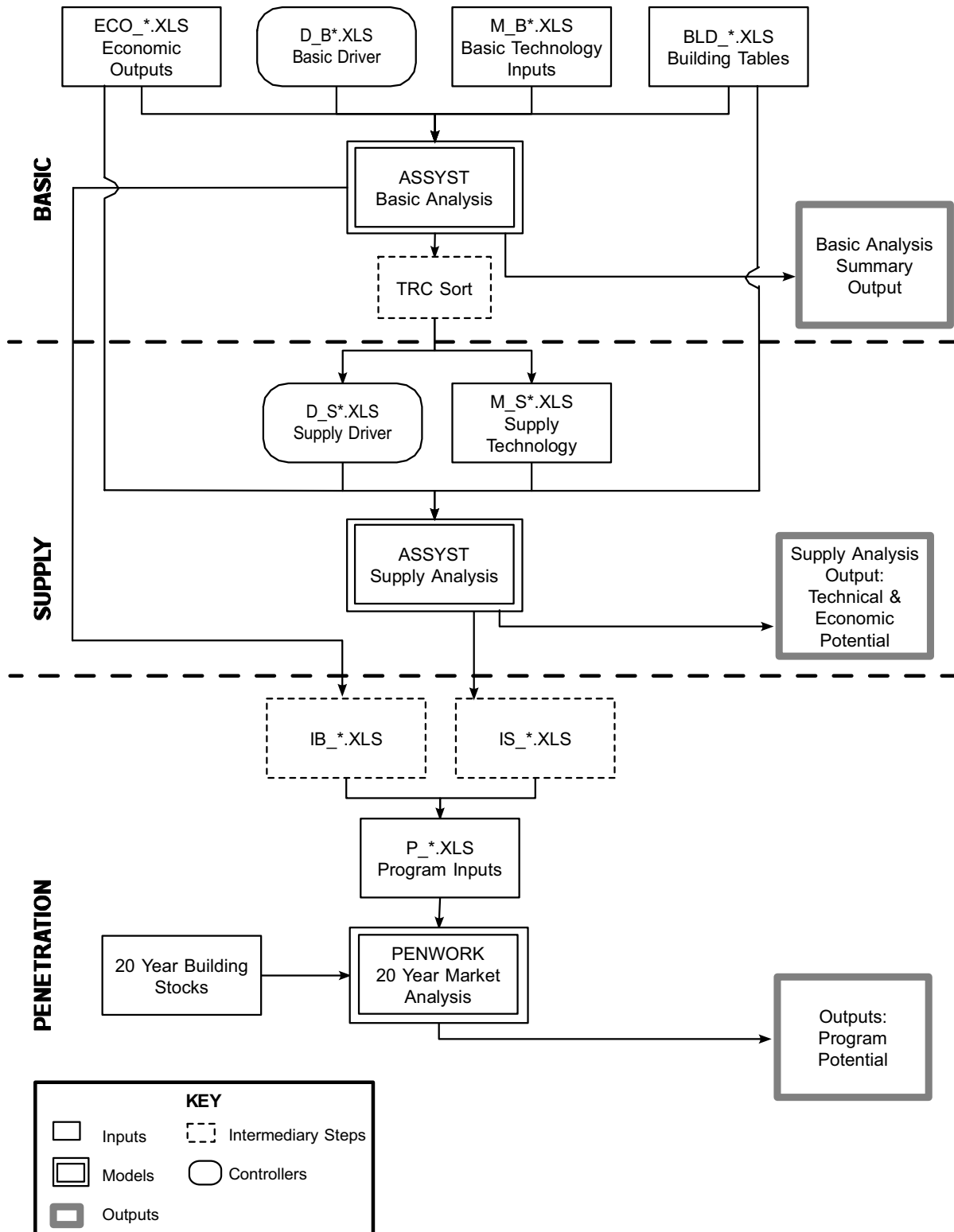
I.4.2 Installation Procedure

1. Load Microsoft Excel for Windows on your computer and make sure it is running properly.
2. On your hard drive or network, set up a system of sub directories. Although sub directories are not necessarily needed, we recommend them for file management purposes. We recommend:
 - One sub directory that contains the ASSYST, BATCHXYZ, ASMACH, PENWORK, and POSTBAT files.
 - Residential, Commercial, Industrial data contained in separate sub directories.
 - Batch numbers assigned to different runs to help distinguish them. We advise keeping different batches in different sub directories.
 - Use other sub directories as desired.
3. Load DSM ASSYST files on your hard drive or network using sub directories as appropriate.

I.5 METHODOLOGY AND OPERATION

For a flow chart of the DSM ASSYST Analytic Flow, see Figure I-3.

**Figure I-3
DSM ASSYST Analytic Flow**



1.5.1 Basic Analysis

In the Basic Analysis each technology is assessed individually by comparing it to a base case. Comparisons are made at a high degree of segmentation. The segmentation may include, but is not limited to sector, building type, end use, vintage and geographic area.

Four types of information, contained within four spreadsheet files, are automatically brought into the ASSYST model. These files must be prepared by the user prior to running ASSYST. These files are the appropriate versions of:

ECO_*.XLS economic parameters file containing utility rates paid by customers, avoided costs and other utility specific economic parameters,

BLD_*.XLS building file containing square footage or number of households and load shape data,

M_B*.XLS measure file containing technology based inputs for the Basic Analysis, and

D_B*.XLS driver file containing information that drives the analysis process.

Preparation of the input files is discussed in later sections.

Outputs of the Basic Analysis include a B_*.XLS Summary Basic Output spreadsheet file that contains an assessment of how much energy and demand each technology will save relative to the base case within each segment. In addition, the summary contains cost data, savings fractions, before and after EUIs or UECs, service life, the levelized costs of implementing the technology, and results of economic tests including the TRC test, participant test and customer payback.

DSM ASSYST also produces a TR_*.XLS file that contains all the measures that were assessed in the Basic Analysis sorted in the highest to lowest TRC order within each segmentation. This file serves as a guide for the implementation or stacking order that will be used in the Supply Analysis. This will be discussed in more detail in the next section.

Finally, the Basic ASSYST produces measure level information that can be screened and combined into program inputs. The Basic ASSYST output containing this information is found in IB_*.XLS files. Use of the IB_*.XLS files will be discussed in more detail in Section 5.3.

1.5.2 Supply Analysis

In the Supply Analysis each technology, within each market segment, is stacked, or implemented, such that all energy savings are realized from preceding technologies prior to the implementation of all subsequent technologies. The stacking order generally follows the TRC sort order, highest to lowest, resulting from the Basic Analysis.

Three types of input changes are required when moving from the Basic Analysis to the Supply Analysis.

1. For the Supply Drivers, D_S*.XLS, technologies must be listed in the order that they will be implemented within each market segment. Although the TRC sort provided in TR_*.XLS files is a useful guide, the user must make sure that the order is logical. Some measures may need to appear in a different order and other measures may need to be eliminated from the analysis. For example, if a SEER 12 air conditioner has a higher TRC than a SEER 11 unit, the SEER 12 unit will be implemented first leaving no savings potential for the SEER 11 unit. Thus, the SEER 11 unit should be excluded from the Supply Driver.

2. Once the Supply stacking order is established, energy savings must concur. In the Basic Analysis the energy savings matrixes found in the M_B*.XLS files are developed assuming that each technology will be compared against a base case technology. In the Supply Analysis, after each technology is implemented, it becomes the base case for the next technology in the stacking order. Some technologies do not affect the percent energy savings of other technologies. For example, a 10% savings fraction from insulation is not affected by a higher efficiency water heater. The amount of energy savings will be reduced because there is less energy available to save, but the 10% savings fraction will still be relevant. However, if a high efficiency water heater with a savings fraction of 15% is implemented followed by a super high efficiency water heater with a savings fraction of 25%, the change in savings must be recalculated. This is because the high efficiency model becomes the base case for the super high efficiency model. The formula for converting the energy savings is:

$$\text{New Savings Fraction} = 1 - ((1 - \text{Saving Fraction}(\text{higher})) / (1 - \text{Saving Fraction}(\text{lower})))$$

$$= 1 - ((1 - .25) / (1 - .15))$$

Hence, the savings fraction for the super efficient water heater in the M_S*.XLS file should be reduced from 25% to 11.8%

1. All costs in the M_S*.XLS technology input files need to be incremental. In the example above, if the base case cost is \$200, the high efficiency model cost is \$300 and the super high efficiency model cost is \$450, then in the M_S*.XLS technology input file cost should be calculated as follows.

Technology	Actual Cost	Base Cost	Incremental Cost	Cost used for Supply Analysis
Base Heater	\$200	\$200	\$0	\$0
High Eff. Heater	\$300	\$200	\$100	\$100
Super Eff. Heater	\$450	\$300	\$150	\$150

Note: In the Supply Analysis, for all measures, the "Initial Cost" and "Replace Cost " (Column K and L in the M_*.XLS files) should both equal 1 for "full".

Output from the Supply Analysis is the full technical and economic potential plus energy and demand supply curves.

Finally, the Supply ASSYST model produces measure-level information that can be screened and combined into program inputs. The Supply ASSYST output containing this information is found in IS_*.XLS files. Use of the IS_*.XLS files is discussed in more detail in Section 5.3 below.

1.5.3 Market Potential Analysis

The Market (or Program) Potential Analysis module of ASSYST is a separate input-output model designed to calculate the costs and net energy and demand savings from DSM programs under a variety of marketing scenarios. The program module evaluates each DSM measure in each market segment. Using a stock accounting algorithm over a period of 20 years, the market module first calculates the number of customers for whom the measure will apply. Second, the model calculates the number of informed customers based on the amount of money spent on advertising. Third, the model calculates the number of customers who will implement the technology based on their Benefit/Cost ratio. Finally, the model compares the number of customers that implement the technology due to the program with those who would take the technology anyway (naturally occurring). Per unit energy and demand savings are applied to the net number of customers (total minus naturally occurring) over the twenty year period. After completing the analysis, the results are automatically summed across measures to provide program level costs and savings for 20 years, and formatted for input into Integrated Resource Planning models.

Using The Market Potential Module:

1. Screen measure level outputs from the ASSYST Program Analysis Input files (IB_*.XLS or IS_*.XLS). Determine which measures in which segment are appropriate for DSM programs. The macro "program building" (ctrl "p") will automatically copy the desired block of measure data, from Row 6 until the first blank Row, Columns A through U. It will then place the data in a user defined Program Input file (P_*.XLS), appending it to the existing measure data, or starting at Row 23. Use an existing Program Input file (P_*.XLS) as a template and remove the unwanted data (from col. A to U, at Row 23). A separate Program Input file (P_*.XLS) should be made for each separate program.

The choice of whether to take energy savings and demand savings data from the basic output (IB_*.XLS) or the supply output (IS_*.XLS) is left to the discretion of the analyst. The basic output may tend to overestimate program savings potential because it does not account for measure interaction. The supply output may tend to underestimate program

potential due to the supply stacking methodology that assumes full implementation of each applicable measure prior to adding subsequent measures within a segment. This results in reduced energy savings potential for the subsequent measures. The analyst may also choose some value between the extremes.

2. For each measure, set the technology/market segment specific parameters. See Figure I-4 Map of Program Input File for parameter locations.

Incentive: The incentive can be set at a specific level (e.g., \$10, "10") or as a percent of some other value (e.g. 30% of the customer cost, "=L23/K23*.3"). The units are \$/sq. ft. or \$/household.

Technology Acceptance Curve Parameters:

MAX: This parameter determines the highest possible annual acceptance rate for the technology.

MID: This parameter determines the inflexion point of the curve. It is generally one over the Benefit/Cost ratio that will give the value of 1/2 the maximum value.

FIT: This parameter determines the general shape of the curve.

3. Set the program specific parameters.

Administration Budgets: This is the amount of money spent each year on administration. These costs have no impact on the number of customers who will participate but should reflect the actual cost of administration to enable accurate cost analysis.

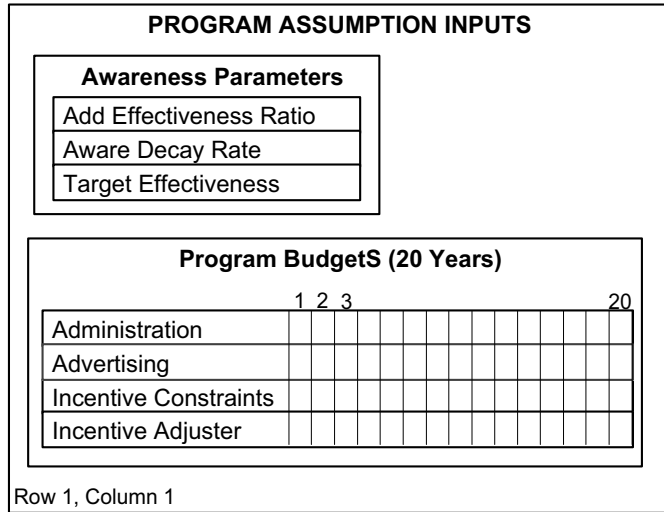
Advertising Budgets: This is the amount of money spent each year on advertising. The advertising budget affects the number of new customers who are informed about the program each year.

Advertising Effective Ratio: This coefficient represents an estimate of the amount of advertising budget required to inform one household or one square foot of commercial space about the program. The units are \$/sq ft or \$/household, depending on the sector being modeled.

Awareness Decay Rate: This parameter represents an estimate of the rate of annual decay in customers' awareness of the measures.

Target Effectiveness: This parameter controls how effectively advertising dollars are being directed toward eligible customers. The value should be set between "0" and "1". A value of "0" means that the money spent on advertising is not targeted and is informing all the applicable building stock at the same rate independent of whether the stock is eligible for measure implementation. A value of "1" indicates that all money spent on advertising is directed toward customers who have building stock that is eligible for measure implementation.

Figure I-4
Map of Program Input File



Vintcrit
Batch

Row 23, Column 1

MEASURE INPUTS				
Data From ASSYST	Incentive	Acceptance Curve Parameter	Benefit/ Cost Ratio	Estimated Acceptance Rate

Incentive Constraint: This parameter adjusts the number of households or square feet that can receive incentives. The default value for this parameter is "1". The parameter is input for each year and can be used when incentive payments are expected to exceed the program budget. A value of ".5" means that half the households or square footage will be able to receive the incentive. Determining a set of values for this parameter may require an iterative process.

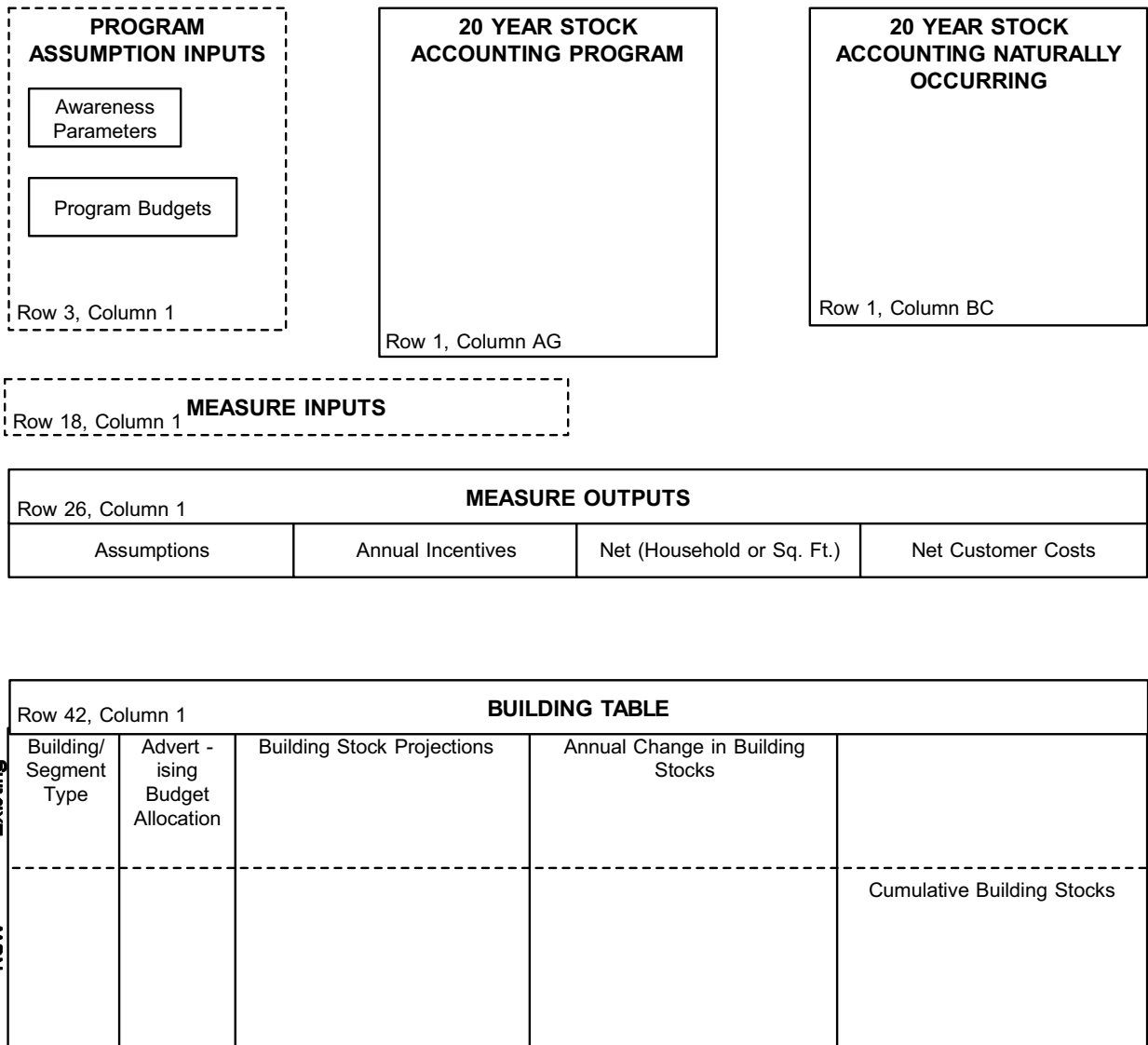
Incentive Adjuster: This parameter will adjust the incentive amount. The default value for this parameter is "1". The incentive for each measure is set at the measure-level as discussed above in Section 5.3.2. This parameter is input for each year and can be used to model changes in incentive level over time. A value of "2" will double the incentive, a value of "0" can be used to turn the incentive off.

Vintcrit: This parameter tells the model which segment code is the start of new construction buildings.

Batch: This parameter is for the user to keep track of their model run.

4. Update the building table in PENWORK.XLS. This table contains the number of households and/or square footage values from the starting year through the following 20 years. The values for existing buildings are the cumulative and decayed existing building stock. The values for new buildings are the number of new buildings for each year. Buildings should appear listed by ascending Segment code number. The Segment code will be calculated automatically based on the Segment/Section and the building number. Column E contains the Advertising Budget Allocation which restricts the amount of total advertising budget for specific building types. For example, setting the values to 0.95 for single-family homes and 0.05 for multi-family homes will result in the advertising budget split such that 95% of the advertising budget will be used to inform single-family customers and 5% will be used to inform multi-family customers. The default Advertising Budget Allocation values should be the portion of square footage or households of each building type relative to the total for the segment. See Figure I-5 Map of PENWORK for an overview of the PENWORK module.
5. Enter the names of the Program Input files P_*.XLS into the POSTBAT.XLS spreadsheet Column D. Copy down the formula in Column F that creates the O_*.XLS name.
6. Run ASMAC2B.XLM: "pen_run" macro.
7. Review results in O_*.XLS files.

Figure I-5
Map of PENWORK



I.6 PREPARING FOR ANALYSIS

1. Compile all necessary input data. This includes the preparation of Economic Parameter Input Files (ECO_*.XLS), Building Input Files (BLD_*.XLS), Technology Input Files (M_*.XLS) and Drivers (D_*.XLS). **Note: All input tables that are brought into ASSYST function as lookup tables. Exact spatial relationships within these files must be maintained for ASSYST to work properly.**
2. Set up a BATCHXYZ file such that it contains the elements of the analysis that you are interested in running. The first analytic run should start on Row 5 and each subsequent analytic run should be on succeeding row until all are entered. DSM ASSYST will evaluate each analytic segment from Row 5 until there is a blank Row.

3. Check the ASMACH .XLM macro file to make sure that all parts of the analysis that are engaged are pertinent to the analysis being performed. A more detailed description of ASMACH is found in Section 12.
4. If running Supply Curve Analysis on the back end of the Supply Output and/or if running the Market Analysis, set up the POSTBAT.XLS file as described in Section 4.
5. Make sure all input files are in the current sub-directory and are closed.
6. Make as much memory available to EXCEL as possible by entering expanded windows mode, close unnecessary applications or other methods available to you.

I.7 SIMPLE OPERATIONS: RUNNING DSM ASSYST START TO FINISH

The following steps assume a first time run of the entire process. Excel must have access to the proper sub-directory at all times, that is, the directory where the files to be analyzed are located.

1. Open ASSYST3.XLS, BATCHXYZ.XLS, and ASMAC2B.XLM.
2. Set BATCHXYZ to run the Basic Analysis as described in Section 4. Confirm that Excel has access to the directory with the files that you intend to run.
3. Run the ASSYST macro by pressing (Ctrl "a"). Evaluate the Basic Output as desired.
4. Evaluate the results of the TRC Sort in the TR_*.XLS file. Build Drivers (D_S*.XLS) and Technology Input Files (M_S*.XLS) for the Supply Analysis.
5. Set BATCHXYZ to run the Supply Analysis.
6. Run the ASSYST macro by pressing (Ctrl "a"). Supply Outputs and Program Analysis Inputs will be generated.
7. Close ASSYST to make room on the system. **DO NOT SAVE ASSYST.**
8. Open the Program Analysis Input files (I_*.XLS) and a Program Input file (P_.XLS). Create Program Input files (P_.XLS) by combining the desired measures into programs. The macro (Ctrl "p") moves the block of data in (I_*.XLS) from row 6 until a blank row into a user defined Program Input file (P_.XLS). Set the technology and program parameters. Close these files after completing.
9. Open POSTBAT and place Supply Output file names in Column A and the Program Input names in Column D.
10. Close BATCHXYZ.
11. Run the Supply_Curve_Sort macro by pressing (Ctrl "c"). This will provide further evaluation of the Supply Output including supply curve sorts for both energy and demand. Evaluate further as desired.
12. Open PENWORK.

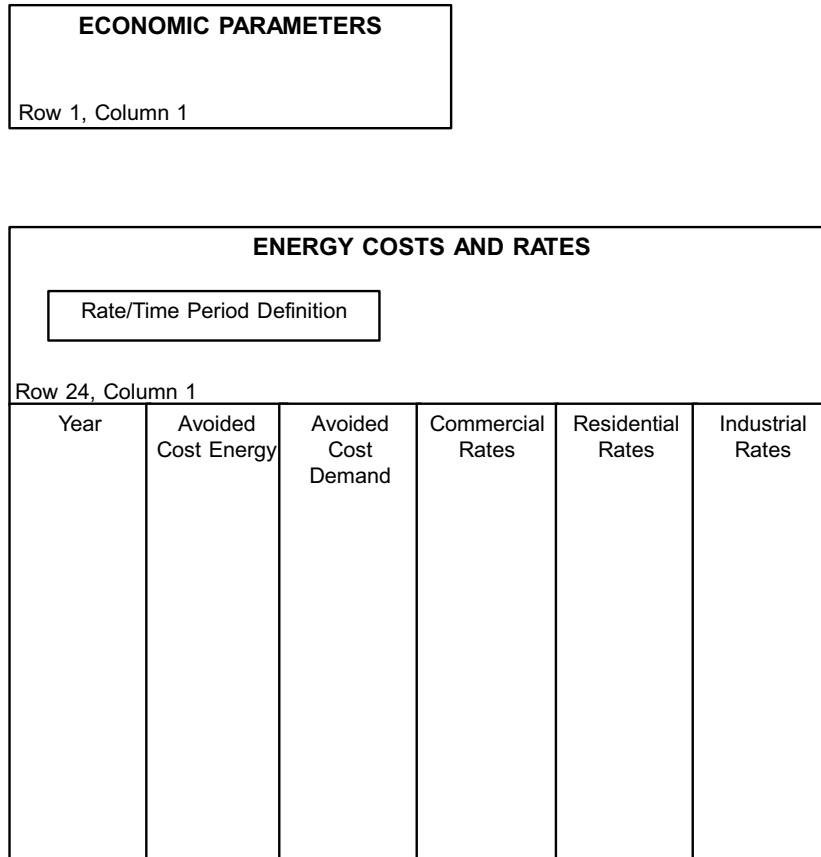
13. Run the Pen_Run macro by pressing (Ctrl "q"). This provides the Market Potential under each of the program scenarios specified by P_*.XLS. Summarize and evaluate further as desired.

Note: Basic and Supply Analysis can be run within the same BATCHXYZ run if Supply Technology Input Files and Drivers are already built and will not change due to changes in the Basic TRC sort.

I.8 ECONOMIC PARAMETER INPUTS (ECO_*.XLS)

The following inputs are general economic parameters. These data and their locations are shown in Figure 8-1 Map of Economic Parameter Inputs.

**Figure I-6
Map of Economic Parameter Inputs**



1.8.1 Economic Parameters

Utility Name: This cell is informational and used in the Data Check.

Sector: This cell is informational and used in the Data Check.

Batch #: This cell is informational and used in the Data Check.

Utility Discount Rate (UTIL_DISC_RATE): This is the discount rate that the utility uses to do net present value analysis when considering cost streams over the life of projects.

Customer Discount Rate (CUST_DISC_RATE): This is the discount rate that utility customers would use when calculating the net present value of savings from reduced energy bills resulting from energy conservation.

General Inflation Rate (INFLATION_RATE): Projected inflation rate.

Base Year (BASE_YEAR): This is the year to which all cost and benefits are normalized. It is also the first year for data in the Avoided Cost and Rate Tables. In the model delivered, the Base Year is 1992.

Start Year (START_YEAR): This is the first year of the analysis. Changing the Start Year changes the 20-year period over which the cost and benefit streams are calculated. The Start Year can not be earlier than the Base Year.

Difference: This is the calculated difference between the Start Year and the Base Year.

Utility Line Loss Rate: The percentage of energy lost through line losses.

1.8.2 Energy Costs and Rates Table

Type: Used to identify separate runs for sensitivity analysis.

Energy Units: Used to specify type of currency per kWh.

Demand Units: Used to specify type of currency per kW.

Rate/Time Period Data: Rate/Time period data is to identify what the five available rate/time periods are by name, by abbreviation and how many hours are in each. The Monthly Adjustment for Rates is the number of months the monthly demand change will be multiplied times.

Avoided Energy Costs by Rate/Time Period: Columns B through F contain projected avoided cost of energy by rate/time period over time. Entries should be made in nominal monetary units (e.g., dollars). DSM ASSYST will discount the values to the Base Year as part of the analysis.

Avoided Demand Costs by Rate/Time Period: Columns G through K contain projected avoided cost of demand by rate/time period over time. Entries should be made in nominal monetary units (e.g., dollars). DSM ASSYST will discount the values to the Base Year as part of the analysis.

Energy Rate Projections by Time Period: Columns L through P contain projected energy cost by rate/time period over time. Entries should be made in nominal monetary units (e.g., dollars). DSM ASSYST will discount the values to the Base Year as part of the analysis.

Monthly Demand Rate Projections by Time Period: Columns Q through U contain projected monthly demand charges by rate/time period over time. Entries should be made in nominal monetary units (e.g., dollars). DSM ASSYST will discount the values to the Base Year as part of the analysis.

I.9 BUILDING TABLES (BLD_*.XLS)

The following inputs are shown in Figure I-7 Map of Building Tables.

I.9.1 Building Table

The Building Table allows the user to specify up to 10 building segments and up to 14 different types of buildings in each segment. Building types are defined by row and segments are defined by column. Units used for the analysis of the residential sector are number of households. Units used for the analysis of the commercial or industrial sectors are square feet or square meters. The matrix bound by Columns D through M and Rows 8 through 21 contains values. The matrix bound by Columns N through W and Rows 8 through 21 contains definitions of those values. Typically, segments are used to define geographic differences and vintage differences. For example, Segments 1 - 4 may be used to define the number of existing households in four separate utility sub regions and Segment "0" can be used to define the total number of existing households in the utility. Segments 5 - 9 can be used in the same manner for the number of new households.

Header information at the top of the building table is particularly important for keeping track of which building table should be used in which analysis. The Batch # is a useful way to signify the difference between commercial and residential sectors.

**Figure I-7
Map of Building Tables**

BUILDING TABLE	
Row 1, Column 1	
Number of Households or Sq. Ft. by Building Type by Segment	Building Type Definitions by Segment

LOADSHAPES BY BUILDING TYPE								
Row 24, Column 1								
End Use 1	End Use 2	End Use 3	End Use 4	End Use 5	End Use 6	End Use 7	End Use 8	End Use 9

PEAK TO ENERGY RELATIONSHIP TABLE BY BUILDING TYPE								
Row 44, Column 1								
End Use 1	End Use 2	End Use 3	End Use 4	End Use 5	End Use 6	End Use 7	End Use 8	End Use 9

1.9.2 Load Shape Table

The Load Shape Table specifies what portion of energy is used in each rate time period, by building type and end use. The Proportional Energy Use must sum to 1 for each building type within each end use.

The end use order is typically, though users may specify whatever order they prefer:

Order	Commercial/Industrial	Residential
1	Lighting	Heating
2	Exterior Lighting	Air Conditioning
3	Cooling	Cooking
4	Heating	Refrigerator/Freezer
5	Ventilation	DHW
6	Refrigeration	Clothes washer
7	DHW	Misc.
8	Process	Lighting
9		Dishwasher

This order can change so long as there is consistency between the order and the numbering of end uses in the Technology Input Table (Section 10).

1.9.3 Peak-to-Energy Relationship Table

The Peak-to-Energy Relationship Table is comprised of factors that associate the average demand, as can be calculated from the load shape, to the actual demand for each market segment or building type, for each rate time period, for each end use, coincident with the utility's peak.

To calculate the values, average the demand for each market segment, for each rate-time period, for each end use. Next, divide the actual demand during the utility's peak time period for the end-use for the market segment by the average demand of the same end-use, market segment, and time period. For example, if average demand for high-rise office cooling during the hours that constitutes the summer peak rate-time period is 0.80 kW/Sq. Ft. and the actual demand for high-rise office cooling is 1.20 kW/Sq/ Ft., then the Peak-to-Energy factor is 1.20 divided by 0.80, or 1.5.

End uses are listed in the same order as in the Load Shape Table above.

1.9.4 Customer Coincident Peak-to-Energy Relationship Table

The Customer Coincident Peak-to-Energy Relationship Table is comprised of factors that associate the average demand, as can be calculated from the load shape, to the actual demand

coincident with the customer’s peak usage for each market segment or building type, for each rate time period, for each end use,.

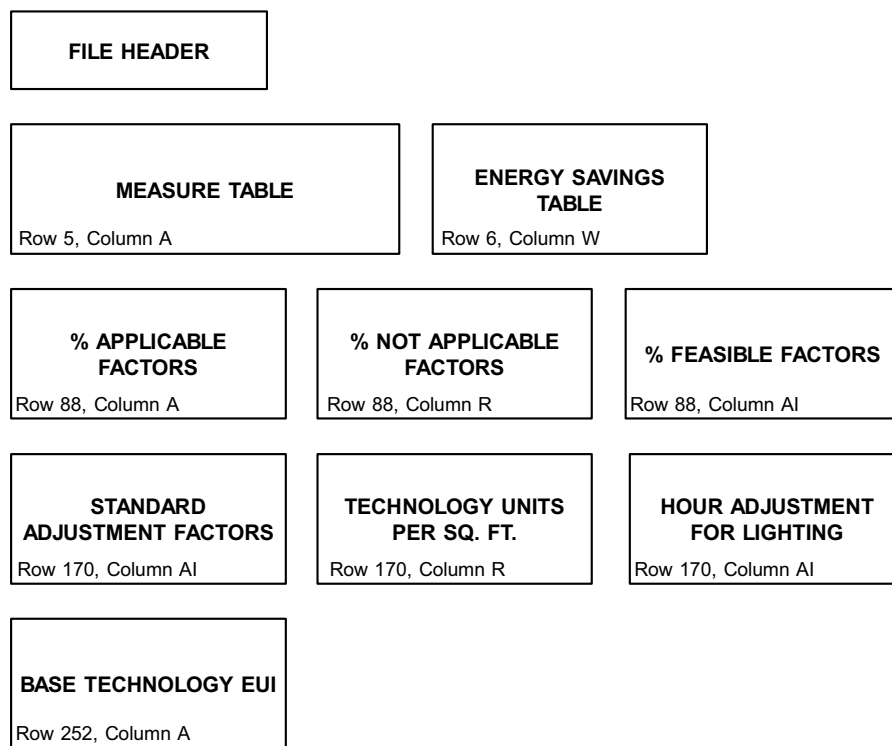
End uses are listed in the same order as in the Load Shape Table.

I.10 TECHNOLOGY-BASED INPUTS (M_*.XLS)

The following technology-based input tables operate as a set and are referenced by the same Measure Numbers. The Measure Numbers, including the Base Technology Measure Numbers, must all be in progressive sequential order for the "look-up" functions to operate properly.

See Figure I-10 for a Map of a DSM Technology Input file.

**Figure I-8
Map of Measure Input File**



I.10.1 Measure Input Table (M)

DSM Measure Input Tables contain the following data.

Measure Number: Contains the number by which the measure will be referred.

Measure: A brief description or title of the DSM technology.

Savings Units: The engineering units in which energy savings are associated.

Cost Units: The units by which the technology is priced.

Unit Equipment Cost: The cost of the DSM technology. This can either be wholesale or retail but the user should know which it is and it should be consistent in the application of costs. (For the Supply Analysis this should be entered as the incremental cost).

Unit Labor Cost: This is the cost of installing the technology. (For the Supply Analysis this should be entered as the incremental cost).

Incremental Lifetime O&M Cost: These values are used to account for the discrepancies between the O&M cost of the DSM technology relative to the base case technology. This value can be positive (if the measure costs more to operate and maintain than the base technology) or negative (if the measure costs less to operate and maintain than the base technology). Although O&M is generally accounted for on an annual basis, this value should reflect the discounted sum of the annual incremental O&M cost over the life of the technology.

Cost Multiplier: This factor allows the user to increase the cost of a measure without changing the cost in the cost fields. This factor can be used for scenario analysis. The default value should be "1".

Cost Units Per Savings Units: This factor reconciles the differences between cost units and savings units, should they be different thereby making them multiplicative. The default value for this factor is "1."

Service Life: This is the expected life of the measure. If the Service Life is less than 100, the model assumes that the units are years. If the Service Life is over 100, the model assumes that the units are hours. All measures are analyzed over a 20-year period.

Initial Cost (Full = 1, Incremental = 0): This is a toggle switch that tells ASSYST whether to consider the measure a retrofit or replace-on-burnout measure. The toggle should be set to "1" for retrofit measures and the full cost of the measure will be used. The toggle may be set to "0" if the measure is a replace-on-burnout measure and the user wants the initial cost to be the incremental cost between the measure and the base case. (This toggle must be set to "1" for the Supply Analysis.)

Replacement Cost (Full = 1, Incremental = 0): When a measure has a service life of less than 20 years and needs to be replaced one or more times over the 20-year period of analysis, this toggle switch tells DSM ASSYST whether to apply the full cost of replacing the measure or the incremental cost of replacing the measure. The toggle is usually set to the same value as it is in the Initial Cost. (This toggle must be set to "1" for the Supply Analysis.)

Full Unit Cost: This is the sum of the Unit Equipment Cost, the Unit Labor Cost, and the Incremental Lifetime O&M Cost and is automatically calculated.

Relative Energy Reduction Factors (by rate time period): These five columns allow the user to allocate each measure's incremental energy and demand savings to the appropriate rate time period thus affecting load shifting. The default value equals "1" indicating that energy savings resulting from the measure occur in the same pattern as base case energy use (e.g., a value of "1" would mean that a 20% energy savings would yield a savings of 20% of the base case energy for the time covered in the rate-time period). If the marginal savings are to occur in a different pattern than the base energy use pattern, then these factors allow the user to change the proportional savings. For example, if the energy savings in a particular rate-time period are 90% of what would be expected (e.g. 18% instead of 20%), then the factor should be "0.9". These factors are closely tied to the definition of energy savings found in the ENERGY_SAVINGS table (see Section 10.2) because they can potentially alter the weighted average savings for the measure.

End Use: This is a numerical value corresponding to the end use for each measure. Numbers should correspond to the end uses as numbered in the load shape portion of the Building Table and Peak-To-Energy Relationship Table.

Implementation Type 1= 1 time, 2= turnover: This informs PENWORK how to treat the implementation of the technology. Generally "1" is used for retrofit applications such as shell measures and "2" is used for replace-on-burnout applications.

1.10.2 Energy Saving (ENERGY_SAVINGS)

The Energy Savings table contains the estimated annual energy savings for each measure by market segment or building type. In the Basic Analysis the energy savings are in relation to the base case. In the Supply Analysis the energy savings are in relation to previous technologies in the stacking order. See Section 5.2 for more details.

Care must be taken in defining energy savings for measures whose energy savings patterns do not follow the base case energy usage (e.g., variable speed drives, occupancy sensors & load shifting strategies). The use of Relative Energy Reduction Factors (see Section 10.1) may produce an annual weighted average energy savings different from the energy savings value input. One possible approach may lie in setting the energy savings to the maximum savings level. This should only be done with awareness of how the energy savings were originally calculated. For example, a Variable Speed Drive may save 30% off peak and -5% on peak. The energy savings can be set at 30% with the awareness that the annual energy savings will actually be less. Documenting the approach is important for repeatability.

1.10.3 Applicable Factors (APPLICABLE)

The % Applicable Factors table contains the fraction of the floorspace or households that is applicable for conversion to the DSM technology for each market segment or building type. It generally corresponds to the saturation of the base case technology.

1.10.4 Not Complete Factors (NOT_COMPLETE)

The % Not Complete Factors table contains the fraction of the applicable floorspace or households that has not yet been converted to the particular energy-efficiency technology. The % Not Complete Factors are arranged by measure and market segment or building type.

1.10.5 Feasible Factors (FEASIBLE)

The % Feasible Factors table contains the fraction of the applicable floorspace or households that is technically feasible for conversion to the DSM technology from an engineering perspective. The % Feasible Factors are arranged by measure and market segment or building type.

1.10.6 Standards Adjustment Factors (EUI_ADJUST)

The Standards Adjustment Factors table allows the user to adjust EUIs or UECs to account for efficiency improvements due to existing or anticipated regulations. These factors can also be used to adjust base EUIs and UECs to account for changing market conditions that would result in higher base technology energy efficiencies. The Standards Adjustment Factors are arranged by measure and market segment or building type.

1.10.7 Technology Units per square foot (units_per)

The Technology Units per square foot table contains information about how many measure costing units are found in each square foot or household of each market segment or building type (e.g. tons/sq. ft.). The measure units are the same as those specified in Cost Units in the Measure Input Table.

1.10.8 Hour Adjustment for Lighting (LIGHT)

The Hour Adjustment for Lighting table gives estimates of the annual hours of operation for measures whose service lives are expressed in hours.

1.10.9 Base Technology EUIs (BASE_TECH_EUI)

The Base Technology EUIs table contains the energy consumption of each base technology by market segment or building type. Commercial units are kWh/ square foot. Residential units are UEC or kWh/ per household.

I.11 DRIVERS (D_*.XLS)

The first five columns of ASSYST's calculation area contain data that informs the model about which technologies are being analyzed, for what end uses, for which building types and in what segment (usually geographical) context. This information is used to operate the lookup tables and thereby specify which parameters are to be used in the analysis. Header material further directs ASSYST as to what type of analysis is being performed (BASIC, SUPPLY, PEN), what sector is being analyzed (COM, RES, IND) and what fuel type (ELEC, GAS) is being analyzed. Other information included in the header is the utility name, batch number and vintage. The Segment can be entered into the header and automatically be changed below. For data location, see Figure I-9 Map of Driver.

**Figure I-9
Map of Driver**

HEADER INFORMATION				
Building Segment	Building Number	End Use	Base Number	Measure Number
Column A	Column B	Column C	Column D	Column E

Column A specifies the building Segment. ASSYST is set up to handle 10 segments. The segment can be specified in the header and all cells in this column will change automatically, or each line can be changed manually.

Column B specifies the Building Type. Building Type numbers should correspond to those established in the Building Table.

Column C specifies the End Use. End Use is associated with the Measure and is read into the driver from the Measure Input Table.

Column D specifies the Base Number. Each DSM technology has a base case technology against which it is compared.

Column E specifies the Measure Number. The Measure number is the identifier by which the DSM technology or system is referred. Base case technologies also have a Measure Number. Measure numbers generally appear in sequential order in the Basic Analysis and must appear in stacking order in the Supply Analysis.

When constructing a Basic Driver (D_B*.XLS), start with a base case, then list all the measures (technologies) related to that base case, then list the next base case and its corresponding measures until you have listed all of the possible technologies to be analyzed for a building type. Do the same for the next building type until you have a full set of relevant measures and base cases for all building types.

When constructing a Supply Driver (D_S*.XLS), under each base case list relevant measure numbers in the Supply stacking order. See Section 5.2 for more detail.

I.12 THE MACRO ASMAC2B.XLM

There is seldom a reason for the user to open the macro file or edit DSM ASSYST macros. If there is a reason to adapt the macros, it should be done by someone familiar with Excel macros.

The primary macro for running DSM ASSYST is the ASSYST macro found in Column A. Sometimes a user may choose to disable part of the ASSYST macro when it is not relevant to the analysis being performed. This can be done by removing the "=" sign before the run statement. The "=" can be replaced when the user wants to re-enable the macro.

Do **NOT** save ASMAC2B.XLM when exiting.

DSM ASSYST Macros:

ASSYST (a) = Runs ASSYST. Reads the BATCHXYZ and directs other macros to perform their functions.

pen_run (q) = Runs the market potential analysis, for each program, in batch mode from POSTBAT.

Supply_Curve_Sort (c) = Aggregates supply analysis results in the supply output files and creates energy and demand supply curves. Runs in batch mode from POSTBAT.

program_building (p) = Copies measure data from an I_*.XLS file and places it in a user defined P_*.XLS file. This macro must be executed from within an I_*.XLS file.

Selected Sub-routine Macros

Output_Summary (o) = Takes summary data and places them in new file.

TRC_Sort (t) = Sorts data in from the Basic Analysis in order of highest to lowest TRC within each segment.

Output_ANNTP = Creates I_*.XLS files from ASSYST data.