

Proposal for The *Energy Savers Program*

***2004 – 2005 Energy Efficiency Program Selection
Proceeding Number R.01-08-028***

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Confirmation Number _____

Other Programs Proposed: South Bay Energy Rewards Program

Submitted by:

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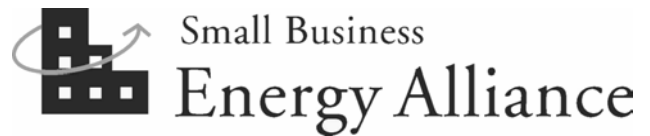


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I. Program Overview

A. Program Concept

ASW Engineering Management Consultants is offering to continue implementation of our existing turnkey *Energy Savers Program*. The pilot program was in 2001. In 2002 – 2003 ASW’s Small Business Energy Alliance (SBEA) administered the program on behalf of the CPUC. The *Energy Savers Program* is designed to reduce peak demand and energy usage through short-payback efficiency improvements. Specifically, it targets “very small” to “medium” hard-to-reach and underserved businesses in the Southern California Edison territory in Santa Barbara, Ventura, San Bernardino, and Riverside counties, and parts of Los Angeles and Orange County. It offers these businesses financial incentives in the form of matching funds for efficient lighting, programmable thermostats, energy-efficient package unit air conditioners, and tune-ups for air-cooled package units and refrigeration systems. In addition, it provides recommendations for energy efficient practices specific to lighting, air conditioning, and refrigeration systems, and other measures.

B. Program Rationale

A majority of the target population for the proposed 2004 – 2005 *Energy Savers Program* exhibits multiple “market barriers” that have inhibited the adoption of energy efficient measures that would provide customers with significant cost benefits. By reaching out to these customers, informing them of the benefits of implementing specific energy-efficiency products and practices, and providing them with incentives to implement specific measures, we have in the past and can again in the future effect significant demand reduction and energy savings. A majority of the funding will be applied to hard-to-reach and underserved Edison customers.

The mechanisms for conducting this program are already in place and are being used in the current 2002-2003 program, ready to be used in the new implementation of the program.

Building on a Successful Concept

The current status of the existing program demonstrates the program’s success:

- The 2002 – 2003 *Energy Savers Program* is ahead of schedule and within budget.
- As of the date of this proposal, all incentive dollars have been committed.
- Current program accomplishments indicate that we will meet and exceed program goals.

2002 – 2003 *Energy Savers Program* Accomplishments

	Projected (net)	Actual Status (net) as of 9/17/03
kW demand reduction	1,831 kW	2,268 kW
kWh savings	9,414,902 kWh	9,956, 955 kWh

The *Energy Savers Program* is an incentives program designed for the commercial market segment. We’re confident that there is continued demand among the target population for the program’s services. 100% of the businesses served in the 2002 – 2003 program are classified “Nonresidential Hard-to-Reach” which are customers, based on the Policy Manual “who do not have easy access to program information or generally do not participate in energy efficiency programs due to a language, business size, geographic, or lease (split incentive) barrier.” Also,

93% of the customers served are classified “small” and “very small” businesses (less than 100 kW demand). We now have a waiting list of many customers from the initial pilot program anticipating new incentive resources in Orange County and additional customers from our current target markets who we cannot accommodate under the current budget.

Although the *Energy Savers Program* provides customers information regarding energy efficient practices, it should be evaluated as a hardware/incentive program according to the criteria description in D.03-08-067.

Praise for the Program

The Small Business Energy Alliance (SBEA) and the *Energy Savers Program* are proud to have received a commendation “in appreciation of outstanding leadership” from Gray Davis, governor of the state of California in the form of a certificate of recognition from the Flex Your Power Energy Conservation program.

One example of many letters of appreciation came from Poul Hanson, Director of Facilities, Maintenance & Operations, Pleasant Valley School District Camarillo, CA. “Please forward our thanks to the California Public Utilities Commission for allowing Pleasant Valley School District the opportunity to participate in the Small Business Energy Alliance utility savings program. Incentives, technical support, and savings verification are of tremendous value to small school districts like Pleasant Valley; particularly in light of the current state budget crisis. We are very pleased with professionals we have worked with... The Small Business Energy Alliance utility savings program is allowing Pleasant Valley School District to focus on the business we do best, educating young people.”

A report from the 2003 Informal Small Business Energy Alliance Customer Survey contains more positive comments for the program. “All of the businesses who were surveyed agreed they would not have done the lighting retrofit without incentive funding, and all agreed that funding for these kinds of programs should continue.” The report added, “all businesses surveyed were very pleased with the program, the contractors, the follow through, and the simplicity of the paper work.”

Many program participants who responded to an EM&V survey indicated that the refrigeration tune-up happened approximately eight months earlier than it otherwise would have in the absence of the program. None of the respondents previously had a maintenance contract for refrigeration equipment. Also, when asked to rate the energy efficiency services provided by the SBEA compared to energy efficiency services they may have received from SCE or PG&E, 44% of the respondents indicated “no prior experience with SCE,” 36% rated the SBEA program service as “much better” or “better than” corresponding SCE service, and 19% rated SBEA program service the same as corresponding SCE service. None of the respondents rated the SBEA program “worse” or “much worse” than corresponding SCE service.

C. Program Objectives

The projected objectives for the 2004 – 2005 *Energy Savers Program* are summarized below.

Overall Program Objectives (2004 – 2005)	
Anticipated number of measures provided to businesses	800 measures
Projected gross kW demand reduction	2,080 kW
Projected gross kWh savings	10,236,000 kWh

II. Program Process

A. Program Implementation

An Overview of Program Implementation

Our implementation approach is one of the keys to *Energy Savers Program* success. It is very direct and involves minimal input from customers — SBEA does almost all of the work, as summarized in the eight steps below.

1

Program Startup and Plan Refinement



The first step is to coordinate with all program team members and assess “lessons learned” from the 2002 – 2003 implementation of the *Energy Savers Program* to identify ways to increase the efficiency and effectiveness of program operations. Specific areas addressed during the Startup step include:

- Refine the work plan and revise the Survey Technician’s Guidebook
- Refine and expand the database structure
- Modify survey instruments and customer authorization forms
- Review and revise customer eligibility if necessary and begin outreach
- Confirm contractors, pricing, and equipment selection
- Conduct survey technician training and orientation if necessary

2

Outreach and Participant Enrollment



Once we’ve refined the details of the program plan, we will reach the target population and enroll them in the program. We use a variety of marketing techniques and educational efforts to reach our target population, and businesses have multiple options for enrolling:

- Call our toll-free phone number and enroll with our representative’s assistance
- Go on-line and enroll at the SBEA website
- Mail in a filled-out application form

3

Survey Scheduling



After customers are enrolled, we schedule the survey at a time that is convenient for them.

- The SBEA scheduler will contact each interested customer and set an appointment for a survey technician to visit the business in order to conduct an on-site survey.
- As appropriate, the SBEA scheduler will conduct follow-up calls to confirm appointments before the survey technicians arrive.

4 Cost-Benefit Analysis and Authorization

At the customer's site, the SBEA survey technicians identify recommended measures, describe cost-benefit considerations, and gain the customer's agreement to proceed.

- SBEA survey technicians perform an inventory at the business site (lighting, HVAC, and refrigeration equipment).
- They calculate costs of proposed energy efficiency measures and present a simple cost-benefit analysis to the customer.
- Customers sign authorization forms agreeing to pay their portion of the energy efficiency measures they decide to implement.
- Survey technicians leave behind a list of energy efficiency tips and other information on how customers can save on energy costs.

5 Incentive Allocation and Implementation

After customers formally enroll, incentive money is allocated and SBEA coordinates and monitors the implementation.

- The survey technician notifies the contractors and schedules the installation with the business owner.
- The survey technician and contractors resolve any possible issues, such as lighting levels, color, and controls, etc., and answer any questions the business owner may have.
- The customer signs a contract with the contractor agreeing to pay for the customer's portion of the installed cost.
- After the work is performed, customers pay the contractor for their share. Because the customer is given credit for SBEA portion of the payment at the time of installation, there is "zero turnaround time" for the incentive to the customer.
- After a site inspection, SBEA pays the remainder to the contractor, usually within a week or two, and bills the state for the incentive compensation.

6 Follow-up and Verification

SBEA survey technicians verify the work for 100% of the installations and make sure the customer is satisfied with the work.

7 Data Entry

SBEA keeps current and complete records on all relevant program activities.

- Survey technicians enter all pertinent information about the business and the measures that were implemented into a central SBEA database.
- This data is maintained so that SBEA and the CPUC can monitor and evaluate the program.

8 Reporting

Over the span of the program, SBEA will submit regular reports to the utility and CPUC program management.

- Monthly reports will present a concise summary of audit and incentive results to date.
- An annual report and a program summary report will summarize program results.

More about the Efficiency Measures and Survey Methodology

In *Step 4: Cost Cost-Benefit Analysis and Authorization*, our survey technician’s focus on the measures selected to provide the customer the maximum energy savings and shortest payback periods when incentives are included.

The table below and on the following pages briefly describes each of the selected measures, its impact on the small business, and the specific activities to accomplish the measure.

Measures and How They’re Accomplished	
Measure and Impact	Associated Activities
<i>Lighting and Ballast Retrofits</i>	
<p>Lighting systems often provide energy conservation opportunities that can mean significant cost savings.</p> <ul style="list-style-type: none"> ● The energy used for lighting can represent anywhere from 35% to 75% of a customer’s electric bill. ● The lighting loads can be greatly reduced by replacing lamps and ballasts. According to the Electric Power Research Institute (EPRI): “High-frequency electronic ballasts increase the energy efficiency of fluorescent lighting systems 6% to 29% compared to systems using electromagnetic ballasts. Upgrading to T-8 lamps at the same time can improve energy efficiency by up to 59%.” That’s a considerable improvement. 	<p>Survey technicians will perform a careful analysis of existing lighting fixtures. Specifically, SBEA survey technicians will perform the following tasks:</p> <ol style="list-style-type: none"> 1. Determine the types of lamps (T-12, T-8, etc.) 2. Determine the types of ballasts (electronic or magnetic) 3. Determine the quantity of each type of lamp 4. Determine the hours of operation 5. Determine the appropriate retrofit options 6. Determine the pre- and post-retrofit energy consumption to calculate the savings 7. Calculate the implementation costs 8. Calculate the payback
<i>Programmable Thermostats</i>	
<p>Thermostats are the simplest way to provide automatic control of heating and cooling loads to conserve energy. The <i>Energy Savers Program</i> promotes programmable, setback, thermostats, which offer special advantages to our target population:</p> <ul style="list-style-type: none"> ● They let customers select different settings for day and night periods and for days of the week. ● They are very economical, with costs ranging from \$100 to \$200. ● When employed with the appropriate setback strategy, they can, in some cases, reduce heating and/or cooling energy consumption by 15 – 20%. 	<p>When SBEA verifies the installation of the energy efficiency measures, we maximize the efficiency of the thermostat:</p> <ol style="list-style-type: none"> 1. Verify that it works properly and the time is set correctly 2. Ensure that the controls are tamper-proof (if desired) 3. Incorporate heating and cooling “dead bands” 4. Make sure it is installed on an inside wall 5. Make sure that it is not located next to sources of heat or cold, including locations with drafts or direct sunlight <p>SBEA survey technicians also will take the time to explain the benefits of resetting room thermostats.</p>

Measures and How They're Accomplished

Measure and Impact

Associated Activities

Package Unit Replacement

Older air-cooled package unit air conditioners are usually very inefficient, especially if they are not equipped with economizer cycles. Economizer cycles are components of package units that make it possible for economical "free cooling." This feature makes it possible to condition the building with cool outside air instead of running the air conditioner.

"Early retirement" of older package units with newer more efficient units with economizer cycles can provide energy savings up to 50%.

Replacing older package units will consist of these tasks:

1. Determine whether the existing package unit qualifies.
2. Make arrangements to select a new unit appropriate for the location.
3. SBEA will direct contractors to remove the old package units and install the new ones.

Air-Conditioning Tune-ups

Heating, ventilation, and air-conditioning (HVAC) systems require regular maintenance.

- Proper maintenance improves energy efficiency and extend the life of the HVAC equipment.
A clean unit operates more efficiently and requires less energy use by the compressor.
A tune-up can provide from 5% to 30% energy savings in package unit air conditioner energy consumption.
- We will inspect air-cooled package unit air conditions up to 20 tons, and make recommendations for tune-ups as appropriate.
- Tune-ups will be completed by selected contractors.

Specifically, SBEA will direct contractors to perform tune-ups that will consist of the following tasks:

1. Verify that the site is a qualified customer by checking the site meter and bills
2. Perform an inventory of functioning package unit equipment. (Specified tune-ups do not include package terminal units, i.e., window units.)
3. Determine the general condition of the package units
4. Measure the refrigerant level of each package unit
5. Determine whether the units have economizer cycles (EC) and if so, the type of controls (Dry Bulb Temperature or Enthalpy), and verify the operation of the EC dampers
6. Inspect the air filters
7. Identify the type of space temperature control and the temperature settings at the time of the inspection
8. Measure and record each unit's electric performance at the time of the audit, before and after cleaning the condenser and evaporative (cooling) coils
9. Clean condenser and evaporative coils and straighten the coil fins if necessary
10. Inspect suction line insulation
11. Provide a report outlining recommended corrective measures

Measures and How They're Accomplished

Measure and Impact

Associated Activities

Refrigeration System Tune-ups

Refrigeration systems require regular maintenance.

- Proper maintenance improves energy efficiency and extends the life of the refrigeration equipment.
A tune-up can provide from 5% to 30% energy savings in package refrigeration system energy consumption.
- We will inspect self-contained units and split systems up to 10 tons, and make recommendations for tune-ups as appropriate.
- Tune-ups will be completed by selected contractors.

Specifically, SBEA will direct contractors to perform refrigeration system tune-ups that will consist of the following tasks:

1. Verify that the site is a qualified customer by checking the site meter and copies of bills
2. Perform an inventory of functioning refrigeration equipment and determine unit size (tons)
3. Determine the general condition of the systems
4. Measure the refrigerant level for each system
5. Identify the type of refrigerated storage area temperature control and the temperature settings, and determine whether settings seem appropriate for the given application
6. Measure and record the units' electric performance at the time of the audit, before and after cleaning the condenser coil
7. Clean condenser coils and straighten the coil fins if necessary
8. Inspect evaporator coil and suction line insulation
9. Provide a report outlining any recommended corrective measures

Coordination with Other Relevant Programs

ASW Engineering has a formal agreement with a companion firm RLW Analytics, Inc., located in Sonoma, California. This company is proposing to continue to implement the *Energy Savers Program* in their area with their own program goals and regions. The partnership between RLW and ASW Engineering involves a regular interchange of ideas in order to maintain a uniform implementation of the program. We combined the EM&V tasks through a single company to help minimize the budget for that service and to maximize program evaluation. Also, we combined resources for creating and managing the SBEA website (www.sbeaonline.com). We also exchanged customer leads when we received calls from customers from the other's territory. If the South Bay Energy Rewards program is accepted, we also will be able to provide internal coordination with this program in the same way as with RLW.

The Small Business Energy Alliance is an ENERGY STAR[®] for Small Business Partner. We can let customers know of the many benefits this EPA program offers. Both Jerry Lawson, head of EPA's ENERGY STAR for Small Business (ESSB), and Geri Reinhart, vice president of Lisboa, EPA's ad agency, have been very impressed with the formula, outreach and success of the SBEA program. They have discussed with our marketing resource numerous ways in which SBEA could rely on ESSB resources to put more clout into our marketing, and at the same time, ESSB

could extend its brand recognition in the California marketplace. In the most recent conference call with Geri Reinhart, she stated that ESSB is prepared to make SBEA an exemplary program and include a profile of it in the national ENERGY STAR newsletter.

In addition, both to benefit the customers and to support other energy efficiency programs sponsored by state and local agencies, we encouraged participating customers to seek other opportunities for implementing cost-effective energy efficiency measures outside the scope of the *Energy Savers Program*. In the 2002-2003 implementation, our surveyors handed out to customers information on other programs including:

- The “Light Wash Program,” a state-wide program to encourage participation by commercial and multi-family customers in the Clothes Washer Rebate Program.
- The “Energy Smart Grocer” program which provides rebates for retrofitting with energy efficient refrigeration systems.
- The CPUC’s state-wide “Express Efficiency” program which offers rebates and incentives for new air conditioners, energy efficient motors, refrigeration system upgrades, and other measures outside the scope of our program, and for instances when the rebate amount for certain energy-efficiency measures exceed ASW incentive amounts.
- Programs for reflective window film, insulation, and more. For small businesses in the rural areas we may address rebates for drip irrigation and low-pressure sprinklers.

In the future implementation of the program we will continue to help maximize customer benefits with information on other beneficial programs. *Energy Savers Program* personnel will continue to:

- Inform customers of other local and state programs they might participate in and describe the general features and benefits of those programs
- As appropriate, provide customers with promotional and informational material (brochures, flyers, response cards, summary sheets, etc.) for other relevant programs
- Help avoid potential “double-dipping” by doing the following:
 - Have the business owners sign an agreement stating they will not participate in other programs that offer incentives or rebates for the measures they implemented through the *Energy Savers Program*
 - Report to SCE at least monthly which businesses have participated in the *Energy Savers Program* and what measures they implemented through the program

How the Proposed Program Differs from Existing Related Programs

The SBEA program as it is implemented by ASW Engineering and its partner RLW is a one-of-a-kind program for small businesses. We will again employ a unique blend of activities and techniques to achieve program objectives:

- Conduct a two-year energy audit and retrofit program
- Provide small business owners a survey of energy use at no cost to the business
- Conduct educational activities targeted toward business owners and toward building managers
- Offer financial assistance in the form of incentives
- Reduce the electricity use for individual businesses

B. Marketing Plan

In the 2001 pilot program, Geltz Communications (SBEA's marketing resource) designed and tested several marketing approaches to determine which was the most successful in reaching small business owners and motivating them to participate, then developed a successful marketing strategy for the remainder of the pilot program and for the 2002 – 2003 state program. Geltz has agreed to continue the marketing effort for the 2004 – 2005 *Energy Savers Program*.

A systematic, targeted approach to identifying eligible customers and contractors is key to program success. The small and very small business markets have been very difficult to reach and extremely hard-hit by rising energy costs and the economic downturn. Our experience underscores the Commission's belief that one way to overcome many of the barriers in this market is to develop local programs that utilize local relationships, networks, and communication channels.

We have developed a variety of synergistic relationships with trade associations, city governments, contractors, and property managers to accelerate the acceptance of the program by small business owners. Techniques that were effective in the previous program and will be used in the 2004 – 2005 program are:

- Market through trade associations and chambers of commerce to enroll customers and to inform opinion leaders who can influence customers.
- Work with local contractors and coordinate marketing efforts with cities and local agencies.
- Market to appropriate property managers, who have been very receptive in the past.
- Form pools of contractors who agree to participate in the program and to develop justifiable costs for the program measures.

The marketing strategy is designed to overcome the barriers in our target market, in that it:

- Capitalizes on general concerns about the price and availability of energy.
- Capitalizes on our knowledge and use of existing communications channels and cross-markets other energy efficiency programs.
- Targets small businesses in the most appropriate Standard Industrial Classifications (SIC) for the SBEA program. We have learned that small business customers who experience the following are the most likely to benefit from the SBEA retrofits:
 - Long operating hours
 - High lighting, HVAC, and refrigeration demand and end use intensity.
- Emphasizes the many benefits of the retrofits.
- Includes a strategic use of the most effective forms of traditional outreach, including (in order of effectiveness) person-to-person visits with leave-behind program brochures, contact of property managers, direct mail, publicity through trade associations, local media and trade show booths at community business fairs and other events. In addition, we will attempt to influence opinion leaders as change agents and engender word of mouth referrals from satisfied SBEA customers.
- Engages the support, endorsement and active participation of the following entities:
 - Small business owners already having installed the measures who are willing to share their testimonies
 - Various Chambers of Commerce

- City and regional economic development offices, small business incubators business liaisons and business permitting and licensing offices
- Local offices of the Small Business Administration and the local Small Business Development Centers
- Other community-based and environmental organizations as identified by Geltz
- Capitalizes on our knowledge of the particular benefits and challenges of working with small business in outlying communities and areas
- Capitalizes on our experience in working with ethnic small business groups

We will then ensure that once the customer enrolls in the program, he or she has one point of contact and a smooth, no-hassle relationship with SBEA throughout the process. We will use the resulting testimonies of satisfied small business customers to create a momentum that engenders market pull for the program services. The effectiveness of the marketing strategy will continually be monitored and adjusted to leverage marketing budget for maximum program effectiveness and goal attainment.

Marketing Campaign Components, Distribution, and Estimated Cost

Component	Description
<i>Awareness Development</i>	<p>A comprehensive public relations and limited advertising campaign targeted at general, business and trade media on a local and regional level to build general awareness among small business customers and the entities that represent them.</p> <p><i>Distribution & Quantity</i></p> <ul style="list-style-type: none"> ● Geltz will develop press releases announcing “new and improved” Energy Savers program and submit them to media list developed in 2002-2003 program as well as new general and community outlets in additional new service areas. ● We will also submit story leads to general, community, and trade media editors based on success stories from the past and gear them toward the specific area or SIC of the target audience. ● In areas in which local governments and community business organization have provided assistance in promoting the program, we will lay out and insert small ads thanking the government entity and listing the small business customers (with their signed release on file) that signed up as a result. ● Finally, we will complete the work begun with ENERGY STAR for Small Business and launch 30-second ESSB TV ads featuring Edward James Olmos in English and Spanish that reference SBEA as the local contact point. These will be aired as public service announcements via the TV outlets developed in the 2002-03 program. If budget allows, we will coordinate this with print ads using photography stills from the ad. <p><i>Estimated Cost</i></p> <p>Labor: \$12,000 Direct Cost: \$20,000</p>

Relationship Building

An information and relationship-building campaign targeting trade associations, city redevelopment and business retention agencies, various Chambers of Commerce, and small business assistance entities in the targeted areas and cities. This would include such components as articles included in the organizations' newsletters and personal appearances on their meeting agendas.

Distribution & Quantity

- Approximately 2 articles each published in 20 organizations' newsletters
- Approximately 1 personal appearance each at 15 relevant meetings
- Approximately 1,000 letters with revised SBEA brochures mailed to contacts

Estimated Cost

Labor: \$12,000 Direct Cost: \$10,000

Contractor Recruitment

A contractor qualification and recruitment campaign targeting lighting and air conditioning contractors that would expand our client base and extend the geographic reach of the program.

Distribution & Quantity

Approximately 10 contractors recruited.

Estimated Cost

Labor: \$2,000 Direct Cost: \$1,000

Small Business Owner Recruitment

An in-person small business owner recruitment campaign using a print brochure containing basic program features and benefits along with enrollment information that can be easily customized for use among particular business types and geographical regions. This brochure would also be distributed in person to potential enrollees and given in bulk to trade associations, city agencies, Chambers of Commerce, and small business agencies for distribution among their membership and clientele. It will be made available in other languages for use with specific ethnic groups. This effort would also include trade show booth appearances at community and regional events in outlying communities in such areas as the Antelope Valley and the Coachella Valley areas.

Distribution & Quantity

- Approximately 2,000 brochures distributed directly to business owners
- Approximately 5,000 additional brochures distributed through trade associations, city agencies, small business agencies, and Chambers of Commerce
- Approximately 5 trade show booth appearances

Estimated Cost

Labor: \$7,000 Direct Cost: \$4,000

Property/Leasing Manager Recruitment

A property manager/leasing manager campaign using a print brochure that summarizes the offering for tenants and highlights the property value-enhancing benefits of the program. Geltz would also work with city agencies that have close ties with property managers of city-subsidized shopping malls.

Distribution & Quantity

- Approximately 1,000 brochures distributed directly to property managers.
- Approximately 2,000 brochures distributed through city business license desks and city business development officials.
- Approximately 20 meetings with city-subsidized shopping mall liaisons.

Estimated Cost

Labor: \$7,000 Direct Cost: \$2,000

Public Web Site

A web site supporting all aspects of the program, offering program information, easy on-line registration for small businesses and property managers, and a wealth of further energy efficiency information and resources. This can be customized to include specific pages devoted to particular remote areas and offerings by city agencies and various ethnic groups.

Distribution

- Available to all with Internet access — web site will be promoted through meetings, TV and print ads, newsletters articles, revised brochures, etc. and through links on 20 sites, such as ENERGY STAR for Small Business, the Community Environmental Council, city recycling and environmental web pages, and economic development corporations like Southwest Riverside County Economic Development Corp.

Estimated Cost

Labor: \$5,000 Direct Cost: \$8,000

Coordination with Parties Funded for Statewide Marketing

We will continue to coordinate marketing efforts with other parties such as the state Flex Your Power campaign and third party implementers such as “Energy Smart Grocer” and the “Light Wash Program.”

Marketing Campaign Critical Success Factors

Two factors that have been crucial to the success of marketing the 2002 – 2003 *Energy Savers Program*, which also are incorporated in the 2004-2005 marketing plan are:

- A simple, direct customer interaction model
- A focus on appealing measures

A simple, direct customer interaction model

1 Educate the Customer

Actively inform customers about their options for energy efficiency measures

Unlike many contractors, we are not merely order takers; and, unlike most installers, we have significant one-on-one interaction with customers.

2 Justify the Expense

Explore cost-benefit issues and put the customers together with incentive programs that make the projects more affordable

We help customers recognize the “hard benefits” they can realize through implementing selected energy efficiency measures, and help them identify financial incentives such as matching funds and co-funding.

3 Facilitate the Process

Make it as easy as possible for the customer to participate in the program

We help customers decide what’s best for them, then help them make it happen. We bring screened contractors directly to the customer, do the necessary paperwork for the customer, and coordinate with contractors for installation and payment arrangements.

4 Follow Up

Serve as customer advocates

We are conscientious and diligent, following up and verifying 100% of installations, which helps ensure successful implementation and also helps to confirm kW and kWh savings.

We assure a quality job and ensure customers are satisfied with the work that was done.

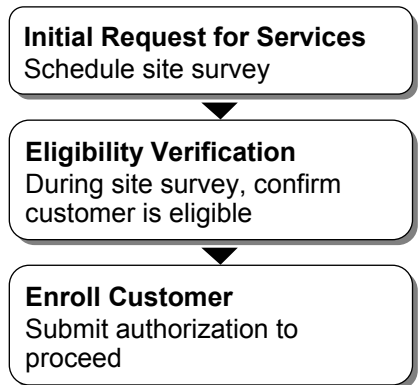
We also help keep them satisfied by showing them how to make the best use of the technologies they implement (e.g., using the programmable thermostat; operating the lighting efficiently, etc.) and by letting them know of other energy efficiency programs they might be interested in.

C. Customer Enrollment

Customers begin the enrollment process by contacting SBEA and requesting an *Energy Savers* site survey.

During the site survey, we confirm that the customer is eligible for the program and recommend any or all of the five program measures, based on the findings of the site survey.

At the conclusion of the site survey, customers enroll to participate in specific program measures by completing an authorization to proceed form.



Initial Request for Services

The enrollment process begins when customers contact us to request an *Energy Savers* site survey and provide us with the basic information about their business (type of business, location, contact information, etc.). There are three ways in which customer may submit an initial enrollment application for the *Energy Savers Program*:

- Give us a filled-in hard copy of the application form — either by mailing it in or by giving it to an appropriate representative at a trade show, educational outreach session, etc.
- Submit an application online, at the SBEA website
- Call our toll-free phone number and sign up with our representative's assistance

Once customers have completed the initial enrollment, we will contact them and schedule an on-site survey of the business by a survey technician.

Eligibility Confirmation during Site Survey

During the site visit, the survey technician performs an inventory of relevant equipment, presents the customer with a simple cost-benefit analysis for the *Energy Savers* measures recommended for the site, and asks if the customer wants to enroll to implement the recommended measures through the program.

Before asking customers to sign up for program measures, the survey technician checks the site meter and reviews the business's electric bills to confirm that the customer is eligible for the *Energy Savers Program*.

Program Enrollment

Customers who want to enroll and implement the recommended program measures fill in an authorization to proceed form and give it to the survey technician. (If a customer wants to further consider the recommendations, or discuss them with associates, the survey technician may leave the authorization form with the customer, and the customer may submit the form at a later date.)

When customers sign the authorization to proceed form, they also agree that they will not take advantage of any other program offering rebates or incentives for the same energy efficiency measure.

D. Materials

When customers sign up for specific measures under the *Energy Savers Program*, they may authorize any or all of the five measures that the program encompasses.

- Three of these measures include equipment purchase and installation (lighting, thermostats, and package unit air conditioners).
- The other two measures include tune-up services for existing equipment (package unit air conditioners and refrigeration systems).

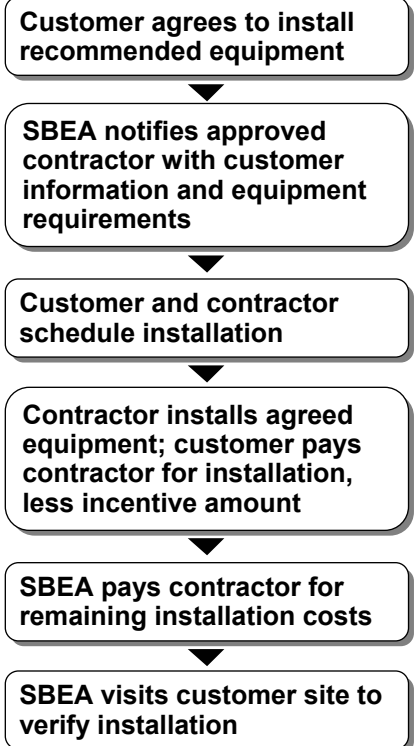
All of the lighting and thermostat equipment that is to be installed has been pre-selected, and after program implementation, the qualifying package unit equipment will be determined. This assures everyone of the quality of the products and establishes the costs. This means that, at the time of the survey, the survey technicians are able to determine exactly what equipment is required for the upgrade and its cost. The survey technicians send this information to the contractor who verifies the pricing. The customer signs a contract with the contractor agreeing to pay their share of the matching funds. SBEA then pays the contractor the remaining portion, after the survey technician visits the site and confirms the installation.

In the 2004-2005 implementation, we anticipate replacing approximately 27 rooftop package units per year. The main target for the this part of the program are air-cooled package units that are 10 years old or older with no existing economy cycle (free cooling) that are ready for “early retirement.” We will be removing operating older units that are operating inefficiently and replacing them with efficient models with economy cycles.

Procurement, Delivery, and Installation Procedures

The equipment purchase and installation process begins when a customer authorizes implementation of these measures.

- When customers authorize a recommended lighting measure, they agree to purchase and install a specific equipment in specific locations.
- When customers authorize installation of a programmable thermostat, ASW selects the thermostat.
- When customers authorize installation of a new rooftop package unit air conditioning unit, they will select from an established list of units, based on the size of the installation. The old unit will be removed and the new one installed.
- The cost of the equipment and installation is specified at the time the agreement to proceed is made.



When an existing roof top package unit is inspected for possible tune-up and it is apparent that the unit is very much past its useful life, a new unit will be recommended. The expected life of a roof top air conditioner is 18 years, and a unit of that age is probably operating at an EER of less than 8 and probably won't have an functioning economy cycle. The new units recommended by the program will have an EER of 11 or greater and will incorporate an economy cycle. SBEA will evaluate the site for proper sizing of the new unit, assist the property owner in the equipment selection, and will contact the installation contractor.

The tune-up measures included in the *Energy Savers Program* do not involve equipment purchase or installation. Rather, they involve the purchase of specific services from a contractor. The process involved is essentially the same as that described for equipment installation. Tune-up tasks include:

- Clean evaporator and condenser
- Check refrigerant level
- Inspect filters
- Inspect suction line insulation
- Take before and after electrical ratings

Equipment Specifications and Installation Standards

Energy Efficient Lighting Systems

Specifications: T-8 retrofit will be “second” or “third generation” equipment; minimum 24,000 hours, CRI 80 or higher, with electronic ballast; name brand products, such as Sylvania and GE, etc. When T-8s are being installed for general illumination, instant start ballasts will be used.

Compact Fluorescent lamps will require electronic ballasts and must be ENERGY STAR qualified. Power factor must be 0.90 or greater, and THD 20% or less. HID pulse start lamps: metal halide fixtures under 400W must be pulse start.

Installation Standards: Professional licensed contractors

Programmable Thermostats

Specifications: 7-day programmable; name brand such as Honeywell and Carrier

Installation Standards: Professional licensed contractors

Rooftop Package Units

Specifications: Energy efficient package units, rated at 11 EER or higher depending on size; name brand products, such as Carrier, Trane, and York

Installation Standards: Professional licensed contractors

E. Payment of Incentives

Program Incentive Amounts

The *Energy Savers Program* costs are based on one simple premise: offering to match the funds spent by utility customers on implementing energy efficiency programs. “Matching funds” (50% incentive and 50% customer participation) is language small businesses understand.

Another key feature of the program is that customers are immediately credited the incentive dollars at the time of purchase and installation. In other words, there is “zero turnaround time.”

We propose that the program offer customers:

- An incentive of 13 cents per calculated kWh saved for lighting upgrades (capped at 50% of the installed cost)
- Up to \$100 for thermostats (or half the installed cost, whichever is less)
- Up to \$150 per ton for rooftop package units (split systems are not part of the program)
- Up to \$50 per air conditioner tune-up (or half the cost of the service, whichever is less)
- Up to \$75 per refrigeration system tune-up (or half the cost of the service, whichever is less)

Business owners who lease a facility typically are reluctant to invest in energy efficiency measures when they perceive that they will reap the benefit only for a relatively short period (the length of the lease).

However, our survey technicians remind property owners that they and their facilities will benefit for the lifetime of the measure with improved property values. We encourage property owners to approach their tenants with an offer to split the incentive with the tenant. This technique has proven very successful—tenants are more likely to participate in the program and share in the energy savings.

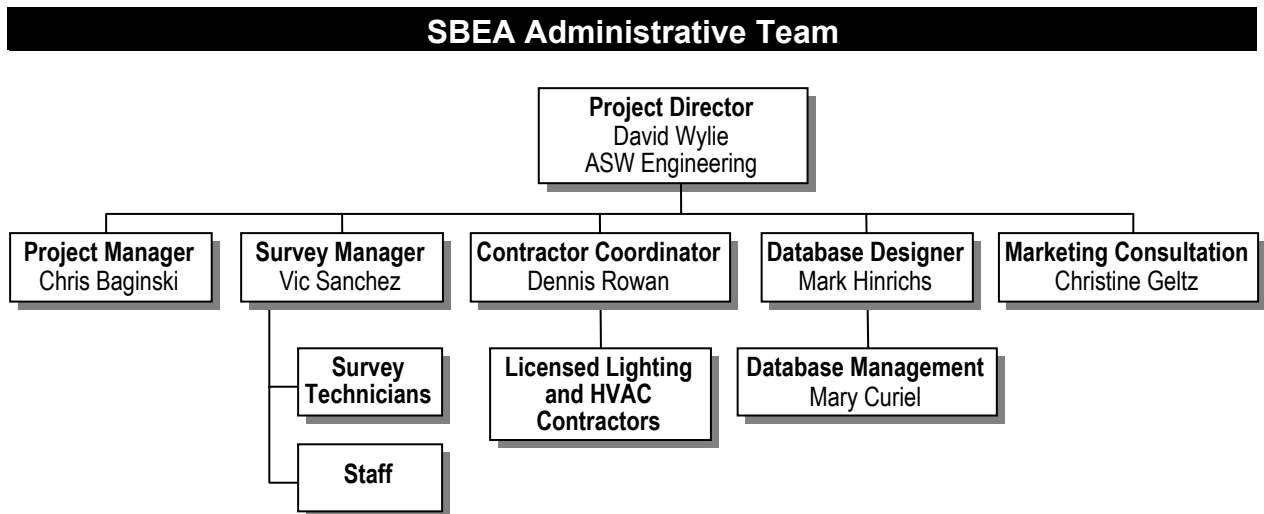
Incentive Payment Process

After customers formally agree to participate, incentive money is allocated and SBEA coordinates and monitors the implementation.

- The survey technician notifies the contractors and schedules the installation with the business owner.
- The survey technician and contractors resolve any possible issues, and answer any questions the business owner may have.
- The customer signs a contract with the contractor agreeing to pay for their share of the work.
- After the work is performed, customers are credited with the incentive amount, and pay the contractor for their share.
- SBEA pays the remainder to the contractor, and bills the state for the incentive compensation.

F. Staff and Subcontractor Responsibilities

To assemble the SBEA team, ASW Engineering Management Consultants will draw on its wide network of professional contacts. In addition to its core employees, ASW will receive assistance from professionals in the fields of marketing, education consulting, data analysis programmers and evaluators, and more.



ASW Engineering brings a long history of successful energy efficiency programs and customer surveying. The SBEA team offers a depth of expertise in marketing and program development, project management, survey design and implementation, engineering and energy analysis, project implementation, and report writing.

- Project Director*** David Wylie, Vice President and cofounder of ASW Engineering, will be Program Director and will play a major role in the continued implementation of the program. David also helps determine program policy and protocols.
- Project Manager*** Christine Baginski will serve as day-to-day Project Manager and Engineer for this project, tracking all major activities, and monitoring progress relative to program goals, budget, and schedule milestones.
- Survey Manager*** Vic Sanchez will be responsible for supervising the implementation of all survey activities.
- Survey Technicians*** The survey technicians will be responsible for visiting customer sites to identify recommended measures, describe cost-benefit considerations, and gain the customer's agreement to proceed. Specifically, they will perform an inventory of what is installed at the business site (lighting, HVAC, and refrigeration equipment), calculate costs of proposed energy efficiency measures and present a simple cost-benefit analysis to the customer, and provide customers with list of energy efficiency tips and other information on how they can save on energy costs.
- They also will be responsible for visiting each customer where equipment has been installed under the program to verify the work has been completed and that the customer is satisfied with it.

Staff	ASW staff members will be responsible for responding to telephone inquiries, and helping customers enroll in the program. They also will assist in scheduling surveys, and provide ongoing clerical and administrative support as appropriate.
Contractor Coordinator	Dennis Rowan will expand the pool of eligible contractors, and will verify types of licenses (mechanical or electrical as appropriate), references from previous customers, liability insurance, comprehensive insurance, whether bonded, pricing agreements, equipment warranties, and more.
Licensed Lighting and HVAC Contractors	The licensed lighting and HVAC contractors will be responsible for implementing the specific measures identified for participating customers. That is, they will install the agreed-upon energy efficient lighting systems, programmable thermostats, and package units, and will conduct the package unit and refrigeration tune ups.
Database Design	Mark Hinrichs will be responsible for the continued design and integrity of the project database, and reporting modifications as required by the revised program.
Database Management	Mary Curiel will be responsible for day-to-day management and updates to the project database.
Marketing Consultation	Christine Geltz, will serve as marketing coordinator for this project. She will provide overall direction for the marketing effort, supervise and quality-assure the design, development and implementation of all marketing components, and participate in those marketing activities requiring personal appearances (trade shows, association meetings, etc.)

G. Work Plan and Timeline for Program Implementation

The implementation timeline for the *Energy Savers Program* is two calendar years. We propose to begin our program in January 2004 and continue through December 2005.

SBEA will begin work on this project within 30 days after we receive notice we have been selected to implement the program. The schedule of start dates and major milestones below and on the following pages assumes a start date of January 2004, but can be adjusted to the actual project start date.

Over the course of the program, we will continually make adjustments to improve the operation of the program. For the second year, we will “regroup” in January 2005 to reassess the program’s progress and success. We will closely examine what aspects are working and what aspects need to be expanded, improved, or fine-tuned for the second year.

Task or Major Project Milestone	Approx. Start
1 Project Initiation	
1.1 Agenda	January 2004
1.2 Project Startup Meeting	January 2004
1.3 Memo	January 2004
2 Develop Refined Work Plan	
2.1 Draft Program Plan	January 2004
2.2 Final Program Plan	January 2004
3 Review and Evaluate Marketing Strategies	
3.1 Expand Marketing Plan	February 1, 2004
3.2 Continue Marketing Efforts	on-going
4 Review Measure Selection, Descriptions, and Evaluations	
4.1 Expand Measures to include Package Units	February 1, 2004
4.2 Select Pool of Contractors for Participation	February 1, 2004
5 Review Survey Instruments, Measurement Strategy, and Customer Agreements	
5.1 Revise and upgrade Survey Instrument Design	February 1, 2004
5.2 Revise and upgrade Efficiency Measure Evaluation Forms	February 1, 2004
5.3 Revise and upgrade Customer Agreements	February 1, 2004
6 Review On-Site Data Collection	
6.1 Training	February 1, 2004
6.2 Enrolling, Recruiting, and Scheduling	on-going
6.3 On-Site Data Collection for Free Survey Begins	February 1, 2004
6.4 Measurement Installation and Coordination of Customer Agreements	on-going
6.5 Measurement and Verification	on-going

Task or Major Project Milestone	Approx. Start
7 Review Efficiency of Program Tracking Database	
7.1 Modify and expand program agreements, equipment specs	on-going
7.2 Continued development of Database and Status Tracking Tool	on-going
8 Project Management	on-going
8.1 Year One Monthly Reports	monthly
9 Project Review and Assessment	
9.1 Agenda	as required
9.2 Project Reassessment Meeting	as required
9.3 Memo	as required
10 Draft Program Final Report	March 2006
11 Final Project Meeting	March 2006
12 Final Report and Database	March 2006

III. Customer Description

A. Customer Description

For the 2004 – 2005 implementation of the *Energy Savers Program*, we are proposing a “Local Program” that will continue to provide energy audits and incentives to “very small” to “medium” hard-to-reach and underserved businesses in the Southern California Edison territory in Santa Barbara, Ventura, San Bernardino, and Riverside counties, and parts of Los Angeles and Orange County. A majority of the businesses will be in the hard-to-reach geographic areas outside the Los Angeles basin, the remainder inside the Los Angeles basin. The businesses must reside in areas served by Southern California Edison.

The targeted sectors include Commercial, Industrial, Institutional, and Schools.

Customer Size and Target Market Segments

The proposed *Energy Savers Program* is directed toward:

- The Commercial market segment
- The “Nonresidential Hard-to-Reach” customer who may exhibit one or more of the following participation barriers:
 - Language – Primary language spoke is other than English
 - Business Size – Less than ten employees and/or classified as Very Small (annual electric demand less than 20 kW)
 - Geographic – Businesses located outside the Los Angeles basin
 - Lease – where investments in improvements to the building benefit the business only during the lease period; landlords benefit longer.
- The “Nonresidential Hard-to-Reach” customer segment in the following subsectors:
 - Very Small Nonresidential
 - Small Nonresidential
 - Medium Nonresidential

Summary of Target Population		
Customer Category	Annual Electric Demand	Est. % of Total Target Pop.
Very Small Nonresidential	less than 20 kW	50%
Small Nonresidential	between 20 kW and 100 kW	25%
Medium Nonresidential	between 100 kW and 500 kW	25%

Market Actors Targeted and Description of “Hard to Reach” Characteristics

The Market Actors targeted include Nonresidential Building, Facility, Plant Manager; Corporate Management; Business Owner; Local/County/State Government; Product Manufacturer; Nonresidential Building Owner; Renter; Retailer; School Administrator/Teacher.

Many of the targeted customers are considered “hard-to-reach” because of business size (very small businesses) and due to their geographic location (they reside in outlying regions and small or rural communities that are less well served). Others are considered “hard-to-reach” because of language or due to the lease (split incentive) barrier.

Below is a summary of key characteristics of our target population and how the program is designed with these characteristics in mind.

Key Characteristics of the Target Population

Statewide research and previous implementations of the *Energy Savers Program* have taught us the following about small business owners:

- Small business owners are very well aware of the state’s ongoing energy crisis (even though in some specific locations, small business owners are somewhat insulated from its effects).
- Many of them are willing to do no-cost and low-cost measures, but they often are unwilling to pay for more expensive measures if they are renters, especially if the payback period is more than two years.
- They are approached with many kinds of marketing offers for energy measures from energy service companies, whom the small business owners do not perceive as equally credible as the utility.
- Just because the utility (whom they perceive as the expert on energy matters) wants to give them something that will help them save money doesn’t mean that all small business owners will be motivated to take advantage of an energy efficiency program.
- The endorsement of a trusted third party such as a trade association makes a significant impact in breaking down their attitudinal barriers.
- For renters, the participation of their property manager in administering and/or financing their retrofit makes the most significant impact.
- Small business owners typically are engaged more than full time in running their business and uninterested in anything that interferes with business operations.
- For renters, the participation of their property manager in administering and/or financing their retrofit makes the most significant impact.

In addition, we have discovered the following about small businesses in outlying areas outside of the Los Angeles basin:

- They are harder to reach with mainstream outreach efforts delivered regionally, but more likely to heed messages delivered on a local level than their suburban counterparts (due to more “noise” and distractions in the big city).
- Their local city small business agencies are more likely to endorse and help deliver a program such as this, since these agencies must pour more resources into attracting and retaining small businesses than their urban or suburban counterparts.
- They are likely to live in the same community as their business, and more likely to turn out for community events than their urban or suburban counterparts.

B. Customer Eligibility

Only businesses that are Southern California Edison customers with an electric demand less than 500 kW are eligible.

- Survey technicians, prior to the site survey, will verify that the business is a qualified customer on the correct electricity schedule.
- Most likely this will include small business customers with less than 75,000 kWh/month.

C. Customer Complaint Resolution

ASW has successfully implemented the *Energy Savers Program* for the pilot program in 2001 and the current 2002-2003 program and have in place procedures for responding to consumer questions and complaints.

1. ASW has set up a toll-free hotline for all customer inquiries. Our phone number is (888) 759-9800. This phone line goes directly to the Energy Savers Program administrator. When the administrator is on the phone or unavailable, the caller is connected with an answering machine. The administrator is fluent in English and Spanish.
2. Our program administrator has a working database at her desk. If the customer is on file, she can access the status of the customer's services through the Small Business Energy Alliance (SBEA) database. If it is a new inquiry, we record the caller's name, phone number, address, the best time to call, and the specific question or complaint the caller has.
3. In cases where the call is in reference to services being provided, we answer any questions we can and then pass on the information to the SBEA account representative for the caller's business. At that point, the account representative will attempt to answer questions or reconcile complaints.
4. Resolutions or sustained complaints will be recorded in our SBEA central database and under the accounts paper file.
5. In the event that the customer complaint is not resolved, an arbitrator who is acceptable to both parties will be selected to review the complaint. The arbitrator will be provided at ASW's expense.

D. Geographic Area

The 2004-2005 implementation of the *Energy Savers* program will be conducted in regions of the southern part of California, specifically, the hard-to-reach areas of Santa Barbara, Ventura, San Bernardino, Riverside counties, and rural areas of Los Angeles county. A majority of the businesses will be outside the Los Angeles basin, the remainder inside the Los Angeles basin.

The CPUC has indicated that programs targeting transmission constrained zones may receive added points. We point out that the Los Angeles basin covers all or portions of Santa Barbara, Ventura, Los Angeles, Orange and San Bernardino counties, and is considered a transmission constrained zone. (Source: 2004 Reliability Must-Run Technical Study of the ISO-Controlled Grid. May 2003, Prepared by: Grid Planning Department.)

IV. Measure and Activity Descriptions

A. Energy Savings Assumptions

Data Items and Source

The table below lists the data items that are used to calculate energy savings and the source for the type of data. Estimates have been derived using the following sources:

- Software developed by ASW
- Database for Energy Efficient Resources (DEER)
- Standard Performance Contracting lighting values
- Secondary sources
- Energy Policy Manual
- 2002 Energy Savers Data

Data	Source
Equipment costs	Lighting and HVAC contractor data
Energy and demand savings (kWh, kW)	<p>Regarding the lighting savings, the ASW software uses manufacturer data and our own experience in implementing the Energy Savers program (reported wattage) to calculate energy and demand savings. The Energy Savers database tracking system uses Standard Performance Contracting (SPC) codes and values for tracking lighting savings.</p> <p>Coincident peak demand is calculated based on the hours of operation reported by participant customers in 2002. Hours outside of the peak period (i.e., 12-6 PM, Monday – Friday) are not considered peak demand measures, only energy saving measures.</p> <p>The values used for kW and kWh for AC and refrigeration tune-ups came from the report study titled <i>Small Commercial A/C and Refrigeration Maintenance Program</i>, Draft Report, sponsored by the Sacramento Municipal Utility District (SMUD) Measurement and Evaluation Group, January 2001. These values are used in the ASW workbook, which calculates annual operating hours and kilowatt-hour consumption for HVAC equipment. HVAC load factors were calculated using data from local weather stations. We then apply a 5% savings multiplier.</p> <p>The energy savings estimates for programmable thermostats are established from the deemed savings based on reduced operating hours, as documented in the Southern California Edison <i>Book of Standards</i> and MARS program.</p> <p>All HVAC and refrigeration measures are considered coincident peak demand measures because they are weather sensitive measures.</p>

Discount rate	8.15% (from the August 2003 <i>Energy Efficiency Policy Manual</i>)
Net-to-Gross Ratios	From the August 2003 <i>Energy Efficiency Policy Manual</i> Table 4.2
Measure lifetime data	From the <i>Energy Efficiency Policy Manual</i> Table 4.1 Effective Useful Lives of Energy Efficiency Measures for the lighting and programmable thermostats and from the SMUD study for the AC and refrigeration tune-up estimates.
Avoided costs	From the <i>Energy Efficiency Policy Manual</i> , Tables 4.3, 4.4, and 4.5

B. Deviations in Standard Cost-effectiveness Values

Net to Gross and Effective Useful Lives of Energy Efficiency Measures (EULs)

The table below shows the applicable measures and the corresponding EUL values extracted from Table 4.1 of the Energy Efficiency Policy manual. For AC and refrigeration tune-ups, we have used an EUL of three years.

Measure	NTG	Lifetime
Lighting: T-8/T-5 Lamp and electronic Ballast	.96	16 years
HVAC Tune-up	.80	3 years
Refrigeration Tune-up	.80	3 years
HVAC: Set-Back Thermostat	.96	11 years
New Package HVAC Units	.96	15 years

Incremental Measure Costs

For each of the measures offered by the SBEA program, we have determined the incremental measure costs based on our matching funds design of the program, which is 50% incentive and 50% customer participation for all measures, except for new package units, which is 20% incentive and 80% customer participation. Therefore, for all measures except the package units, we have defined the gross Incremental Measure Costs as the incentive plus the customer's incremental measure cost to be equal to the gross incremental cost per unit by measure. In the 2002 program we implemented the same design, and based on the success of this program, propose the same approach for this version.

Per Unit Energy Savings Estimates

- **Lighting** — The estimated energy and peak demand savings are derived using software developed by ASW. This software takes a parametric approach to business size by kW demand, square footage, and hours of operations for different, typical businesses. Through our experience with the 2002-2003 *Energy Savers Program* we have learned that this is a quite accurate predictor.
- **Programmable Thermostats** — We are assuming savings of 8% of annual kWh available. There are no demand savings resulting from this measure.
- **AC and Refrigeration Tune-ups** — The Database for Energy Efficient Resources (DEER) does not list AC or refrigeration tune-up as measures. Therefore, we have developed conservative estimates of energy savings. For AC tune-ups, estimates are based on cooling capacity, load factor, operating hours, and a 5% increase in system efficiency. The average 4.5% demand savings and 5% energy savings are in line with the results demonstrated in a study performed for the Sacramento Municipal Utility District and documented in the report titled “Small Commercial A/C and Refrigeration Maintenance Program” Draft Report, January, 2001.
- **Air Conditioning Replacement**—The unit Energy Efficiency Ratio (EER) is a reliable indicator of the unit’s power consumption and when used with standard practice to estimate annual cooling load, for a given facility at a given geographic location, a delta energy savings can be derived. The cooling load calculation will be done in accordance with American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) standards, DOE-2 simulation runs, and site-specific facility use and location.
- **Net-to-gross Ratio** — We applied the appropriate Net-to-Gross Ratio (NTGR) that is used to estimate “free-ridership” for the Program. NTGRs are used to estimate the free-ridership that occurs in energy efficiency programs. Free riders are “program participants who would have undertaken an activity, regardless of whether there was an energy efficiency program promoting that activity or not.”
 The NTGRs do exist in the DEER for the measures we are proposing. However, in all cases we have decided to use the NTGR the utilities used when filing their Express Efficiency programs.
 - For lighting and programmable thermostat measures, we have used a NTGR of .96, which is consistent with SCE’s 2002 Express Efficiency Program filing.
 - For both AC and refrigeration tune-up measures, we have used a NTGR of .80.

C. Rebate Amounts

Rebate Rationale and Amounts

- **Lighting Measures:** The SBEA will pay \$0.13 per kilowatt-hour saved, up to 50% of the total project cost.
- **HVAC Tune-ups:** The SBEA will pay \$50.00 per tune-up, or about half the cost.
- **Refrigeration Tune-ups:** The SBEA will pay \$75.00 per tune-up, or about half the cost.
- **Programmable Thermostats:** The SBEA will pay \$100.00 per t-stat, or about half the cost of the equipment and professional installation.
- **HVAC Replacements:** The SBEA will pay \$150.00 per ton of cooling.

D. Activities Descriptions

In this section we discuss activities the program will undertake that will not directly produce energy savings. These are the indirect direct implementation program activity requirements conducted by the SBEA survey technicians.

Site Visit to Introduce Program (Customer Cold Calls)

The SBEA survey technicians conduct cold calls using the “feet in the street” approach. During the cold call visit customers are asked if they would like to receive an SBEA energy audit at no cost. The SBEA representative gathers information such as address, business name, and other business characteristics. Cost: \$38. Unit goal: 1,750.

Walk Through Audit

Customers agreeing to the energy survey receive an SBEA walk through audit, which includes the applicable measures covered by the SBEA program. SBEA surveyors also look for other opportunities that customers might implement on their own, or through the assistance of another program. The surveyors gather customer information such as SCE rate schedule, customer size, and more, as well as equipment information required to make energy saving recommendations.

The survey information is presented to the customer either on-site using portable computers and printers or for more complex sites, after a more detailed analysis is completed. Cost: \$175. Unit goal: 1,000.

Project Documentation and Follow Through

The SBEA survey technician will continue to follow-up with the customers until a decision is made regarding measure implementation. The SBEA survey technician works with the customer to complete all necessary paperwork, identifies the contractor (or contractors) that will complete the work, and works with the customer and contractors to successfully implement the measures. The SBEA survey technician becomes the customer’s agent for completing the work, thereby allowing the customer to go about business as usual. Cost \$58. Unit goal: 1,000.

Field Installation/Site Verification

When the work is completed, the SBEA survey technician inspects the installation. Once the customer and SBEA survey technician agree that the installations are complete and satisfactory the customer is asked to sign a project approval form. The program tracking system is updated (as required) and signed documents are added to the project file. Cost \$116. Unit goal: 750.

Cost-Effectiveness Calculations

Cost-effectiveness is an indicator of the relative economic benefits that investing in an energy efficiency measure will provide compared with the costs of the energy that would be produced and delivered without the investment. In this section we provide an estimate of life-cycle benefits and costs. As requested by the CPUC, SBEA will provide projected data as well as updates on a periodic and ongoing basis.

The methods used to estimate the program's cost-effectiveness are:

- The Total Resource Cost test, which measures the overall cost-effectiveness of the program from a societal perspective
- The Participant Test, which measures the cost-effectiveness of the program from the perspective of California energy consumers.

These tests are described in the *California Standard Practices Manual (SPM): Economic Analysis of Demand-Side Management Programs*. ASW Engineering used the software provided on the CPUC web site (the on-line spreadsheet Version 3) to generate the calculations used in this proposal. With this proposal we have submitted an electronic spreadsheet file (a Microsoft Excel workbook), that contains the projected electricity (kWh) and peak demand (kW) savings for the program and the required cost information. The contents of this Excel workbook include all the factors, assumptions, and formulas that are needed to create a program budget and data used with the Total Resource Cost (TRC) — Societal Version and the Participant Test. We have used the output from our workbook directly in the CPUC's TRC spreadsheet.

TRC and Participant Test Results

The anticipated Total Resource Cost Test (TRC) Ratio, TRC Net Benefits, and Participant Test Net Benefits are summarized below.

Cost Effectiveness Tests		
TRC Ratio	TRC Net Benefits	Participant Test Net Benefits
1.5526	\$2,293,659	\$16,136,172

The total net energy savings attributed to this program are 9,681,383 kWh, and 2,109 net coincident peak kW.

V. Goals

Two of the primary purposes of the SBEA *Energy Savers Program* is to provide:

- Permanent and verifiable long-term annual energy savings over the life of the measures
- Long-term and permanent electric peak demand savings over the life of the measures

The total program goals will be a gross usage reduction of approximately 10,200,000 kWh and 2,100 kW demand reduction over the course of the two years of the program.

The actual kWh savings resulting from the program will extend well over the two years of the program. The electronic ballasts, T-8 fixtures, and T-8 lamps with electronic ballast lighting equipment components have effective useful lives of 16 years.

We anticipate implementing approximately 800 energy efficiency measures. We anticipate that the distribution of participating small business customers to be:

- 50% very small customers
- 25% small customers
- 25% medium customers

Total program savings is calculated as the approximate number of customers times the number of kWh saved and the kW reduced that result from implementing the energy efficiency measures. We anticipate that the total program cost will reflect approximately \$0.13 per kWh saved.

Estimated Energy and Peak Demand Savings

The estimated energy and peak demand savings cited above were derived using software developed by ASW. This software takes a parametric approach to business size by kW demand, square footage, and hours of operations for different, typical businesses.

Outputs from these tables illustrate the baseline distribution we developed for this proposal. As the actual enrollment of businesses begins, ASW will enter specific site characteristics and quantities in the software tables to calculate a real-time measure of savings potential. Demand varies up to 450 kW. The square footage varies proportionately to an average of 6 Watts per square foot for these businesses. Business hours per week vary from 50 to 140 hours/week.

Baseline lighting levels of 1.8 Watts down to 1.1 Watts per square foot are used. (These reflect a change from T-12 with magnetic ballast to T-8. The lighting changes, including a change to compact fluorescent lamps, produce interactive savings for air conditioning.) Future lighting levels are estimated to be 1.0 Watts per square foot. Then based on the distribution (the kW demands, areas, and hours of operations) of the actual businesses enrolled in the program, the kW and kWh savings are determined. The incentive costs are also summed.

Similarly, for HVAC tune-ups, a 5% savings in energy and peak demand are anticipated based on previous project experience and the SMUD tune-up study documentation cited earlier. In the programmable thermostats section, savings were derived by applying an 8% reduction of annual kWh, which translates to 8% of operating hours. No demand savings were attributed to thermostat measures. Summarized below are the annual results of this analysis.

Summary of Estimated Annual Savings by Measure						
Description	No. Measures	Incentive	Gross kW reduction	Gross kWh savings	\$/kW	\$/kWh
Lighting	138	\$ 575,833	806	4,278,941	\$ 714.29	\$ 0.135
HVAC tune-up	94	\$ 5,800	90	71,257	\$ 64.66	\$ 0.081
New package units	27	\$ 29,167	86	206,859	\$ 339.37	\$ 0.141
Thermostats	94	\$ 11,600	na	126,678	na	\$ 0.092
Refrigeration tune-up	51	\$ 31,519	58	434,291	\$ 540.39	\$ 0.073
	404	\$ 653,919	1,040	5,118,027	\$ 1,659.00	\$ 0.128

Other Objective Measures for Evaluating Program Progress

We are considering other benchmarks and indicators for assessing program performance and determining to what extent the program has been successful.

We will consider the program a success when:

- kW demand and kWh energy use reductions meet the program's forecasted numbers
- The number of measures implemented by the program meet the program's anticipated numbers
- The project achieves excellent total cost-effectiveness scores
- We have completed 1750 site visits to introduce the program (cold calls)
- We have completed 1,000 walk through audits
- We have 1,000 audits documented
- We have verified 750 field installations
- We have attained our goals for involving hard-to-reach customers

VI. Program Evaluation, Measurement and Verification (EM&V)

ASW understands that we are required to have an independent EM&V consultant develop the evaluation plan for our program and to conduct the program evaluation itself. We propose to follow the instructions as presented in the *Energy Efficiency Policy Manual, Version 2*.

We will work with a consultant as required to develop an appropriate approach for evaluating program success and measuring and verifying energy and peak demand savings.

With this continuing program, we already have in place an EM&V plan approved by the CPUC, which is consistent with the requirements stated in the Energy Efficiency Policy Manual, Version 2. We would suggest continuing the relationship with Sisson and Associates, Inc. to provide EM&V services for the current implementation of the *Energy Savers Program*.

Measurement & Verification Plan Overview

We believe that an integrated approach to field data collection will meet the standards required by the PUC for this evaluation. The recruiter, the survey technicians, and the analysts will work together to ensure that all of the necessary data is collected as efficiently as possible.

EM&V budget should be allocated effectively; we recommend that the allocation is representative of the measures producing the energy savings. As planned, the majority of the program's savings are resulting from lighting measures. Therefore, we suggest a greater proportion of the EM&V budget be reserved for evaluating lighting measures, and so forth. Including the larger energy savings projects in the EM&V is another way to stretch the EM&V budget, by evaluating projects with greater amounts of energy savings the EM&V contractor is able to increase their estimates of precision and is able to keep sample sizes low.

For lighting measures, the bulk of the program savings, on-site engineering analysis and existing engineering data will likely be the primary method used to assess the savings associated with installed measures at the participants sites. The focus of the on-site engineering assessments will be the development of an independent estimate of the energy savings associated with the installed measures.

For the other four program measures, use of engineering analysis, secondary research, and review of program tracking data will be the primary method of EM&V.

The Evaluation, Measurement and Verification Plan for the *Energy Savers Program* will utilize Option-A and consist of both Process and Impact Evaluations.

Process Evaluation

Process evaluation should rely on data obtained from a variety of sources, including 1) program document reviews, 2) interviews with program staff, 3) customers participating in the program), and 4) studies of best practices among similar programs.

Program document reviews. Various program documents will be briefly reviewed to establishment a general context for the program's implementation, as well as more specifically for application processing verification. Contractor will also will review quarterly reports, and examine program databases to determine whether there were any significant deviations from the

original program design. The remainder of the program document reviews should focus primarily on verification processing issues.

Interviews with program staff. Following the document reviews, the contractor will conduct interviews with Program staff to “fill in the holes” where there are ambiguous issues. This querying step will be conducted to make sure that we understand exactly how the program was implemented as well as what verification processes were utilized. This step will facilitate the development of any recommendations about changes in process design or implementation, as well as help correctly interpret the results of the various impact evaluations.

Customers participating in the program. In this part of the process evaluation, the contractor will conduct telephone interviews with a sample of program participants. Participant interviews will focus on the following information:

- Satisfaction with the program regarding such issues as 1) the application process, 2) frequency of forms submission, 3) ease of use regarding forms and marketing materials, 4) general helpfulness/sales ethics of ASW personnel, surveyor, and installing contractors, and 5) performance of the installed energy efficiency measures themselves
- How they were informed about the program, and how frequently
- General attitudes towards energy efficiency products

Participant interviews should correlate generally with program activity, and lag several months behind, so as to allow customers to develop useful perspectives regarding the program and the associated installed measures.

Studies of best practices among similar programs. Lastly, the contractor will collaborate with the consulting team that is awarded the statewide contract to develop the Best Practices database. As that team carries out their research in parallel with the EM&V contractor, the contractor will stay informed about their research findings, and will assess the extent to which these Best Practices can be incorporated into subsequent programs. The EM&V contractor will also examine the effective cost of reaching non-hard-to-reach customers relative to hard-to-reach customers, and will assess the general implications.

Impact Evaluations

Impact evaluations will encompass three separate activities: 1) engineering development of measure energy savings data, 2) formal verification audits of application paperwork, and 3) participant self-reported verifications. Each activity is described in turn.

Engineering development of measure energy savings data. These activities involve development of gross and net energy savings values for the program, since CPUC-approved program goals assumed measure-aggregated annual energy savings targets for each of the four measures offered through the program (i.e., lighting upgrades, programmable thermostats, HVAC tune-ups, and refrigeration equipment tune-ups).

Approaches to gross savings estimates vary by measure type, depending on the relative importance within the program.

- *Lighting upgrade:* for this measure ASW recommends an approach that is quite detailed, which involves acquisition/analysis of cumulative pre- and post-kW data for the relevant lamps/ballast systems at each participant facility across a sample for the program. This approach also involves determination of equipment utilization levels for average hours/day, days/week, and weeks/year data, either based on participant-provided phone survey information, or using A) application paperwork data or B) prudently conservative building type-specific default values (if such data are not otherwise available or obtainable for the participant).

- *Programmable thermostat and HVAC tune-up*: for these measures ASW recommends a simplified approach drawing on secondary research in the public domain for generally similar customer types. Specifically, ASW recommends use of *ex-ante* data published by ADM Associates (ADM) regarding their CPUC-approved 2002-2003 “Mobile Energy Clinic” program. Contractor also may consider updates to these data placed in the public domain by ADM.
- *Refrigeration equipment tune-up*: for this measure the contractors will utilize secondary data sources to be determined early in the project. For example, contractor might consider using CEC forecasts of EUI data for the refrigeration end use in refrigerated warehouses and/or food stores, and apply a percent savings value based on reviews of the literature or phone calls to vendors regarding this measure.

Verifications

Formal verification audits of application paperwork. Contractor will begin this step by obtaining and reviewing program documents pertaining to application processing (e.g., checklists and memoranda documents regarding what specific materials must be collected for the application to be approved). Contractor will note/identify any significant variances in these procedures. Contractor will augment this knowledge base by interviewing program staff regarding process ambiguities identified from the document reviews.

Contractor will utilize these findings as inputs to a formal checklist used in audits of application paperwork. Such a checklist might include criteria such as: customer is in fact in service territory targeted geographic; program authorization form attached; number of measure units appears reasonable; paperwork includes HTR identifier information; payment date; application was signed.

Using a checklist similar to the one described above, contractor will classify applications as fully compliant, having minor flaws (e.g., absence of customer’s signature on the application), or having “fatal” flaws (e.g., no program authorization form attached) requiring the claimed energy savings data to be discarded. Based on the findings of this audit, we will estimate the correct savings for each application record in the sample.

Participant self-reported verifications. As an extension to participating customer satisfaction surveying, contractor will verify program participant participation and status on a self-reported basis by querying respondents regarding the types of measures installed, and the quarter in which the installations occurred. Contractor also will confirm HTR characteristics, and collect occupancy / lighting system utilization information (e.g., hours/day and days/week occupied). Based on the findings of this participant survey, contractor will estimate the correct savings for each application record in the sample.

Paperwork and Participant verifications would occur in distinct rounds prior to interim reporting requirements (so as to facilitate ongoing program process improvements and general program tracking).

Sample Design

Using extracts of versions of the program tracking database obtained during the course of the program, the contractor will draw a non-proportional, stratified random sample of participant application records. The strata will be defined by whether a customer has been defined as hard-to-reach (HTR) or non-hard-to-reach (NHTR). The contractor should expect to achieve a minimum of the 90%/10% level of precision, and probably substantially better.

Data Collection (Regarding Telephone Surveying Activities)

The contractor will conduct the telephone surveys of program participants described above. The contractor will draw an adequate pool of participant records from each of the participant classifications in the sample design.

The options and methods used in California's LNSPC program are adapted from those defined in the 1997 International Measurement and Verifications Protocol (IPMVP) and the 1996 Federal Energy Management Program (FEMP) M&V Guideline. (If a conflict arises between the IPMVP or the FEMP Guideline and this procedures manual, the procedures manual will take precedence.) Options outlined in the IPMVP:

- **Option A – Stipulated Savings:** Savings are predicted using engineering or statistical methods that do not involve long-term measurement. Actual achieved energy savings are not verified over the performance period.
- **Option B – Metered Savings of Equipment or Systems:** Involves short-term or continuous metering throughout the performance period to determine energy consumption. Measurements are usually taken at the device or system level. This option is preferred because savings are determined for each measure and incentive pricing is differentiated by measure category.

The choice of M&V option and method depends on the specific equipment being installed, the complexity and interaction of the EEMs, and the value of the incentive payments. Each available method is discussed in detail in Section III, Chapters 12 through 19, of this Manual.

11.3.1 Lighting Retrofit and Controls Measures

The required M&V methods for lighting efficiency and controls retrofits are defined in Chapters 12 and 13. Two methods are indicated – one employs standard fixture wattages and the use of sampling techniques to monitor lighting operating hours, and the other allows for the metering of dedicated lighting circuits. These methods are applications of IPMVP M&V Option B.

All projects with 70% or more of the direct energy savings resulting from lighting efficiency retrofit measures must use these methods for determining lighting energy savings. Other M&V methods may be used only when non-lighting, energy-efficiency equipment replacement savings (e.g. savings from HVAC equipment measures) represent more than 30% of the projected annual energy savings indicated in an approved Basic Project Application.

11.3.2 Non-Lighting Retrofit and Controls Measures

Option B, pre- and post-installation end-use metering, is preferred for projects with no more than a few measures that are not strongly interrelated with respect to energy savings.

Reporting

All EM&V reporting will be done in accordance with the requirements described in the *Energy Efficiency Policy Manual*. Monthly and annual reports and the final report will be posted with Southern California Edison and with the Commission.

Preliminary Monthly Report Format and Content

Quarterly reports will include detailed project status information including:

- Number of sites surveyed (number of contacts)
- Number of businesses signed up (participating)
- Number of installations completed by measure
- Estimates of kW demand and kWh saved (projected savings and comparison with program goals)
- Budget progress (amount spent, amount remaining)

Annual and Final Report Format and Strategy

The annual and final reports will contain the same content as the quarterly reports, but also will contain a cumulative budget, expenditure, savings, and other program activity information as requested in the Energy Efficiency Policy Manual.

EM&V Contractor information

ASW Engineering hired Sisson and Associates, Inc. to provide EM&V services for the current implementation of the *Energy Savers Program*. We are satisfied they are able to provide the EM&V services as required by the CPUC.

Their contact information is:

Mr. Phil Sisson, President Sisson and Associates
42 Moody Court
San Rafael, CA 94901
(415) 845-8820

Another potential EM&V contractor with whom we are acquainted and consider qualified is:

Marc Schuldt, SBW Consulting, Inc.
Energy and Environmental Research
2820 Northrup Way, Suite 230
Bellevue WA, 98004-1419
(425) 827-0330

Evidence of their qualification is the fact they have been approved by the CPUC for EM&V contracts for existing 2002-2003 programs.

VII. Qualifications

The SBEA team offers the technical skill and experience necessary to complete all aspects of this project. We have very strong skills in:

- **Project planning and program design**—We designed, planned, and administered the pilot version of the *Energy Savers Program* in 2001; administered the 2002 – 2003 *Energy Savers Program* on behalf of the CPUC; in addition we regularly provide our clients with project planning and project management services.
- **Marketing and communications**—We developed and implemented a very successful marketing campaign for the 2002 – 2003 *Energy Savers Program*, and have delivered many successful energy efficiency programs for investor-owned and municipal utilities in California.
- **Development of project teams**—We have extensive experience identifying the right resources for a given project, assembling these resources into a cohesive team, and coordinating efforts and communications among team members; our team management experience includes many efforts in which many contractors are project participants.
- **Data collection**—We employ experienced survey technicians, have established customer protocols, and have expertise in identifying energy efficiency opportunities.
- **Contractor relationships**—We have years of experience with multiple contractors, know how to determine quality work, and are able to implement program measures.

Organizational Mission: The purpose of the Small Business Energy Alliance is to educate and facilitate. Our purpose is to serve as an advocate to small businesses; to educate about energy efficiency measures; to provide access to incentive and rebate programs that offer financial support; and to make it simple for businesses to participate in these programs. We handle all of the paperwork and schedule the installation work through one point of contact.

A. Primary Implementer

ASW Engineering Management Consultants, Inc., is a southern California (Tustin) engineering and facility management consulting company. In business since 1982, ASW has a broad client base throughout southern California and elsewhere.

ASW's Small Business Energy Alliance (SBEA) administered the 2002 – 2003 *Energy Savers Program* on behalf of the CPUC.

Our present staff comprises six mechanical and electrical engineers, fifteen survey technicians, and three office-support personnel.

- Our engineers are specialized in electrical and mechanical systems in commercial and industrial facilities.
- Our survey technicians (retired SCE energy service representatives) have considerable experience in the process of visiting customer sites, assessing systems' pre-retrofit status, examining associated documentation and identifying energy efficiency opportunities.
- Our office-support personnel are congenial, efficient, and focused on supporting our efforts to serve our clients effectively.

We maintain a focus on new technologies and energy efficiencies, delivering practical solutions that provide cost-effective continued energy savings and regulatory compliance and optimize

facility operations. We work closely with building owners/operators and the design community, as well as the construction industry, to maintain a balanced approach that accommodates the perspectives and recommendations of experts from key fields.

Technical Acumen and Project Management

One of ASW's major strengths is our unique combination of technical acumen and project management skills.

- We have a rock-solid foundation built on our professionals' understanding of existing and emerging technologies.
 - We gain up-to-date, first-hand knowledge of new technologies and performance variances between the lab and field applications through the multiple research-and-development projects we manage each year.
 - Our engineers and survey technicians have extensive, practical experience in assessing existing and proposed systems to identify opportunities to improve energy efficiency and reduce operating costs.
- As we manage our projects, we ensure engineering integrity, while keeping client needs and ensuring customer satisfaction to the forefront.
 - We are adept at working with a broad customer base and understand the organizational structures, objectives, and decision-making processes.
 - We facilitate effective communication and coordination among all parties involved in a project, leading to better and more timely decisions.
 - We also regularly bring projects in on time and at, or under, budget.

Customer Education

ASW also provides training for numerous utilities, teaching both their energy services representatives and their major customers.

- We have provided more than 15,000 hours of classroom instruction for our clients in the past decade.
 - The subjects we address in our training range from refrigerant handling, ozone water treatment, energy management evaluation and selection, lighting strategies, how to do an energy survey, industrial and manufacturing energy management, and more.
 - We presently are providing more than ten courses for Southern California Edison CTAC for customers at large.
- We also have developed training about deregulation that has been used by Southern California Edison, Association of Bay Area Governments, Public Utility Commission, Honeywell, New Energy Ventures, and several others.
- The ASW team has developed more than 100 individual classes over the past 20 years.

We have a 10-year relationship with McLain Instructional Design Consulting, a professional instructional design firm to ensure top-quality training materials that conform to professional standards for human performance technology.

Analytical Skills and Tools

ASW goes far beyond traditional “prescriptive” engineering to provide the expertise needed to make informed financial and operational decisions.

- Our broad-base experience includes hundreds of studies for Southern California businesses and industries.
 - Our team of mechanical, electrical and industrial engineers spend a good part of their time developing feasibility studies and managing remote data collection.
 - At any given time, we are monitoring several systems for performance.
 - A microprocessor in the field collects and stores data that we analyze to determine if installed energy efficient equipment is accomplishing its assigned task with the specified efficiency.
- To accomplish the analyses, we have developed software programs that translate the collected data in simple understandable reports.
 - The software programs help make the necessary facility and energy usage analyses more meaningful and affordable to ASW’s clients.
 - Customized software development and licensing is a company service.
- ASW has played a significant role in Southern California Edison's pilot ESCO programs, as well as the existing Standard Performance Contract Program, developing protocols and preparing the various reports for program implementation.
 - We presently are providing services to measure and verify over a billion kWh per year.
 - We collected the evaluation database for SCE's 1997 Commercial Rebate Program from over 400 industrial sites for a statewide CEC industrial saturation study.
- As engineering economists, ASW took an early interest in evaluating AB1890 savings. This early focus created a strong foundation for future economic assessments:
 - Developed analytical tools that have been used for hundreds of direct access savings assessments
 - Conducted aggregation studies for customer groups and several Energy Service Providers (ESPs).
- Our knowledge comes from implementation; our resources are many including forecasting, metering, and settlement.
 - We have a thorough understanding of metering software MV90 and have developed alternatives as well.
 - Our software known as “Power Appraisal” is being considered for the state of California evaluations.

ASW has recently assisted the electric utilities in Hawaii to provide integrated energy efficiency solutions to its customers in the form of a high-level Preliminary Energy Assessment (PEA) report. By helping its customers reduce energy usage, Hawaii’s dependence on imported fuels will be reduced for years to come. In addition, this energy consumption reduction will allow the utilities to postpone or avoid future capital investment to build more costly power plants. Often these PEAs are followed up with in-depth feasibility studies.

B. Subcontractors

Marketing Qualifications

Geltz Communications is a full-service communications consulting firm specializing in the electric utility industry. Located in Pasadena, California, our services include branding, marketing, employee and technical communications strategies and the components needed to fulfill them: planning, pricing, design, writing, editing, photography and print production supervision. Our deliverables have included marketing collateral, training programs and materials, research reports and articles, corporate annual reports, printed and electronic newsletters, technical fact sheets and case studies, field surveys, community outreach activities, and media relations. Integrated Internet and CD-ROM applications of these deliverables are a recent addition to the company portfolio.

Geltz is dedicated to the following principles:

- Provide cost-effective, strategic marketing programs that help our clients achieve their energy efficiency goals.
- Turn somewhat complex technical information into engaging copy packaged with attractive design that speaks to targeted audiences through a variety of communication channels.
- Stay flexible to fine-tune program elements so that we can leverage budgets for maximum goal fulfillment.
- The company is certified as a Woman-Owned Business by the California Public Utilities Commission.

Geltz Communications has delivered many successful communication programs for investor-owned and municipal utilities as well as Third Party Implementers in California. These programs have exceeded program goals and led to extended contracts for expanded programs encompassing new technologies and new ways of reaching customers. In addition, the programs' marketing and communication tools have won awards from such distinguished entities as the Association of Energy Services Professionals International, the International Association of Business Communicators, the Society for Technical Communication, the League of American Communication Professionals, and the Business Marketing Association. The company's principal, Christine Geltz, has recently been a featured speaker at professional development seminars around the country, helping energy services professionals to incorporate the most effective communication tools and strategies into their efficiency programs.

Significant Accomplishments in Marketing Energy Efficiency and Demand Response Programs

Among Geltz's achievements are communication strategies and tools that led to the success of these programs:

- Statewide Energy Design Resources Program – Non-residential new construction design information resources (SCE, PG&E, SDG&E, SoCalGas)
- Statewide Savings By Design Program – Non-residential new construction design incentives and awards (SCE, PG&E, SDG&E, SoCalGas)
- Statewide Comfort Home/ComfortWise Program – Residential new construction consumer and builder marketing with vendor tie-in (SCE, PG&E, SDG&E)
- SoCalGas's Clean Profits Program – Laundromat and dry cleaner owner training and information

- State of California Third Party Initiative branded the Small Business Energy Alliance (SBEA) – Hard-to-reach small business information and retrofit incentives
- State of California’s Third Party Initiative branded the South Bay Energy Rewards Program (SBER) – Community- and retailer-oriented residential ENERGY STAR appliance coupons and energy efficiency education
- SCE EnergySmart ThermostatSM Program – Demand-responsive smart thermostat incentives for small businesses
- SCE Super Peak Pricing Program – Peak pricing rate pilot program for small businesses

Significant Accomplishments in Marketing Energy Efficiency Programs

- Statewide Energy Design Resources Program (SCE, PG&E, SDG&E)
- Statewide Savings By Design Program (SCE, PG&E, SDG&E, SoCalGas)
- Statewide Comfort Home/ComfortWise Program (SCE, PG&E, SDG&E)
- SoCalGas’s Clean Profits Program
- Pasadena Water & Power’s Pasadena Savings Plus Program
- State of California Third Party Initiative branded the Small Business Energy Alliance (SBEA)

Survey Technician Qualifications

The SBEA audit team of survey technicians offers the technical skill and experience necessary to complete all aspects of on-site auditing. Most of ASW’s staff of survey technicians have 20 or more years experience with this type of work.

We are very familiar with existing protocols for residential sites, commercial sites and the industrial sector. In addition, the team has extensive experience with utility programs, hotlines, and services utilities can offer their customers.

Contractor Qualifications

ASW has a current pool of qualified contractors. As necessary, we will hire additional lighting, HVAC, and refrigeration contractors to help implement the program. We will ensure that all contractors will be licensed, can demonstrate references from previous customers, are bonded, and have the appropriate liability and comprehensive insurance.

C. Resumes or Description of Experience

The following provides an overview of the relevant professional experience for each of the individuals with managerial responsibilities in the proposed program. Detailed resumes for these individuals — and for other members of the proposed project team (e.g., survey technicians, schedulers, interviewers) are available upon request.

David Wylie, P.E. — Project Director

A principal of ASW Engineering Management Consultants, David Wylie has the primary responsibility for the company’s customer relations, including project definition, oversight, analysis, and delivery. He also provides technical training for utility companies and facility managers.

He has worked primarily in the areas of commercial and industrial energy efficiency, managing projects for the U.S. Department of Energy, energy utilities and many individual clients. He is a

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published author on energy efficient technologies and is an expert witness for legal proceedings. Mr. Wylie is a licensed professional engineer and holds both a BS in engineering and a Masters in Business Administration. Mr. Wylie is currently President of the local Southern California Board of APEM (Association of Professional Energy Managers).

A few of the more notable projects that Mr. Wylie has led in the past several years include:

- Developed and managed 2001 CPUC Third Party Initiative for Small Business Energy Savings Program
- Designed 2002 – 2003 *Energy Savers Program* and administered it on behalf of the CPUC
- Developed and instructed PG&E’s Industrial Strength Energy Efficiency Seminar series 2000-present. Over 1000 of PG&E’s industrial customers attended one-day efficiency seminars on boilers, chillers, packaged HVAC systems, motors and drives, commercial refrigeration, and compressed air.
- Developed and instructed Edison’s Customer Technology Application Center (CTAC) efficiency seminars from 1991 to present
- Oversight responsibility of ASW’s data collection survey tem of state-wide studies as directed by the California Public Utilities Commission:
 - Residential Ceiling Fan Study 2001
 - Non-Residential New Construction Evaluation for PG&E, 2000
 - Non-Residential New Construction Program for SCE, Industrial Saturation Survey, 1997-1998
 - Energy Advantage Home Program Retention Study for SoCalGas, 1994
- Managed operations of the Ancillary Services Coalition, a state-wide load shedding aggregation that participates in ISO Demand Response programs, 1998 to present
- Developed and instructed the “Clean Profits” program for SoCalGas, an energy efficiency seminar for coin laundries and dry cleaners
- Developed and instructed internal training courses for SCE Customer Energy Services Department (1978–to present)
- Authored *New Refrigerants For Air Conditioning and Refrigeration Systems*, published by Fairmont Press (1995)
- Project Manager - Commercial Refrigeration Research Laboratory, a Southern California Edison project (1993–94)
- Developed interactive air conditioning and lighting savings assessment protocol for Southern California Edison (1995)
- Project Manager for the development of a Fuel Substitution Savings Analysis protocol for SCE/PUC filing (1994)
- Project Manager for the Research and Demonstration of several test sites utilizing ozone water treatment for cooling towers (1993–94)

Chris Baginski — Project Manager

A Senior Mechanical Engineer and Project Manager with ASW, Chris Baginski has a BS in Mechanical Engineering and a MS in Mechanical Engineering. She has served as project manager for dozens of audit projects conducted by ASW and has had extensive hands-on management experience with the 2002 – 2003 *Energy Savers Program*.

In addition to the *Energy Savers Program*, Ms. Baginski has been involved in multiple projects over the past few years, including:

- Site inspections for preliminary analysis to quantify ESCO opportunities, SCE outdoor lighting project, central plant feasibility studies, etc. (1994–present)
- Development and reporting of baseline and energy savings for School Districts in Irvine, Ontario/Montclair, Huntington Beach, Garden Grove, Upland and other ESCO projects (1994 – present)
- On-site field data collection for central plant feasibility studies (1994 – 2000)
- Day-to-day project management support for audit programs, load shed projects, comfort wise home builder projects (1995 – 2000)
- Assistance in the Measurement and Verification efforts for SPC and other utility programs (1995 – 2000)

Christine Geltz — Marketing Consultation

Ms. Geltz has more than 20 years of experience in planning, delivering, and evaluating marketing communication programs. She founded Geltz Communications in 1990 to help utility companies and other agencies achieve their energy efficiency and demand response program goals. Her research interest is in the development of effective communication channels associated with the diffusion of innovations process. In addition to leading an award-winning team of graphic designers, energy experts, instructional designers, media professionals, field surveyors, and Web technicians, she is a featured speaker at energy conferences and professional development seminars. Ms. Geltz has also held board of directors and leadership positions in the Association of Energy Services Professionals International and the Association of Professional Energy Managers. She has a B.A. in education and will complete her M.A. in communications this year.

Mark Hinrichs — Database Designer

An Electrical System Analyst at ASW, Mark Hinrichs has the primary responsibility for remote data collection, site inspection, analysis and report writing for the company. He has a BS in Electrical Engineering, and designed the database and report structure for the 2002 – 2003 *Energy Savers Program* and has extensive experience developing and implementing data collection systems for various research projects.

Dennis Rowan, P.E. — Contractor Coordinator

An engineer with ASW, Dennis Rowan has a significant background in manufacturing, having knowledge of end-use systems that support the production industry. He successfully served as the Contractor Coordinator for the 2002 – 2003 *Energy Savers Program* and has been involved in multiple projects over the past few years, including implementation of the M&V process for 18 million kWh savings at the County of Los Angeles, an ESCO project (1996–1997), chiller

testing and reporting comparing gas to electric, EPRI (1996), and several site inspections to verify pre- and post- conditions for ESCO projects (1996–1997).

Vic Sanchez — Survey Manager

A survey technical expert for ASW, Vic Sanchez successfully served as the Survey Manager for the 2002 – 2003 *Energy Savers Program*. He has extensive hands-on experience in the role of survey technician for ASW and SBEA. While with Southern California Edison (1970 – 1996), he served as technical specialist, program manager, and training consultant.

He has been responsible for database management of several hundred site surveys for energy use and aggregation analysis, and has managed field technicians and data collection project of 400 sites.

VIII. Budget

Program Cost Proposal Summary

Item	Cost	Percentage
Total Administration	\$ 915,613	32.28
Managerial & Clerical	458,967	16.23
HR Support & Development	152,810	5.40
Travel & Conference Fees	26,721	0.94
Overhead	277,115	9.80
Total EM&V	57,104	2.02
Total Direct Implementation	1,737,573	61.45
Financial Incentives	1,351,028	47.78
Activity	386,545	13.67
Total Marketing	90,000	3.18
Financing Costs	27,500	0.97
Total Program Budget	\$2,827,790	

The proposed *Energy Savers Program* is “scalable;” that is, we can either reduce or increase the program budget and objectives depending on funding availability.

If the CPUC wants to increase the scope of this successful program, we can accommodate this by hiring additional staff. The size of this budget represents a comfortable working situation given our current size of our staff. However, the fact that the 2003-2004 incentive program committed all of the incentive funds before the end of the program indicates that there is an opportunity to expand the program’s scope.

Payment Schedule

We accept the proposed payment schedule as described in the “Compensation” discussion in the CPUC Energy Efficiency Policy Manual.