

# **Yolo Energy Efficiency Project-1**

# **YEEP-1**

## **A Local Hardware / Incentive Program Serving Yolo County**

September 22, 2003

This program is one of two proposals that constitute the City of Davis/Yolo County Partnership portfolio. The companion program – YEEP-1 – is an Information Only / Market / Transformation program serving Yolo County.

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## Section 1. Program Overview

### A. Program Concept

*– Brief description of program (1 paragraph)*

The Yolo County partnership of the Cities of Davis, West Sacramento, Woodland, Winters, the County of Yolo and Valley Energy Efficiency Corporation (a 501-3(c) non-profit corporation), submits this proposal to provide energy efficiency services to all Yolo County residents and businesses. Following an approach used in Yolo County for the delivery of other county-wide services, the City of Davis will contract with the CPUC-designated contract administrator and host the county-wide effort. We propose to replicate the most successful energy efficiency measures and innovations initiated in Davis during 2002-03, and transition to the **Yolo Energy Efficiency Project (YEPP)**, serving all of Yolo County. Our portfolio includes two proposals: this proposal for YEPP-1, a hardware incentive program, and a companion proposal, YEPP-2, for information and market transformation. We continue to emphasize a regional cross-cutting strategy that serves residential, multi-family and commercial customers and with a range of technologies that address lighting, cooling and building envelope needs. YEPP-1's six energy efficiency measures will provide:

- over 6.5 million net annual kilowatt-hour savings;
- total lifecycle savings of 71.5 million kilowatt-hours;
- net annual energy savings worth approximately \$1 million/year to our customers;
- net TRC benefits of \$1.77 million; and,
- a Total Resource Cost benefit-to-cost ratio of just over 2.0.

### B. Program Rationale

*– Basis and need for program. If program was funded during 2002 -2003, discuss evidence that program was successful and that demand for program services persists.*

YEPP, a partnership of Yolo County and all municipal governments, uses community-based outreach to reach local communities much more successfully than previous programs. County residents and businesses are more inclined to trust information and are more receptive to installing energy efficiency measures provided by local governments than by for-profit entities. Furthermore, local governments already have infrastructure for broad outreach to their residents and businesses. Through door-to-door canvassing, public event tabling and by engaging local businesses through education and financial incentives, we educate and inform, in turn making local people our best advocates in the Yolo County's diverse communities and business groups.

We propose to continue and expand into all of Yolo County the most successful and popular energy efficiency measures (EEMs) initiated in Davis. In 2002-03, YEPP's predecessor, the Davis Energy Efficiency Project (DEEP), implemented energy measures in Davis that will result in 3.7 million kWh per year saved, and a demand reduction of 1,158 kilowatts. The measures include:

- Lights Lite (direct install commercial and multi-family lighting retrofits) –
- Compact fluorescent lamp (CFL) distribution – (residential)

- Torchiere exchange (exchange CFL torchiere for incandescent torchiere -- residential)
  - Shadescreen rebates – (residential)
  - Evaporative cooler direct install – (only for income-qualified hard-to-reach residential)
- All residential measures except evaporative coolers are offered to all Yolo County residents, including renters and owners, and residents of both single- and multi-family housing.

### **Why a Two-Program Portfolio?**

In our 2002-03 work, we found that our information activities complemented and strengthened our energy efficiency measure (EEM) delivery. For example, we provided free residential compact fluorescent lamps at the same outreach activities that we used to inform citizens about no- and low-cost energy saving actions, and rebates from other program implementers. For 2004-05, for cost-effectiveness and to facilitate tracking, reporting, and evaluation, we choose to submit two interdependent proposals: 1) a hardware / incentive project that aggressively targets kWh and kW savings in residential and commercial lighting and residential cooling (this proposal, YEOP-1), and, 2) an information-only / market transformation program that provides information, infrastructure development, technology improvement and innovative market approaches (YEOP-2). Both programs will be integrated and appear as one to customers, and the work plans seamlessly dovetail with each other.

### **Basis for YEOP-1**

YEOP-1 is a cost-effective program that will ensure high net benefits by focusing on measures proven successful by the Davis Energy Efficiency Project in 2002-03. Our EEMs reduce energy consumption and peak demand with lighting measures for commercial and residential (both multi-family and single family) customers. We addresses long term savings, and the special contribution of Central Valley residential cooling to peak demand, through a residential shadescreen rebate and direct install evaporative cooling for income-qualified residents.

Key in our approach is coordination with the YEOP-2 information and market transformation program, which aims to market all available energy incentives (of utilities and other implementers), and to address market transformation through a "incubation projects" for natural cooling, energy and water savings in multi-family buildings, and local energy policy development.

### **Past Success and Continuing Demand for a Yolo County Program**

Yolo County is, by geography and demographics, comprised of a population that is defined as hard-to-reach with energy efficiency measures. Past programs have focused efforts in the major urban areas of the state while rural areas such as Yolo County, and including rural cities, such as Woodland, Winters, Esparto and others, have been less well served.

Furthermore, Yolo County has a high proportion of low-income and non-English speaking residents and business owners. Utility marketing efforts have rarely targeted these groups, and participant cost has been high enough to exclude many low income people from purchasing energy efficient residential equipment. For this reason, our offerings are designed to be within the reach of virtually all residents.

Each of the EEMs proposed here for YEOP-1 has been very successful in DEEP, our current project. After three months of operating DEEP's direct install commercial lighting EEM target small and very small business, we are more than half-way to our goals having served

approximately 90 very small customers, and 30 small customers, with savings of over 1 million kWh to date. DEEP reached its goals early for its torchiere exchange and evaporative cooler direct install, and we are holding back residential CFL distribution to prevent running out early.

These energy measures were successful in the amount of energy they saved and the equity issues addressed through their distribution. The evidence that there will be demand for these measures in Yolo County is inferred from the strong demand found in Davis during 2003.

We believe that demand for commercial lighting retrofits will be even higher in the rest of rural Yolo County because Lights Lite will be the first program to target the county businesses. Even small business facilities that have received PG&E lighting rebates in the past did not implement comprehensive lighting retrofits. We find many Davis business participants who use our program to complete the job by installing both CFLs and linear fluorescent retrofits, because past vendors using PG&E rebates have only done selected fixtures.

The residential measures offered by YEOP-1 are those that were most in demand in our 2002-03 program. On the residential side, serving both multi-family (MF) and single-family (SF), CFLs are distributed at no charge to any resident, and serve as a way to engage participants in the information offerings of the sister program YEOP-2. The DEEP CFL EEM was so popular that we have backed off on marketing to slow demand – we have distributed approximately 9,000 lamps to 3,000 households, and will have no obstacle in meeting our goal of 9,900 residential CFLs.

Yolo County has about 65,000 households and we estimate that most still do not use CFLs and are unaware of improved products now available. Customers who stop at the Davis Energy Center for their kit of CFLs still mention misgivings about them based on old rumors or experiences. Many are not aware of the much lower cost CFLs that are now available at local retailers. We demonstrate the different types available and encourage them to experiment and shop around for what best suits their needs.

Our torchiere program was over-subscribed and demand remains extremely high as shown by customer requests for a second torchiere exchange date. The YEOP-1 Torchiere Exchange EEM is designed to save energy along with raising public interest in fluorescent torchiere lighting. We propose to exchange 600 lamps in 2004-05 and work with vendors to increase interest in promoting fluorescent torchieres year round.

Our income qualified evaporative cooler direct install has also met with strong demand, even in Davis where there are a limited number of low income and manufactured home neighborhoods. Davis has about 11% of the manufactured homes in Yolo County and we easily met our goal of 100 units. Woodland, West Sacramento and the rest of the County have a higher percentage of manufactured homes, and of income qualified households, so we expect the demand to be higher than what we experienced in Davis.

One other important need addressed by this proposal, in synergy with the companion YEOP-2 proposal, is reduction of the contribution of residential cooling in the Central Valley to system peak demand. We believe that shadescreens and evaporative cooling (YEOP-1) and the technologies addressed in the incubator part of our companion proposal will play a significant role in addressing this need. Supplanting of compressor based cooling will play a significant role

in reducing peak demand in existing homes. Our two programs will work together to test this hypothesis, and we will develop implementation models(s) that will be useful to other implementers throughout the hot regions of California, both Central Valley and southeastern California Desert.

### **C. Program Objectives**

*– Projected accomplishments of the program.*

YEEP-1 quantifiable objectives include:

- 1) Energy savings**
  - a) 6.567 million kWh net annual savings**
  - b) 71.5 million kWh net lifecycle savings**
- 2) Demand savings**
  - a) 1,550 KW**
- 3) Economic and cost-effectiveness objectives**
  - a) Approximately \$1 million a year in energy bill savings to local customers with multiplier effects in the local economy**
  - b) TRC of 2.0**

In addition to energy, demand, and dollar savings, other objectives include:

- 1) Overcome market barriers:**
- 2) Reach the residential hard-to-reach**
- 3) Reach the commercial hard-to-reach**
- 4) Reduce Central Valley residential cooling contribution to peak demand**
- 5) Coordinate closely with YEEP-2 and other programs for information and market transformation, and to induce additional savings by increasing subscription to Statewide programs and through low-cost and no-cost measures**

We expect to serve a very high percentage of hard and very hard-to-reach customers. By definition, all Yolo County residents and businesses are rural and outside of major urban areas. The City of West Sacramento, while part of rural Yolo County, faces inner city problems connected to its close proximity to downtown Sacramento.

Most commercial clients served are very small or small (estimated at approximately 90% based on 2002-03 experience in Davis), although we do not exclude medium and large businesses a priori from our lighting EEMs. We will focus our residential offerings on all residents, 76.9% of whom meet the CPUC hard-to-reach-by-income criterion of (less than 400% of Federal poverty guidelines). Evaporative coolers are reserved exclusively for households that meet this guideline<sup>1</sup>. The residential lighting measures and shadescreens are open to every resident in Yolo County, including tenants of MF buildings, SF tenants, and SF homeowners. We will canvass 1,200 of the approximately 3,621<sup>2</sup> manufactured homes in Yolo County, and distribute 450 window mount evaporative coolers among the manufactured homes and other single family housing units.

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<sup>1</sup> p. 43, “Energy Efficiency Policy Manual, Version 2”, California Public Utilities Commission, Energy Division, August 2003. Percentage meeting the guideline assumes average household size of four persons.

<sup>2</sup> p. 18, “DRAFT, Yolo County Business Matters, 2003 Profile”, Yolo County Economic Development Council, Yolo County Administrative Office.

## Section II. Program Process

### A. Program Implementation

*- Including plans for coordination with other energy efficiency programs and description of how proposed program differs from existing related programs, if relevant.*

#### **Delivery of EEMs.**

YEEP-1 will be implemented using program delivery techniques, forms, and processes developed, refined, and approved during the City's 2002-03 program. The energy measures include:

- Lights Lite – direct install lighting retrofits focused on very small and small commercial and multi-family common area customers
- CFL distribution – residential
- Torchiere distribution – residential
- Shadescreens – residential
- Evaporative Coolers – residential income qualified

All residential measures except evaporative cooling are available to all, including single- and multi-family, tenants and homeowners.

#### **Lights Lite Delivery**

The Lights Lite measure is a comprehensive EEM for the commercial market. This measure serves both commercial facilities and multi-family common areas. The measure is primarily targeted to very small and small commercial businesses (PG&E A-1, A-6 and A-10 accounts), but is also available to large businesses with E-19 accounts. It provides comprehensive lighting retrofits directly installed by YEEP Listed contractors, and includes a menu of lighting improvements that are proven generators of significant kWh savings.

The statewide Express Efficiency rebate program is a classic rebate program that requires the customer to complete the installation, pay the full cost, apply for the rebate and then wait for the check. For many small and very small businesses the resulting cash flow barrier is insurmountable. The statewide Express Efficiency rebate program levels are set with much larger customers in mind and are too low for small and very small businesses. YEEP Light Lites addresses both of these barriers by making the rebate payment to the listed contractor at the time of job completion and with incentive levels of 9 cents/kWh saved (or 13.5 cents/per kWh for A-1 and A-6 customers with a \$1,000 cap). These incentive levels are the same as those used by the Ecology Action program for a similar lighting retrofits.

#### **Residential CFLs**

The CFLs are a giveaway measure available for Yolo County residents, in both single-family and multi-family housing. The EEM will be highly promoted to renters (apartment buildings, single-family detached homes, and manufactured homes). The CFLs are also available to those on a master account rather than an individual account. In the City 2002-03 program we found there were many instances of under-served customers, especially in senior citizen/retirement, and affordable housing rentals that were paying into the Public Goods Charge (PGC) through their

=(utility inclusive) rent, rather than directly through a utility account. YEEP will ensure that residential lighting benefits are available to these underserved customers as well as those with individual utility accounts.

CFLs are distributed in a sample pack of three to five lamps which provide customers with an opportunity to test which type and size would work best for all areas in their home. The participation agreement form stipulates that only one kit per household is allowed.

The residential compact fluorescent give-away is free to any resident of the County while supplies last. A portion of the free CFLs are reserved for direct distribution during the evaporative cooler canvass, to ensure that they reach the hard-to-reach people who may have less access to our general outreach events.

### **Torchiere Exchange**

DEEP will distribute fluorescent torchieres at organized events in exchange for functioning incandescent or torchieres. This measure is enhanced by the fact that staff recycles the old halogen torchiere lamps for the customers. In 2002-03 we found that many residents would drop off their old halogen lamps without receiving a new lamp in exchange, simply because the program educated them about the excessive energy use and heat generated by the halogen lamps.

A "kit" of free CFLs is distributed along with the fluorescent Torchiere lamp to those households who did not already receive one. The program will also work with local torchiere vendors to promote sales of fluorescent torchieres.

### **Shadescreens**

Shadescreens are a standard \$1/square foot rebate for eligible materials. YEEP-1 provides installation guidelines on the web and in printed form for Do-It-Yourself installers, as well as for all participating shadescreen vendors. The program will send shadescreen vendors an information packet about the rebate program and consult the vendors for advice and information about our project. Shadescreen rebate promotion is accomplished in part through vendor advertising efforts. The 2002-03 vendors are positioned to serve central and western Yolo County. Early in YEEP staff will work with the City of West Sacramento to bring on vendors in eastern Yolo County to serve the customers who want to take advantage of the shadescreen rebate. Additional marketing through standard advertising is described in the marketing section.

### **Evaporative Cooler**

The evaporative cooling measure is reserved for income qualified residents, and is the only residential direct install measure. Delivery begins with canvasses of manufactured home or other low income neighborhoods by YEEP staff, to seek qualified applicants and verify the applicants' installation and income eligibility. The West Sacramento Redevelopment Agency has identified a low-income census tract that we will canvass to complement other redevelopment activities in the tract. Once a list of eligible recipients is available, YEEP hires contractor(s) to install the window / through-the-wall advanced evaporative coolers according to our standards.

Implementation documents include:

Rebate Applications: Shadescreen,  
Commercial Lighting  
Giveaway Agreements: CFL's, Torchiere

Commercial Lighting Data Sheet  
Commercial Lighting Listed Contractor  
Agreement

**Coordination With Other Programs**

YEEP-1 will be completely integrated with its partner information program YEEP-2. We reduce costs for both the EEM delivery associated with this proposal, and for the partner proposal, by combining both EEM and information delivery in many of our outreach activities. For example, the evaporative cooler canvass will also provide information on incentives available for low-income and Spanish speaking customers, including PG&E and other programs targeted to and available for these customers.

Likewise, the tabling events used to deliver CFLs will also provide information on PG&E rebates, other Implementer's offerings, and general information on energy efficient products and practices.

We will continue to coordinate with PG&E and other Implementers as we have done in 2002-03. Specifically, we will work to inform potential customers about programs that will directly benefit them, such as LightWash, the Agricultural Pumping Efficiency Program, the Home Inspector Energy Assessment trainings available from GeoPraxis; Green Buildings education and outreach program; and any other local programs available to Yolo County residents and businesses. In West Sacramento, the City and YEEP may have the unique opportunity to coordinate and optimize the workings of YEEP with the project being proposed by PG&E with the City to serve large commercial sites.

In 2002-03 the City program was able to become an official EnergyStar® partner. This partnership will continue to enable the YEEP program to access the marketing and promotion materials available from EnergyStar®, including banners, brochures, and educational information for vendors on how to promote EnergyStar® appliances.

As in our current program, we will encourage residents and businesses to make use of PG&E programs and rebates. We have designed YEEP to complement rather than compete with the Statewide energy saving rebate programs. On the residential side, we provide incentives for Torchieres, Shadescreens, and free CFLs and evaporative coolers that are not available from the Statewide programs (except we understand that PG&E has adopted our DEEP-developed evaporative cooler product in its 2004-2005 CARE program.)

Where there is overlap with PG&E on some technologies (commercial comprehensive lighting, potentially the residential window-mount evaporative cooler in 2004) we differ significantly in our unique delivery and distribution methods and customers served. For commercial lighting measures we use a modified Direct Install approach focused primarily on very small and small businesses. Also, this program promotes comprehensive lighting improvements. We have found that many of our customers have previously changed part of their lighting due to installers marketing PG&E rebates, but we can enlist them in our program to finish the job and guarantee the maximum long-term savings have been implemented.

Our tabling and torchiere exchange events proactively bring energy efficiency out into the community, unlike utility programs that rely solely on advertising and trade allies. This ensures that we serve the hard-to-reach, who has not been targeted by utility programs to date.

In addition to our effort to promote other offerings, we also regularly confer with Implementers of similar programs (e.g., Ecology Action, Cities of Berkeley, Oakland and San Francisco) to share successes and lessons learned. To further this sharing, we plan to hold a conference of local implementers of direct install commercial lighting programs.

Finally, YEEP will be closely coordinated with resource-related promotion efforts by each of the project partners. This integration includes promotion of YEEP-1 EEMs in the County and City newsletters, displays in building foyers, at partner-sponsored events, and through City and County-related media (e.g. cable TV stations, websites, etc.).

Specific coordination efforts are described in the remainder of this section.

**Agricultural Pumping Efficiency Program (APEP)** – Yolo County is a heavily agricultural county with approximately 900 farms with more than 536,000 acres of land. Water pumping is a major cost for agricultural operations. The APEP helps ‘put more power through the pump’ with technical assistance, subsidized efficiency tests, rebates for pump retrofit or repair, and education programs.

YEEP-1 will work with the APEP to recruit attendance at their all-day training program which they will hold in Yolo County in 2004. YEEP will also work with the County Agriculture Department, the Resource Conservation District, and the Yolo County Farm Bureau, and other agricultural support organizations to ensure the APEP educational materials are distributed to farmers throughout the county. We will also work with APEP and the water departments in each City to explore opportunities for energy efficiencies in City pumping operations.

**LightWash** – As the Lights Lite program is implemented we will ensure program information targeting specific businesses (e.g. Laundromats, dry cleaners, etc.) is distributed through our regular marketing activities (e.g. direct mailings, website, presentations, etc.)

**PG&E** – YEEP-2 will work with PG&E to promote their energy rebates, including those that are available for MF building owners, would overcome the split-incentive barrier, or could be installed in common areas. YEEP-2 will also coordinate with PG&E’s continued evaporative cooler measures to ensure we are not duplicating efforts to provide natural cooling for CARE customers in manufactured home communities. YEEP will work with the City of West Sacramento and PG&E to coordinate efforts if the PG&E-West Sacramento proposal is funded.

YEEP-1 will coordinate with each of these programs by including their basic information on printed materials, presentations, and on our website as appropriate to their customer targets.

## **B. Marketing Plan**

*– Description of all marketing materials planned, quantity of marketing materials (if applicable), method of distribution, and projected cost per marketing effort. Include plans, recommendations and proposals for coordination with parties funded to provide statewide marketing and outreach services and, if possible other parties’ program specific marketing efforts.*

The YEEP-1 marketing objective is to distribute the EEMs to the targeted customers – small and very small businesses, and residential customers with a focus on renters and low-income

households (whether renting or owing.) We will create marketing materials for distribution through the YEOP-2 outreach activities, which include:

- Tabling
- Presentations
- Special events
- Demonstration displays
- Advertising (e.g. TV, Radio, Newspaper, Movie screens, Website, Direct Mail)
- Newsletter and community interest free press
- Door-to-door canvass

YEOP-1 materials to be developed include:

- Fact Sheets for each EEM
- Radio, TV, movie theater and print advertisements for shadescreens, CFLs, and torchiere exchange events, and Lights Lite (commercial comprehensive lighting)
- Post Cards (Direct Mail for residential Shadescreens and Small commercial Lights Lite program)
- Vendor packets – personalized direct mail and phone follow-up to shadescreen vendors to encourage their strong promotion of the eligible shadescreen materials.
- Product displays for tabling booth (CFLs, torchieres, shadescreens) and City buildings

We tailor our EEM-specific marketing materials to develop, shape, direct and control demand. For example in early summer or late spring, we will heavily advertise and produce direct mailings to publicize the shadescreen rebates – including a description of the rebate, list of eligible products, and list of local retailers that carry the products.

YEOP-1 will coordinate with other programs by including their basic information on printed materials, presentations, and on program websites. The coordination through the websites is a strong and effective, and inexpensive coordination tactic. The five YEOP-1 partners – County of Yolo, and cities of Davis, West Sacramento, Woodland and Winters will each host a YEOP-1 webpage. Each of these pages will include rebate and incentive information for YEOP-1, and any other energy program implementer providing benefits to Yolo County residents. An example might be links to PG&E, LightWash, the Agricultural pumping program, and others as they are funded.

The CFL give-away will be marketed through all public informational activities (tabling, events, and presentations). In order to serve the hard-to-reach, we will choose locations frequented by lower income and Spanish speaking residents.

The torchiere exchange events are likely to be very popular, based on our current program's experience. We will use limited advertising of the torchiere events so they are not oversubscribed.

We will target advertising of both residential lighting measures primarily in media that reach low income and non-English speaking populations. Community development staff of the County and partner Cities (Woodland, West Sacramento and Winters) will assist YEOP staff to identify the best community events, publications, and advertising media for reaching hard-to-reach customers in their jurisdictions.

The shadescreen rebates are marketed toward a broad residential segment of both homeowners and renters in either single or multi-family buildings. Based on current experience the shadescreen marketing strategy is to use advertising and demonstration displays in a repetitive and consistent promotion during the warmest months. Marketing methods include advertising in movie theaters, in newspapers, on the radio and TV, and through direct mail to residents.

The second key component for marketing shadescreens is to work with all regional vendors who offer the eligible shadescreen material. YEOP-1 will develop a vendor packet that explains the program (eligibility, rebate amounts, application process), installation standards, and point-of-sale displays to help the vendor promote the rebate to Yolo county residents.

Our experience so far is that the commercial comprehensive lighting retrofits need little advertising or promotion outside of what is done by participating contractors. To prevent developing a backlog of committed jobs to install, we will carefully limit promotion, and work with our contractors to develop an optimal mix of marketing, job flow, completion quality assurance and incentive payments.

Finally, the evaporative coolers are free, and require little or no advertising other than the canvass, which also serves to screen applicant homes for feasibility of installations. Marketing efforts for coolers consist of identifying target neighborhoods, writing and translating program literature and applications, and managing the canvass which is described under program activities.

We will continue to coordinate with PG&E, and would like to distribute their application materials. Although PG&E provided only samples of their application materials for our current program, we will again ask that they provide printed rebate information and applications for distribution in our outreach efforts. We will also work with the State Consumer Affairs Flex Your Power™ to ensure that they include the YEOP-1 EEMs in the lists and links on their website.

Since the 2002-03 program enabled the City of Davis to become an ENERGYSTAR® partner, YEOP-1 will also coordinate with the ENERGYSTAR® program and use their educational and marketing materials wherever appropriate (advertising, banners, tabling materials, web links, etc.)

Table II.B summarizes the marketing plan, including marketing materials planned, quantity of marketing materials (if applicable), method of distribution, and projected cost per marketing effort.

Table II.B Marketing Materials, Quantities, Distribution Methods and Costs

	Marketing materials planned	Qty of materials	Method of distribution	Cost per effort
Lights Lite	1. Fact Sheet-direct mail 2. Newsletter ads & stories 3. Webpage 4. Newspaper ads	4,000 copies of fact sheet 3,000 piece Direct mail two times	Newspaper Tabling* Mail Internet*	\$20,000
CFL distribution	CFL Fact Sheet	10,0000 copies	Estimates for CFL distribution: Tabling events = 7,800 Community presentations = 800 Central distribution sites (City Hall, Recreation programs) = 400 Torchiere events = 400 bags Evap Cooler canvass = 600	\$10,000
Torchiere exchange	Torchiere Fact sheet	600 copies	4 Special Events	\$8,000
Shade screens	Fact Sheet Vendor packets Direct mail postcard	5,000 fact sheets 60 vendor packets mailed 2x 30,000 pc mailing to targeted houses	Tabling Special Events Advertising	\$20,000
Evaporative coolers	Door to door canvass – information packets, Evaporative cooler Fact Sheet	1,200 fact sheets 1,200 packets	4 Canvasses	\$10,000

All fact sheets will be English and Spanish (back to back.)

## **C. Customer Enrollment**

*– Process for customer enrollment*

The process for customer enrollment varies by EEM. Some EEMs have more than one enrollment method.

**Lights Lite (COMM, MF):** Business owners, commercial building owners and account holders, and multi-family building owners and managers enroll in Lights Lite first by requesting a lighting retrofit proposal from one of the participating YEEP-Listed commercial lighting contractors. The listed contractor then delivers the project proposal to YEEP. YEEP staff then visit the potential customer and ask him or her to sign a rebate application (with lighting calculation data attached), formally enrolling in the program. The site visit also allows YEEP to verify the fixture count and proposed lighting installation. Once the customer signs, funds are reserved to cover the rebate amount.

**CFLs (RES):** Customers enroll in the CFL giveaway EEM by signing a very simple CFL agreement which has been used successfully in 2002-03. Similar to upstream rebate programs, no PG&E account number is required. However, name, address and phone number, must be filled in for QA and EM&V purposes. Also, the customer must check a box indicating that his or her household has not already received free CFLs from YEEP.

**Torchiere Exchange (RES):** Customers participate by signing a simple Torchiere agreement similar to the CFL agreement. Each customer must turn in an incandescent torchiere in order to receive an energy saving fluorescent torchiere. The cost to YEEP of a quality dimming, ENERGYSTAR® labeled unit will be around \$35 each. A non-dimming unit might be available as low as \$20 but it would risk not being accepted by customers and it would not demonstrate the best technology.

The torchiere exchange should be considered to be the same as a low cost or point of purchase rebate like the CFL giveaway pack. No torchiere turn-in program we are aware of has been run or could be run successfully and cost-effectively if IOU account numbers were required for each exchange. The pace of the action tends to be fast with long, and most customers are unlikely to bring their account numbers, even if that part were advertised. We are aware some would suggest that IOU account numbers should be required as part of this EEM. However, all Yolo County residents with electricity service are served by PG&E and thus pay into the PGC fund. For these reasons, we do not plan to require account numbers from torchiere exchange participants. Instead we require a Yolo County address, which virtually guarantees that the participant receives electric service from PG&E.

**Shadescreens (RES):** YEEP uses a simple rebate to promote shadescreen installations. Customers enroll by filling out an application, available on the web, at the YEEP office, and at local glass, screen and hardware stores that carry the eligible shadescreen products approved by YEEP. Customers may build their own shadescreens, have them built by a retailer, or have them built and installed by a retailer or contractor. They mail, fax, or deliver the application with receipt attached in order to claim the rebate. The application includes PG&E account number, an access agreement, the square footage of qualifying shadescreen installed, and on which side of the house the shadescreen was installed (to prevent rebates for north-facing installations.)

**Evaporative Cooler (RES):** The evaporative cooler EEM has the most in-depth enrollment process. Since there are not enough coolers to satisfy all income qualifying demand, YEEP targets one income qualified neighborhood at a time in consultation with local partners. YEEP staff canvasses the homes, offering the free cooler to households that meet the income guidelines and the requirements for a proper installation. A customer enrolls by signing the rebate application, which includes an access agreement. Then the YEEP canvasser does a brief feasibility check, to make sure that the evaporative cooler can be properly installed according to YEEP standards. Once it is determined that the potential participant meets eligibility (income) and installation feasibility guidelines, the application is marked "qualified". When there are a group of qualified applications ready for installation, YEEP schedules the installations and authorizes its installing contractor(s) to install

## **D. Materials**

*– Procedures for procurement, delivery and installation of equipment. Description of specifications of qualifying equipment (i.e. minimum energy efficiency rating levels). Description of installation standards if applicable.*

**Lights Lite** – procurement, delivery, installation, specifications, install standards:

YEEP does not purchase lighting for the Lights Lite program. Instead, participating Listed Contractors provide materials and installation labor at prices set by YEEP. To encourage the participation of local electrical contractors, YEEP will arrange with suppliers to offer lighting equipment Listed Contractors at large volume wholesale prices, although Contractors may use their own suppliers if they choose.

Delivery and installation of the Lights Lite retrofit projects is done by a YEEP Listed lighting contractor. The listing requirements include that the licensed contractor has an electrician involved in the installation process, that the contractor agrees to installation standards described by YEEP during an orientation session, and that the contractor use the YEEP rebate calculations when making a proposal for the customer. The 2002-03 program developed a detailed spreadsheet for calculating a lighting project costs and rebates, along with projected energy savings. YEEP will expand and enhance this spreadsheet and make it more user-friendly for lighting contractors in order to recruit more contractors into the 2004-05 program.

YEEP will use commercial lighting standards developed in 2002-03 by Richard Heath & Associates for the 2004-05 program under a licensing agreement. These standards are in conformance with standards used in Statewide EE programs, and cover safety, code, and correct installation and use.

**CFLs** – procurement and specifications:

The CFLs are procured using the City of Davis' standard procurement policies which require at least three bids meeting requirements described in a 'request for quotations' (RFQ) document. YEEP will use ENERGYSTAR® or California Energy Commission (CEC) specifications for residential CFLs. There are no installation standards for residential CFLs since installation is done by the customer. However, program materials contain guidelines and suggestions for proper installation and use, and YEEP staff is readily available (in person and through the website) to answer questions about installation. The YEEP will replace any defective lamps distributed through the program as long as supplies last.

**Torchieres** – procurement and specifications:

The torchiere fixtures are procured in the same way as the CFL lamps. YEEP will provide a torchiere with a dimmable lamp that is ENERGYSTAR® labeled. One consideration in the torchiere purchase is the ready availability of a replacement lamps for customers. It is important to the long-term energy savings of this measure that customers receiving these lamps are able to easily replace the bulb in case of breakage. YEEP will survey all regional torchiere vendors to assess the availability of these replacement lamps prior to purchasing torchieres.

A second consideration for the torchiere purchase is to ensure that the vendor will provide a ‘direct warranty’ of the products to YEEP during the project period. YEEP will convey to the torchiere customers that they can turn in a defective lamp vendor for a new one to the original during the entire length of the energy project.

There are no formal installation requirements for this measure; however, the program will distribute a detailed fact sheet describing the energy saving features, best uses and comparative coolness of the fluorescent torchiere to each participant.

**Shadescreen** – procurement, delivery, and specifications,:

YEEP-1 does not procure shadescreens, and delivery is through vendors who sell qualified products. Our list of allowable shadescreen materials is based on a CEC list as modified by Sacramento Municipal Utility District. Basic installation guidelines (and rebate requirements) are described in a shadescreen factsheet, which is copied onto the back of the rebate application form.

The rebate requires that the shadescreens be installed on a non-north-facing side of the building, and that the screens must use eligible screening material. The list of eligible material includes: Phifer Wire Products - SunScreen®, Sun Tex® 80 or 90, Super Solar Screening; Twitchell Textilene® 80, Textilene® 90.

**Evaporative Cooler** – procurement, delivery, installation, specifications, install standards:

YEEP will purchase evaporative coolers in accordance with City of Davis procurement requirements. Typically this involves a competitive bid, although small purchases may be made for a comparison of prices and quality prior to a bulk purchase.

YEEP will use evaporative cooler standards developed by Richard Heath & Associates for the 2002-03 program under a licensing agreement. These standards are in conformance with standards used in Statewide EE programs, and cover safety, code, and correct installation and use. The RFQ for the coolers will specify a unit or units that meet the requirements of YEEP and will be sent to the major evaporative cooler manufacturers. All fact sheets and applications will be in both English and Spanish.

**E. Payment of Incentives**

*– Process for payment of incentives to customers. If incentive amount is not fixed per measure or project, describe how amount is determined for each customer.*

Rebates are paid for our commercial lighting retrofit program, Lights Lite (9 cents or 13.5 cents per kWh saved); and Shadescreens (\$1/square foot of material installed.) All other measures are giveaway items.

**Lights Lite:** Under Lights Lite, YEEP pays the rebate directly to the contractor. This reduces the cash flow problem for small and very small businesses since they do not have to pay the full cost and then apply for a rebate. Rebates are calculated at 9 cents per kWh saved, except that A-1 and A-6 customers may receive a rebate of 13.5 cents per kWh with a cap of \$1,000. A-1 and A-6 customers may choose the lower rebate in order to avoid the \$1,000 cap. The cap for the 9 cent per kWh rebate is \$20,000. (Larger lighting projects may make use of other Statewide lighting programs.) The contractor makes a proposal using the YEEP lighting worksheet that is a password protected, rebate and energy savings calculation EXCEL™ workbook provided at no cost to listed contractors by YEEP. On the basis of the proposal, customers agree to purchase the lighting improvements for their share of the cost from the Contractor, subject to YEEP review of the calculations and prices.

YEEP reviews proposals, and checks fixture count and lighting design concerns on site. Based on this review, YEEP confirms (or changes) the total job cost, customer cost, and rebate amount. After the installation, YEEP may do a post-install field check, and in all cases, will review the completion certificate and attached job description signed by installer and customer. Then YEEP staff creates a field purchase order (FPO), authorizing payment to Contractor for properly installed jobs

**CFLs:** These are provided free to all residents that request them, with a limit of one "kit" of 3-5 CFLs per household.

**Fluorescent Torchiere Exchange:** These are provided in exchange for a working incandescent or halogen torchiere.

**Shadescreens:** Incentive is fixed at \$1.00 per square foot. Customers apply, with a receipt or paid invoice attached. Staff reviews invoices to verify square footage and appropriate installation. After sign-off by YEEP-1 staff, YEEP-1 issues a Field Purchase Order (FPO) on the City of Davis financial accounting system. The City cuts checks to pay rebates on alternate Fridays.

**Evaporative coolers:** Coolers are installed and provided free to income-qualified applicants in low-income neighborhoods chosen based on census data. The value of materials and installation is approximately \$625 per evaporative cooler.

## **F. Staff and Subcontractor Responsibilities**

*– Describe proposed staffing structure of prime contractor and subcontractors. In the **program implementation workbook**, sheet “8 –Labor”, include a list of positions, responsibilities, and the percent of each of those staff’s time that is projected to be dedicated to the project.*

The YEEP is a partnership between Yolo County, the Cities of Davis, West Sacramento, Woodland, Winters, and the Valley Energy Efficiency Corporation (VEEC, a non-profit 501-3c entity incorporated in order to run local government EE programs.) The primary partners are the City of Davis (project applicant), which handles program finances and is responsible for upper level supervision and management, and VEEC, which provides staffing for administration and implementation. The City of Davis is the contractor that will contract with the CPUC-designated contract administrator.

Jim Antonen, Davis City Manager, is the program contact and provides oversight. Bob Weir, Director of Public Works, provides high level management, and Mike Goodison, Assistant Director of Public Works, meets 1 to 4 times per month as part of the VEEC team and is the City's project manager. The City of Davis will hold the contract with CPUC's designated contract manager (PG&E). The City of Davis will contract with VEEC for program administration and implementation, and execute Memoranda of Understanding with the County and each City as needed.

VEEC staff include Marshall Hunt, Project Director; Bill Knox, Commercial Program Director; Liz Merry, Marketing Director; Laura Creely, Administrative Associate; and an Energy Analyst position, to be hired. VEEC staff meets in biweekly or weekly meetings to divide up tasks and discuss project progress.

Interns provide a great deal of the labor for canvassing, tabling, presentations, marketing, clerical duties and commercial lighting site visits. Core staff train and manage the interns in the necessary procedures and energy efficiency theory and practice.

Finally, each project partner designates one person to provide part-time assistance and act as a liaison to enable effective community outreach and local marketing. Staff services provided by partner Cities and the County are included in the proposal's budget, and will be the subject of a Memorandum of Understanding (MOU) between the City of Davis and each of the other partner Cities.

There are no subcontractors named in this project proposal. However, we anticipate contracting for computer application development to simplify reporting and recordkeeping. This proposal's budget and the YEEP-2 budget each includes \$20,000 for this purpose. We anticipate the likelihood of providing a limited amount of specialized staff training for interns and YEEP-1 staff on a fee-for-service basis. This work will be covered by City of Davis purchase orders and governed by the standard practices of the City.

## **G. Work Plan and Timeline for Program Implementation**

*– Include dates of important milestones.*

Our work plan begins with updating program materials, and improvements to EEM tracking and lighting calculation software. Given a March 15 start date we expect to be up and running for the summer 2004 season with our cooling EEMs. A "City" as used in the following table may include incorporated areas, unincorporated areas, or a combination of both. Required, written monthly reporting will occur during the project and be augmented in each partner jurisdiction by appearances at regularly scheduled meetings by the YEEP team and partner liaison members.

Note: Y1&2 refers to milestones applicable to both YEEP-1 and YEEP-2.

<b>Date</b>	<b>Milestone</b>
March 15, 2004	• Sign contract to begin program
April 1, 2004	• Continue "Davis Lights" under new name "Lights Lite" in Davis. Begin Listed Contractor recruitment.
April 30, 2004	• Provide Implementation Plan to Contract Administrator

May 30, 2004	<ul style="list-style-type: none"> <li>• Complete approval of all updated applications</li> <li>• Purchase first batch of residential CFL's</li> <li>• Purchase first batch of Evaporative Coolers</li> <li>• Begin marketing Shadescreen rebate</li> <li>• Recruitment of Lights Lite Listed contractors completed</li> <li>• Recruit evaporative cooler installers</li> </ul>
June 15, 2004	<ul style="list-style-type: none"> <li>• Initiate tabling events in City 1. (Y1&amp;2)</li> <li>• Yoloenergy.org website designed and running. (Y1&amp;2)</li> <li>• Scope canvass neighborhood in City 1. (Y1&amp;2)</li> <li>• Lights Lite initiated in City 1 and 2.</li> <li>• Fact sheets completed and translated into Spanish. (Y1&amp;2)</li> <li>• Canvass teams hired and trained; canvass materials completed. (Y1&amp;2)</li> </ul>
June 30, 2004	<ul style="list-style-type: none"> <li>• EM&amp;V Plan submitted for approval</li> <li>• Regular tabling events initiated in City 1 and 2. (Y1&amp;2) – CFLs distributed regularly.</li> <li>• First phase evaporative coolers installation begun</li> <li>• Canvass begins in City 1 (Y1&amp;2)</li> </ul>
July 30, 2004	<ul style="list-style-type: none"> <li>• Canvass begins in City 2 (Y1&amp;2)</li> <li>• Initiate tabling events in City 2 and 3 (Y1&amp;2)</li> <li>• Shadescreen marketing (ongoing)</li> <li>• Lights Lite (ongoing)</li> </ul>
September 15, 2004	<ul style="list-style-type: none"> <li>• Conclude evaporative cooler canvass in City 1 &amp; 2</li> <li>• Begin Lights Lite in City 3 – ongoing in 1 &amp; 2</li> <li>• Completion of first 100 Lights Lite business lighting projects</li> <li>• Installation complete of first 200 Evaporative Coolers</li> </ul>
October 31, 2004	<ul style="list-style-type: none"> <li>• Torchiere exchange events completed in City 1 &amp; 2; 300 Torchieres distributed.</li> <li>• Regular tabling events initiated in City 3 &amp; 4 (Y1&amp;2)</li> </ul>
November 15, 2004	<ul style="list-style-type: none"> <li>• Complete distribution of first 12,500 CFLs</li> </ul>
December 31, 2004	<ul style="list-style-type: none"> <li>• Assess progress during first year</li> <li>• Purchase of second batch of CFLs</li> </ul>
January 10, 2005	<ul style="list-style-type: none"> <li>• Reassess Commercial lighting and refocus marketing as needed to assure participation of businesses in all partner Cities and County.</li> <li>• Updates of website and fact sheets (ongoing)</li> <li>• Enroll more listed Lights Lite contractors</li> </ul>
February 28, 2005	<ul style="list-style-type: none"> <li>• Torchiere Events held in City 3 &amp; 4 – 300 lamps distributed for a total of 600</li> </ul>
March 15, 2005	<ul style="list-style-type: none"> <li>• Begin marketing shadescreens for Summer 2004 (all cities)</li> </ul>
May 15, 2005	<ul style="list-style-type: none"> <li>• Begin Evaporative cooler canvass in City 3 &amp; 4</li> <li>• Adjust marketing and focus based on EEM success</li> <li>• Distribution of 22,000 CFLs to date</li> <li>• Second phase evaporative coolers installation begun</li> </ul>

June 30, 2005	<ul style="list-style-type: none"> <li>• Evaporative cooler installations in City 3 &amp; 4 begin.</li> <li>• Lights Lite completion of 300 businesses</li> </ul>
September 30, 2005	<ul style="list-style-type: none"> <li>• Total \$14,000 in Shadescreen rebates distributed</li> <li>• Final Evaporative coolers installed for a total of 450; over 1300 homes canvassed and contacted</li> <li>• Complete distribution of 30,000 CFLs</li> <li>• Completion of 370 business lighting retrofits</li> </ul>
October, 31, 2005	<ul style="list-style-type: none"> <li>• EM&amp;V report drafting ongoing....</li> <li>• Summary of Evaporative Cooler canvass and findings drafted</li> </ul>
December 31,2005	<ul style="list-style-type: none"> <li>• Final YEOP Report</li> </ul>

## Section III. Customer Description

### A. Customer Description

*– Detailed description of customers targeted by program including customer size, market segment, market actors targeted and description of hard to reach*

Our residential EEMs target low and middle-income tenants manufactured home residents, and homeowners/renters in MF or SF homes through our outreach and marketing strategies. However, except in the case of income-qualified EEMs (only evaporative coolers in this proposal), we will not ask people their income level as a condition of services. We have found that income-related questions serve to render a program less effective in reaching those who are truly most in need of its services. Therefore, we plan to track EEM delivery by income by correlating the delivery address against income data available from the federal census. We will document neighborhoods served correlated with census data re: income and language, which is available on a per residential block basis.

#### **Residential Customer Description**

Our residential program targets all residents of both SF and MF housing. By CPUC definition, all Yolo County residents are hard-to-reach, rural customers. We expect, and plan, to reach large numbers of customers who are hard to reach based on:

- Language (Spanish throughout the County, and Russian in West Sacramento),
- Income (< 400% of federal Poverty Guidelines)
- Housing Type (multi-family and manufactured home tenants), and,
- Homeownership (renters)

According to Census 2000 data, Yolo County ranks 29th among the 58 California counties in personal income. Of all Yolo County households, approximately 73% have annual incomes less than 400% of the federal poverty level for a family of four. Forty-two per cent of Yolo County

households have incomes below twice the poverty level, and about 18% of households had total annual income below \$15,000 in 1999.

Approximately 27% Yolo County's residents are of Hispanic or Latino descent. In West Sacramento, there is a sizable minority of Russian speakers. We will reach these non-English speakers through Spanish and Russian language applications and program materials. Much of our material is already available in Spanish for our 2002-03 programs. We will work with the City of West Sacramento Redevelopment Agency staff to provide Russian translation of our materials.

We will specifically target low income neighborhoods for our canvasses. The primary purpose of canvasses is to distribute evaporative coolers to income qualified (400% of Federal Poverty Guidelines) residents. But we also use the canvass to distribute CFLs, information on low income programs and other energy efficiency offerings to the lowest income neighborhoods in the County.

We believe that our strategies of targeting lowest income neighborhoods for canvassing (using block by block census data), distributing CFLs through tabling and booths at public events (e.g., recycling days, Winters' Youth Days) and super markets, and advertising in all media, including non-English publications, will help us reach hard-to-reach customers. Our expectation is that at least half of the 10,000 households served with CFLs (and information from YEEP-2) will be met the CPUC hard-to-reach by income criterion, although it is likely that we will come closer to 70% hard-to-reach based on the population of our County.

In Yolo County there are 65,368 households, of which 36,790 are SF detached. Of the remainder, 15,542 are MF units in buildings of 5 units or more while another 4,469 are MF in buildings of 2 to 4 units. Finally, there are 4,946 units that are classified as being SF attached.<sup>3</sup> The County data sets the number of manufactured homes at 3,621. Because of this distribution, we believe that 30 to 40% of our CFL customers will fall into hard-to-reach definitions for housing type.

In addition to income level targets, YEEP-1 will attack the split-incentive barrier by marketing directly to apartment tenants for the shadescreen rebate and torchiere exchange events. The marketing will include direct mail to these customers and their building owners.

### **Nonresidential Customer Description**

Our Lights Lite program is open to all commercial accounts, and to multi-family common areas on either commercial or residential accounts. But we especially target very small and small businesses, businesses in leased space, and non-English speaking businesses.

In 2002-03 (to date), approximately 95% of our Davis Lights customers were on the A-1 or A-6 rates (very small – these rate classes are proxies for <20 KW demand since demand data is not available), with virtually all of the rest on A-10 rates (proxy for small). Based on census data, we expect that we will continue to reach the small and very small at approximately these rates, with a possible exception in West Sacramento where there is a greater concentration of motels

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<sup>3</sup> p. 18, *ibid.*

and larger businesses. Furthermore, 2342 businesses in Yolo County (68% of the total) qualify as very small with less than 10 employees.

We target mainly downtown businesses, with retail and services being the largest sector. However, any commercial customer with an electric account (all electric accounts in Yolo County are PG&E accounts) and any MF common area account holder are eligible. By targeting retail and services, we are dealing primarily with leased space, as confirmed by the statistics on building ownership from our 2002-03 program. YEEP will also provide Spanish language materials for Lights Lite, and at least two of our Listed Contractors speak Spanish or have employees who use Spanish on the job. Some YEEP staff and interns also speak Spanish, much to our benefit in the 2002-03 DEEP program.

## **B. Customer Eligibility**

*– Types of customers who will be entitled to participate in the program.*

All residents, renters and owners, SF or MF, are eligible for our residential lighting measures and shadescreens. Each customer signs an agreement verifying that they receive service from a PG&E electric and/or gas account. Residential customers falling within income guidelines are eligible for the evaporative cooler measure as long as they have an appropriate installation site.

All commercial (and MF) businesses may participate. Agricultural customers with lighting needs may also participate in Lights Lite, and are also eligible for CSU Fresno's agriculture energy program (we will inform Yolo County farmers about this program in our YEEP-2 program.)

Since only PG&E provides electric and natural gas service in Yolo County, we consider all residents (except those off the grid) to be eligible. For this reason, we require a Yolo County address and phone number as evidence of eligibility for the CFLs and torchieres. We require customers of Lights Lite, the evaporative cooler EEM, and the Shadescreen rebate to provide PG&E account numbers, as well as address and phone number.

## **C. Customer Complaint Resolution**

*- Procedures for responding to customer questions or complaints regarding program, and for resolving program or performance disputes with program participants or customers.*

YEEP expects to anticipate and answer customer questions through its EEM marketing and outreach activities. These include production of written materials (EEM applications and fact sheets, program brochure, web page, etc.), in-person presentations at community meetings and events (Chamber of Commerce, neighborhood groups, other service organizations), regular newspaper advertisements and articles, special events, and a public presence on the each partner City's website. Through our information program, we will address energy questions not directly related to our EEMs.

To prevent complaints, and to address incipient participant complaints, YEEP includes Quality Assurance (QA) procedures covering all of the EEMs for which it pays incentives. For example, we replace nonfunctional CFLs or torchieres for customers who return them. For shadescreens, YEEP educates vendor participants to avoid rebate application complaints.

Our most vigorous QA is in the Lights Lite program, where we have at least one, and often more than two site visits to verify lighting counts, fixture appropriateness, and customer satisfaction. Likewise, our interns provide full information on evaporative cooler installation to prospective participants, and follow up during and after installation.

To handle inquiries or complaints, local phone numbers (toll free) will be established that will be answered by a live person during business hours when staff are present and covered by a voicemail system at all other times. All program materials will have the YEOP phone number and website printed in an easy to find location along. When a customer contacts staff with a complaint, that staff member contacted will first try to answer to the customer's satisfaction. Interns are trained in handling complaints that come up in a canvass, public tabling event or on the phone.

If an intern or first level staff person cannot resolve a complaint; it will be elevated to the appropriate Director. If the Director cannot resolve the complaint in a satisfactory manner, the Project Director will be brought in, with final appeal to the Department of Public Works first, and then following standard City procedures.

Dispute resolution procedures have been reviewed and approved by the City Attorney and are parallel to those used for disputes over City water bills or other services provided by Public Works. A formal letter of complaint must be submitted to the Department of Public Works to initiate this process. The exact process will depend on the nature of the dispute and amount of money involved. The City Council in consultation with the City Attorney has final authority over any dispute resolution procedures.

#### **D. Geographic Area**

*– Description of geographic area targeted by program. Include here a discussion of whether the program is proposed for a transmission constrained area as identified by the California Independent System Operator.*

Our project targets Yolo County for 2004-2005. Note that we continue to follow a plan of expansion into similar, neighboring areas that we first discussed in our 2002-2003 proposal. By increasing at a moderate pace, we gain from economies of scale, while not losing the local connections and familiarity with both local energy needs and conservation potential, and with local business and community organizations. Ultimately VEEC aims for a regional program within the southern Sacramento Valley, continuing to serve Yolo County and extending services to adjacent counties. We believe that some of our successes will be useful and can be replicated through the Sacramento and San Joaquin Valleys, and in the southern desert areas of the state.

Yolo County are all part of the hot, dry Central Valley climate region. The Central Valley, with its high air conditioning loads, contributes disproportionately to the State's summer peak demand. Our residential program focuses on reducing cooling and lighting demand. Likewise, our commercial program, focused on retail and service lighting, directly reduces peak demand, since virtually all business use their lighting during the peak periods.

## Section IV. Measure and Activity Descriptions

*Use table format where appropriate. If program offers an extensive list of measures, summarize the following information by measure type or other logical grouping where appropriate. Include a more extensive discussion in separate attachments and document with work papers if necessary (delivered by mail to Energy Division). If necessary, provide references to line and/or cell numbers in the program activities worksheets of the program implementation workbook (described in next section).*

### A. Energy Savings Assumptions

*Briefly document source of all energy savings assumptions for each measure or measure type. For each measure or measure type where the energy savings assumptions are not standardized and available in the DEER database<sup>4</sup>, describe the rationale for the following energy savings assumptions:*

- *Coincident Peak Demand Reduction (kW)*
- *Electric Energy Savings (kWh)*
- *Gas Energy Savings (therms)*

Energy savings assumptions are detailed and documented in Table IV.A,B,C and the footnotes to that table.

### B. Deviations in Standard Cost Effectiveness Values

*Document and provide a rationale for all cost-effectiveness variables that deviate from those prescribed in the Energy Efficiency Policy Manual and the CEC's DEER database:*

- *Net-to-Gross Ratio*
- *Estimated Useful Life*
- *Incremental Measure Cost*

Cost Effectiveness Values are shown and documented in Table IV.A,B,C and any deviations from standard values are explained in the footnotes to that table.

### C. Rebate Amounts

*-For each measure or measure type, briefly describe the rationale for rebate amount.*

Rebate amounts are shown in Table IV.A,B,C and discussed in this subsection.

**Lights Light:** Rebate amounts are equivalent to those used in our 2002-03 program and to Ecology Action' rebate levels for Smart Lights. They are designed to bring in customers at the right hand side of the bell curve of adoption. These are the small and very small businesses with cash flow and other barriers that make it unlikely for them to install comprehensive EE lighting without substantial rebates. Furthermore, the cost of marketing to these small customers would make it impossible to reach them cost effectively without a rebate level that in many cases covers all or a good portion of the incremental cost.

**CFL Giveaway:** Our experience in the 2003-2004 program confirmed that free distribution served to do away with most marketing costs, reach the residential hard-to-reach and help get customers interested in other energy measures with and without associated rebates from DEEP or from other implementers. Many residents had rejected earlier models of CFLs because they did not fit in standard incandescent fixtures. The free CFLs are combined with delivery of

information about where to locally purchase not only standard CFLs, but specially designed compact fluorescent lamps made for track lighting, outdoor use and other special applications.

**Torchiere Exchanges:** In 2002-2003, we gave away CFL torchieres in exchange for functioning incandescent (generally halogen) torchieres. We continue to offer this service, that also reduces fire risk, at not cost to the customer.

**Evaporative cooler:** We offer the Evaporative Cooler free to low income residents (incomes less than 400% of Federal Poverty Guidelines). Note that the County mean household income is less than 3 times the federal poverty standard; most participants in 2002-03 had incomes at poverty level or below twice poverty level. The extra program cost associated with finding low income customers willing to pay a share of the cost would likely exceed the cost of offering free coolers. Therefore, we continue to offer the coolers and installation free to qualifying low income residents.

**Shadescreens:** Our shadescreen rebate is \$1.00 per square foot. This compares with typical costs of \$2.30 per square foot for shadescreens made-to-order at a glass or hardware shop, and installed by the customer. This rebate level has successfully stimulated demand and provides a cost-effective return on program investment.

Table IV-A, B, C: Energy Savings, Cost Effectiveness Values, and Rebate Amounts

MEASURE DESCRIPTION / ACTIVITY DESCRIPTION	Avoided Peak Coincident KW / unit	kWh Saved Unit	EUL	Gross IMC per Unit	NTG Ratio	Rebate / Incentive per Unit	# of Units
<b>COMMERCIAL EEMs</b>							
Lights Lite - Direct Install (Commercial & MF)	2.12 <sup>1</sup>	10,000 <sub>1</sub>	13.0 <sup>1</sup>	\$1,200 <sup>1</sup>	0.90 <sup>1</sup>	\$1,100	370
<b>RESIDENTIAL EEMS</b>							
Interior Lighting 1(including CFL giveaway & canvass, SF + MF)	0.0100 <sup>D</sup>	115 <sup>D</sup>	9 <sup>2</sup>	\$4 <sup>2</sup>	0.80 <sub>E</sub>	\$4	30,000
Interior Lighting 2 (RES torchieres for SF & MF tenants)	0.0300 <sup>3</sup>	263 <sup>3</sup>	9 <sup>3</sup>	\$11.50 <sup>3</sup>	0.80 <sub>E</sub>	\$32	600
Shadescreens (RES for SF & MF tenants)	0.001344 <sub>D4</sub>	1.8815 <sub>D4</sub>	10.0 <sup>4</sup>	\$2.50 <sup>4</sup>	0.80 <sub>E</sub>	\$1	14,000
Air Conditioning Systems (evap coolers-low inc SF)	1.61 <sup>5</sup>	915 <sup>D5</sup>	15 <sup>E</sup>	\$625 <sup>5</sup>	0.80 <sub>E</sub>	\$625 <sup>5</sup>	600

Notes to Table IV-A,B,C

Standard sources for Table IV-A, B, C are indicated by superscripts D, E and W refer to sources as follows:

<sup>D</sup> indicates DEER.

<sup>E</sup> indicates CPUC Energy Efficiency Policy Manual

<sup>W</sup> indicates values taken from the Working Papers (without page numbers) for the 2001 Express Efficiency (Statewide) program for commercial and industrial customers of the California IOUs.

Explanations using other sources are referenced by numbered footnotes, explained here:

<sup>1</sup> Avoided Peak Demand for Lights Lite is the average savings from our experience to date with Davis Lights and Customized Commercial Lighting, our 2002-03 commercial lighting programs. It is assumed that all avoided demand is coincident peak demand because the target audience (retail, service, commercial, food service and other commercial) uses lighting during peak hours. This is especially true of small and very small businesses that tend to be open 5 or 6 days per week from the morning until early evening. kWh/yr savings are the average savings for all participants in our 2003-2003 programs. Note that savings per fixture, used to calculate individual job savings, are from the Working Papers for 2001 Express Efficiency referred to above. EUL for Lights Light is a weighted average of the EUL of linear fluorescent ballasts and CFLs. Note that YEPP's intent is to use 2 and 3 piece CFL units with replaceable lamps and 40,000 hour rate ballasts, as well as devices that prevent reinstallation of incandescent lamps, provided such products are available and can be purchased through competitive bidding procedures required for City of Davis purchases. The effect of this policy is to increase the useful life and decrease the incremental cost of commercial lighting installed under this program. The incremental costs are based on installed costs of the initial system, plus a premium for future CFL lamp replacement. The Net-to-Gross ratio is 0.90 because this is a direct install program, with field verifications before and after installation. Existing and post-install conditions are verified and fixtures counted by YEPP staff. Free ridership is minimized because we are now reaching those that were unable to install lighting retrofits under standard Statewide conditions. Therefore, the Net-to-Gross ratio is higher by 10% than that used in a standard lighting rebate program with minimal on-site verification and quality control.

<sup>2</sup> For interior residential lighting, CFLs, we have used a higher EUL than that of DEER. Because we assume only 2 hours per day of operation, average life should be approximately 11 years. However, due to erosion of average life through multiple starts, we assume only 9 years of life. We use \$4 as the incremental cost per CFL based on a survey of prices available locally at Home Depot, Ace Hardware (several locations) and other common sources of CFLs.

<sup>3</sup> Avoided peak demand, kWh savings, EUL, Gross IMC are all taken from the Statewide Residential Energy Efficiency Management Program, 2002, Rev. 5-14-2002 (submitted to CPUC by the IOUs as part of 2003 program documentation.) As in the case of CFLs, again, because savings are based on 2 hrs/day of operation, we assume 9 years of life for torchiere fixtures with lamps rated at 8,000 hours.

<sup>4</sup> Shadescreen savings are based on a modification of calculations that are presented in the DEER but that we believe to be misleading in the presentation tables. A close reading and understanding of the document and the simulations that create the savings values from the use of shadescreens indicates that savings are assumed from north facing windows without direct

sunlight. The windows in a model house are equally distributed but only 75% of them should be shadescreened, using our standards and rebate requirements. This means the benefit of shading is spread over fewer square feet of screening. The normal average house is over 10 years old, which DEER models with an average of 177 square feet of shaded window. Each square foot of shadescreen saves 0.001344 KW and 1.88155 kWh/yr. The incremental cost is based on actual cost of the typical purchase of shadescreens built to fit at a glass, screen or hardware store, and installed by the owner.

<sup>5</sup>Evaporative cooler demand and kWh savings are estimated using data and concepts that Marshall Hunt used in developing the statewide kW and kWh for room air conditioners. For our program, the DEEP HE2910, Phoenix Manufacturing, Inc. high efficiency window evaporative cooler unit is modeled instead of the older, low efficiency (EER5) window unit of equal capacity (10,000 Btuh). For an average of 800 full load hours equivalent run time the savings are 915 kWh/year. The EER 5 unit has a peak demand of 2 kW while the HE 2910 has a demand of 0.39 kW for a savings of 1.61 kW. This will be improved with the new version of the HE2910 and the numbers will be revised when we have the data. The cost to purchase and install the units is budgeted to be \$625.00 based on 2002-03 experience with an allowance for the possibility of cost increases for the improved HE2910 and/or a larger advanced window unit to serve a larger house.

## **D. Activities Descriptions**

*- Briefly describe the expected program activities not expected to produce measurable energy savings (such as facilities audits and equipment diagnostics) and cost per activity.*

### **Lighting Site Visits for Verification and Quality Assurance**

To assure high quality lighting installations, and to control costs, YEEP staff visit each Lights Lite customer to verify proposed job specification. Most customers receive at least one pre-install visit and post-install visit, although once a listed contractor has established a track record, a single visit followed up by phone may suffice.

*Pre-installation site visits.* The first site visit occurs after the Listed Contractor delivers to YEEP a lighting proposal that has been accepted by a customer. Listed Contractors use YEEP's proprietary software to calculate lighting costs (according to fixed prices negotiated with the group of Listed contractors) and energy savings (using estimates from PG&E's Workpapers for 2001 Express Efficiency). At this visit, we verify the fixture count and check that the correct equipment has been specified on the proposal. If the count or proposed lighting is not correct, we may 1) make changes on site to our rebate application, or, 2) return to the office to recalculate cost and savings, or 3) tell the customer that a new proposal is needed, and refer our corrections to the Contractor along with a request to do a new proposal. If necessary (especially in case # 3, above), a second pre-install site visit will be made to confirm a fixture recount made by the contractor.

*Post-installation site visits.* After a Lights Lite installation is complete, the Contractor delivers to YEEP a Certificate of Completion / Customer Acceptance form signed by Contractor and by Customer. This form confirms that the installation is complete and accepted by the customer. Our practice is to visit every site after installation to verify that the correct number of fixtures is installed, and that the customer is satisfied. In some cases only a sample of fixtures are counted

(e.g., one or more types of retrofits), especially if access is a problem (e.g., locked spaces). To date, in our 2002-03 program, we have done post-install site visits for all customers. However, we anticipate that once we are comfortable with the work of a Contractor and his specific installer, and we have done at least 10 post-install site visits in sequence without a correction; we may replace some post-install visits with a phone call to the customer.

The full cost of a site visit varies between \$100 and \$300, depending on the extent of the fixture count, the necessary preparation work in customizing rebate applications and appended data sheets, and on whether intern labor or staff labor is used. We have budgeted for 3 site visits per job, with some needing more and some fewer. Our budget is based on 720 site visits at \$200 each. Interns do many of the site visits, but higher level staff are involved for the more complex jobs, for training interns, and for site visits scheduled for times when part-time trained interns are not available.

### **Evaporative Cooler Canvass**

The evaporative cooler canvass serves this proposal in identifying income- and feasibility-qualified program participants. Each canvass targets a neighborhood shown by Census data to have "hard-to-reach" income levels. The canvass includes going door to door with program literature, asking prospective applicants to sign a rebate application (including access agreement), and checking for feasibility. The feasibility check includes verifying that an appropriate window or pre-cut AC unit space is available, water and electricity are safe and available, the potential customer wants to participate and other items that determine whether or not a cooler can be installed according to the YEEP standards.

Each block is canvassed at least twice, including evening and/or weekend hours when more residents are at home. We leave brief program literature at the door of unoccupied manufactured homes, or single-family homes. A follow up canvass hits addresses that were unoccupied in the first canvass. In some cases a third try is needed to reach every household.

Based on our experience, each canvass takes 8 weeks, with four part-time interns. One or two staff members are involved in supervision and coordination of canvasses, and to deal with less clear feasibility situations. We plan for 4 canvasses (one in each City except Davis, and one in the unincorporated County) at a cost of \$20,000 per canvass.

Note that each canvass includes distribution of information to serve the goals of YEEP-2, our companion program. These aspects are discussed in the YEEP-2 proposal. However, the entire canvass budget in this case is included in this hardware/incentive proposal because the primary purpose of the canvass is to enroll customers for evaporative coolers. Informational materials used in the canvass are included in the budget of the companion proposal.

### **CFL Distribution Events**

YEEP will distribute residential CFLs at a wide variety of dual purpose events. Events include tabling at grocery stores and farmer's markets for each main City, at local sporting events, churches, and during major City-sponsored events in each City, and at presentations to neighborhood and business groups.

We are targeting 120 tabling events, but will adjust that number as necessary to meet goals. With 120 events, each event will distribute an average of 400 CFLs per event in kits of 3 to 5

units per kit. The remaining CFLs will be distributed out of our office, presentations or through other means. The YEEP-2 proposal, focused on marketing and outreach, provides more information on distribution events that serve both YEEP-2 and YEEP-1 goals.

The cost of these events is distributed between this proposal's budget and the YEEP-2 program budget. The share in this budget is approximately \$300 per event, including prep time, bagging of CFLs, supervision and related tasks essential to the events. Usually at least two interns participate in an event, with as many as 5 or more for large events.

### **Torchiere Exchanges**

YEEP will exchange energy-saving CFL torchieres for high wattage incandescent (halogen) torchieres at 4 special events distributed throughout the County and targeted at low-income customers. Each event includes materials, possible rental of location, vehicles for recycling and at least 5 staff and/or interns. We estimate the cost per event at \$2,500 including preparation, recycling and follow-up. The total of \$10,000 for 4 events is included in this proposal's budget.

### **City of Davis Rebate Checks**

As in our 2002-03, the City of Davis Finance Department will issue rebate checks at a cost between \$10 and \$20 per check for processing. We expect that approximately 1,000 checks will be required to cover Lights Lite and Shade Screen rebates.

## Section V. Goals

Use table format where appropriate. Provide brief overview of quantitative, qualitative, and energy & peak demand savings goals. Discuss any proposed program performance goals not covered in the sections above (i.e. other objective measures for evaluating program progress).

Table V: Quantitative Energy Savings and Dollar Savings Goals

MEASURE DESCRIPTION / ACTIVITY DESCRIPTION	Peak Coincident KW savings / unit	kWh Saved Unit	EEM Unit Goals	Total KW Goal	Total kWh/yr goal (Gross Savings)	1st Yr Utility Bill Savings @ \$0.15 per kWh	Present Value EUL Savings per TRC
COMMERCIAL EEM							
Lights Lite - Direct Install (Commercial & MF)	2.12	10,000	370	784	3,700,000	\$555,000	\$2,047,388
RESIDENTIAL EEMS							
Interior Lighting 1 (including CFL giveaway & canvass, SF & MF)	0.0100	115	30,000	300	3,450,000	\$517,500	\$1,276,493
Interior Lighting 2 (RES torchieres for SF & MF tenants)	0.0214	173	600	12.84	103,800	\$ 15,570	\$34,938
Shadescreens (RES SF & MF tenants)	0.0013	1.8815	14,000 sq. ft.	18.82	26,341	\$ 3,951	\$10,593
Air Conditioning Systems (evap coolers- HTR inc SF	1.61	915	450	1166.25	411,750	\$ 61,762	\$225,100
TOTALS				2282	7,691,891	\$1,153,783	

### Quantitative Goals

Quantitative energy savings and dollar savings goals are displayed in Table V and discussed in this paragraph. Lights Lite goals are based on our experience in our 2002-03 program. The unit goal represents an average, assuming a mix of business sizes, with approximately 95% very small and small. Our goal of 30,000 CFLs distributed is three times the quantity distributed over

12 months in our 2002-03 program for Davis alone. See the Marketing Plan for detail on planned distribution of CFLs, and torchiere exchange events.

Our shadescreen unit goal is 14,000 square feet of shadescreen. This corresponds to 420 residential units at 33.3 square feet each. This rate of installation is comparable to what we found in our Davis program. We will distribute 450 evaporative coolers to low income residents. This includes approximately 150 each in West Sacramento and Woodland, and 150 in the rest of the County; however, we may adjust the distribution by area based on demand and need.

### **Qualitative Goals**

Our qualitative goals include:

- Demonstrate the benefits of energy efficient lighting to very small and small businesses through successful and comprehensive lighting retrofits. This includes continuing to push for retrofit of all existing fixtures in a business so that the location is not left "half-done".
- Demonstrate the benefits of energy efficient lighting to residential customers through dissemination of CFLs and torchieres. While saving electricity customers will also learn that fluorescent lighting is now available for nearly every application (except dimming), at a reasonable low price. We will also inform them of where to purchase fluorescent lighting locally.
- Promote the use of shadescreens for natural cooling and raise awareness of low- and no-cost natural cooling options that reduce A/C demand.
- Develop local infrastructure for EE lighting and installation of coolers (this goal is shared with our information and market transformation program.) Specifically hire and train local installer(s) for evaporative cooler installations. And enlist at least 3 additional lighting installers as Listed Contractors for Lights Lite.
- Create a replicable program with procedures for commercial lighting and residential cooling measures that can be replicated in similar weather regions of the state. We expect that replication may come about in 3 ways:
  - We plan to expand into adjacent counties in future funding cycles;
  - We hope to influence the IOUs to adopt aspects of our evaporative cooler and shadescreen programs; and,
  - We will be available to consult with other Local Implementers or prospective implementers concerning best practices for EEMs with which we have developed a track record.

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

### A. Proposed Program Evaluation Approach

*Proposed program evaluation approach, including a summary of the suggested approach to evaluating program success and measuring and verifying energy & peak demand savings. This is not the final, detailed EM&V plan for the program, which will be developed by the independent EM&V consultant, but should still provide adequate detail of what the evaluation plan will cover. The program evaluation should be based on the Energy Efficiency Policy Manual guide to program evaluation, and should be thorough as it will be the basis for a program's final payment.* YEEP includes 5 Energy Efficiency Measures (EEMs) that, when fully implemented, are anticipated to achieve annual net energy savings of approximately 6.57 MWh, and 1.55 MW of demand reduction. The success of the program will be based on both energy savings, and a brief qualitative evaluation of its non-quantifiable goals.

Most of the EM&V work will be part of 4 tasks:

- ◆ Task 1: Develop EM&V Plan
- ◆ Task 2: EM&V of the EEM Energy Efficiency Goals
- ◆ Task 3: Analysis of Success in meeting Non-Quantifiable goals
- ◆ Task 4: Produce final EM&V Report that meets CPUC objectives

Our EM&V consultant will need to meet the CPUC EM&V objectives identified in Figure VI-A by verifying quality and quantity of services, and ensuring that the projected energy savings, program targets, customer satisfaction criteria and overall program objectives are met. The EM&V efforts should focus on impact with a more limited process component.

Table VI-A: CPUC Objectives and Evaluation Strategies

Objectives	Evaluation Strategies
Measuring level of energy and peak demand savings achieved	Use the IPMVP (Option A) to estimate the energy and peak demand savings achieved for a sample of sites for each of the EEMs. Engineering calculations to include stipulations and limited on-site measurements.
Measuring cost-effectiveness	Re-calculate the Program cost effectiveness using actual program expenditures provided by DEEP and the ex-post energy savings verified through this evaluation.
Providing ongoing feedback, and corrective and constructive guidance regarding program implementation	Contractor will be in close contact with DEEP and will provide ongoing feedback and recommendations.
Measuring indicators of effectiveness of specific program elements, including testing of the assumptions that underlie the program theory and approach	Assess whether the program has reached the stated goals with the allocated resources.
Assessing the overall levels of performance and success of programs	Analyze the program record keeping to assess the overall level of performance and success of the program.
Informing decisions regarding compensation and final payments (except information-only)	The effectiveness indicators developed will allow the CPUC to assess achievement and make an informed decision regarding compensation and final payments.
Helping to assess whether there is a continuing need for the program.	Examine program implementation strategies and estimated penetration levels to assess the remaining need for the program.

We recommend strongly that the EM&V program should include items listed in the Table.

However, we believe that the following two CPUC objectives cannot be addressed cost-effectively for a program of this size with relatively small quantities of several innovative EEMs (shadescreens and evaporative coolers). The EM&V probably cannot cost-effectively include:

- ◆ Providing up-front market assessments and baseline analysis, especially for new programs. A comprehensive baseline market assessment is more applicable to an overall State- or Utility-wide approach, perhaps broken down by climate regions.
- ◆ Testing of the assumptions that underlie the program theory and approach. YEEP has a very practical approach to energy savings.

YEEP's savings assumptions are based on standard accepted references or other engineering estimates explained in the notes to Table IV-A,B,C. Savings *per location* for Lights Lite are based on actual experience in our current program, with *per fixture* savings used to location savings based on the Statewide Express Efficiency Workpapers, so that they can be compared to savings calculated for other implementer's programs.

Testing the long-term value of local, enlisting additional contractors in YEEP would be impossible on the available time scale. However, we recommend interviews with participating contractors, regarding questions of the likelihood of future participation in energy saving installations, as an indicator of the usefulness in developing local infrastructure. Methods for measuring and verifying installations include phone interviews and limited site visits. Both will be applied to statistically significant random samples of installed jobs/rebates.

## **B. List of Potential EM&V Contractors**

*Provide a list of at least two potential EM&V contractors and provide evidence that the proposed contractors can objectively evaluate program success.*

Heschong Mahone Group (HMG) is familiar with our 2002-03 program and could quickly come up to speed on changes in our EEMs for 2004-05.

Other potential EM&V contractors are RLW Analytics, Inc., Nextant and Frontier Associates.

All of these contractors have experience in EM&V of energy efficiency programs funded by California ratepayers under the auspices of the CPUC.

## **C. EM&V Budget**

*-In developing the program evaluation approach, proposers are advised to dedicate a sufficient amount of their program budget to EM&V based on their proposed program evaluation approach, activities undertaken for similarly designed programs and other pertinent information.*

The EM&V budget is included as a subsection of the entire budget under Section VIII, and is reproduced here for convenience.

<b>Evaluation, Measurement and Verification Budget</b>			
<b>EM&amp;V Labor and Materials</b>			
Labor - EM&V	\$10,200	VEEC EM&V labor including management and assistance to EM&V contractor.	
Subcontractor Labor - EM&V	\$64,000	EM&V subcontractor labor.	
<i>Subtotal EM&amp;V Activity - Labor</i>		\$74,200	
<b>EM&amp;V Overhead</b>		<i>Allocation Rate</i>	<i>Allocation Base</i>
Benefits - EM&V Labor	\$1,326	13.00%	\$ 10,200
Payroll Tax - EM&V Labor	\$1,326	13.00%	\$ 10,200
Subcontractor Benefits - EM&V Labor	\$10,880	17.00%	\$ 64,000
Subcontractor Payroll Tax - EM&V Labor	\$8,960	14.00%	\$ 64,000
Subcontractor Overhead - EM&V	\$12,800	20.00%	\$ 64,000
<i>Subtotal EM&amp;V Overhead</i>		\$35,292	
<b>Total EM&amp;V</b>		<b>\$109,492</b>	

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## Section VII. Qualifications

### A. Primary Implementer

*-Including experience managing similar programs.*

The primary implementer is the partnership of Yolo County, the incorporated cities of the county, and Valley Energy Efficiency Corporation (VEEC), with the City of Davis and VEEC taking the lead. The City has experience in promoting energy efficiency going back to the 70s after the first national energy crisis. Davis had energy ordinances that predated Title 24. In the last 5 years, assisted by a citizen Task Force, the City has undertaken initiatives in energy conservation and renewable energy, including partial ownership of a 2 megawatt photovoltaic installation previously known as PVUSA, production of annual Energy Choices workshops, and the successful implementation of the Davis Energy Efficiency Project.

Administration, management and implementation of the YEPP will be carried out by VEEC, with supervision and upper level management provided by the City. VEEC was formed in order to implement the City of Davis' 2002-2003 energy efficiency program, funded by the CPUC under the name of "Davis Comprehensive Energy Efficiency Program", better known as DEEP.

The City of Davis provides primary oversight and fiscal responsibility for the YEPP grant. The primary grant manager is **Mike Goodison**, Assistant Director of Public Works and grant manager for the DEEP in 02/03. Both **Bob Weir** (Public Works Director) and **Jim Antonen** (City Manager) are strong energy efficiency proponents, and they will provide oversight and advice regarding strategy for working effectively with the YEPP partner cities and the County.

VEEC's board is made up of energy efficiency experts and local business and community leaders, as well as property owners from Davis and Woodland. The Board is likely to expand to include representatives of other parts of the Southern Sacramento Valley that share its energy efficiency goals.

The primary VEEC staff are **Marshall Hunt**, P.E. (Project Director), **Bill Knox** (Commercial Programs Director), **Liz Merry**, M.B.A. (Director of Marketing), and **Laura Creely**, (Administrative Associate) Mr. Hunt has over 30 years experience in residential and commercial energy efficiency. As a member of PG&E's energy efficiency group through 2002, he participated in the development of the Statewide programs, and dealt with technical issues of developing technologies and reducing market barriers. Mr. Knox has run Small Business energy programs, starting with the federally-funded Energy Extension Service in New York and California in the 1980s. He worked for the California Energy Commission for 7 years, developing public sector and school energy projects and administering grants and loans. Ms. Merry has broad experience in marketing and community outreach efforts in the Los Angeles area and in the Southern Sacramento Valley. She holds a Masters degree in business administration and urban land development. Ms. Creely has over 20 years experience in grant administration at UC Davis, and she successfully devised then implemented the filing, rebate processing, and reporting procedures needed to disseminate the 16 energy measures offered by DEEP in 2002-03.

These three primary VEEC staff spent much most of the last year creating DEEP, the successful pilot, one-city, comprehensive energy program that led to the current proposal. As a team, they were able to overcome many obstacles, including a very late program start, and are well on the way to meeting the program's energy saving, information and market transformation goals.

Particular successes included developing a very cost-effective commercial direct install lighting program, bringing many local contractors into duct repair programs for the first time, and developing a unique evaporative cooler product and delivery method. VEEC has learned a tremendous amount during the 2002-03 programs, which has to a cost-effective and strong YEEP proposal that will result in higher energy savings, better cost-effectiveness and continued progress in market transformation and local infrastructure development.

## **B. Subcontractors**

*- Including experience managing similar programs.*

No subcontractors are named in this proposal. However, we have reserved \$20,000 in the budget (and another \$20,000 budgeted in YEEP-2) to pay for information technology work to upgrade our systems to streamline reporting and recordkeeping. Furthermore, YEEP will reimburse the partner Cities of West Sacramento, Woodland and Winters, and the County of Yolo, for staff time to assist in outreach. This cost is included in labor budget line items in the workbooks for each proposal, but is subject to Memoranda of Understanding between the City of Davis and the other partner cities.

## **C. Resumes or Description of Experience**

*- For each program management position.*

Resumes for Marshall Hunt, Bill Knox, Liz Merry and Laura Creely are including on the following pages.

Marshall Hunt  
Bill Knox  
Liz Merry  
Laura Creely

## MARSHALL B. HUNT

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3117 Beacon Bay Place  
Davis, CA 95616

- POSITION:** Director, Davis Energy Efficiency Project  
226 F Street, Davis, CA 95615  
530-757-5635, mhunt@cityofdavis.org
- EDUCATION:** Bachelor of Science, University of Davis, California  
University of California at Davis, in Atmospheric Science, Micrometeorology with Philosophy of Science minor. Course work completed for a Masters of Science in Atmospheric Science, Micrometeorology with an emphasis on Arctic Air/Ice interactions as they impact global climate change
- PROFESSIONAL REGISTRATION:** Professional Engineer, Mechanical Engineering, registered in the State of California, #024975.  
General Contract and Heating and Cooling Contractor, B & C-20, License No. 707828.
- EXPERIENCE:** Pacific Gas & Electric Company  
Senior Program Engineer, Customer Energy Management, assigned to the internal technical support group for the purpose of Energy Efficiency program design, implementation and support. Also, taught classes in HVAC design at the Energy Training Center at Stockton.
- MBH Associates  
Owner, Principal Engineer  
Conducted Energy Conservation studies for the following local governments: Roseville, Chico, Davis, Yolo County, and Lake County. Worked as a Technical consultant to Sacramento Municipal Utility District on a continuing basis for six years. Managed the design and construction of the model complex for a 120-unit passive solar subdivision in West Sacramento, which received an energy award from Pacific Gas and Electric Company.
- Pacific Management Dynamics Corp.  
Principal Consultant/ Engineer  
Project included being the technical director for the Golden Carrot Refrigerator Project, the California Home Energy Efficiency Rating Systems, and working with PG&E to start the Consortium for Energy Efficiency.
- California Energy Commission  
Energy Specialist III, Solar Energy Office, team lead of the Passive Solar team. One of the authors of the technical sections of the California Solar Tax Credit.
- VOLUNTEER POSITIONS:** Board Member/first Chairman of the Board of the California Association of Building Energy Consultants (CABEC).  
Member of the City of Davis Building Code Board of Appeals.  
Member of the City of Davis Citizens Electric Energy Task Force  
Member, City of Davis Citizens Task Force on Energy Issues.

References available on request.

## WILLIAM J. KNOX

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2231 Shasta Drive, Davis, CA 95616

530-753-4753 (home)

916-322-9838 (work)

### CURRENT POSITION:

Director of Commercial Programs, Davis Energy Efficiency Project.  
226 F Street, Davis, CA 95615  
530-757-5637, bknox@cityofdavis.org

### EXPERIENCE: Energy Assessments, Department of General Services (9/13/1999-present)

*Customer Service and Information Manager:* Manage customer service for the DGS Natural Gas Services program, a \$90 million/year program that provides natural gas services, including commodity supply, transportation, storage and risk management, to 130 public sector customers throughout California. Lead team in customer recruitment. Act as liaison with project managers on gas-related energy conservation projects. Track and forecast customer gas usage to reduce price risk. Manage natural gas scheduling through relationships with primary business partners, including gas suppliers and utilities. Develop price and budget information procedures and spreadsheets. Provide customers with customized budget forecasts and risk analysis. Prepare and present workshops for prospective and continuing customers covering natural gas issues. Ensure customer satisfaction with service, and educate customers about the natural gas and electricity markets.

### Energy Efficiency Division, California Energy Commission (1994-1999)

*Rebuild America Program Manager:* Develop and use team approach to provide broad range of energy services to regional partnerships in San Diego, Orange County, Los Angeles, Bay Area and Sacramento regions. Coordinate activities of contracted regional program representatives and State allied energy efficiency programs. Provide outreach to develop new Rebuild community partnerships. Help existing partnerships plan and implement energy efficiency programs and actions. Coordinate technical assistance to the City of Los Angeles and SMUD. Facilitate partnerships to promote sustainable buildings, energy efficient multi-family and low-income housing, commercial property retrofits and local energy efficiency ordinances. Help local governments take advantage of opportunities resulting from energy industry restructuring. Assist municipal utilities with public goods programs. Manage Department of Energy grant, and subgrants/subcontracts to regional organizations.

*Institutional Conservation Program Manager:* Act as team leader for program. Oversee project managers' technical and administrative work on grant projects. Report to and coordinate administration with U.S. Department of Energy. Develop and manage building retrofit projects. Authorize and review engineering feasibility studies for energy efficiency projects.

*Additional Duties:* Team member for strategic and market planning. Write energy management handbooks. Act as subject area expert in energy accounting and non-public commercial buildings markets.

## ELIZABETH H. MERRY

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2402 Westerness Rd.  
Davis, CA 95616

**POSITION:** Marketing & Outreach Director, Davis Energy Efficiency Project  
226 F Street, Davis, CA 95615  
530-757-5635, lmerry@cityofdavis.org

**EDUCATION:** California State University, M.B.A. in Urban Land Development  
University of California, Los Angeles, B.A. in Philosophy minor in English

**EXPERIENCE:** Verve Enterprises, Consultant-Owner Davis, 6/99-7/02  
Projects included: PV Solar Sales and Advocacy; business strategy and promotion;  
energy assessment for large commercial customer; supporting potential PV owners  
through the Davis Solar Group.

California Wild Heritage Campaign, Strategic Consultant, Sacramento, 7/00- 11/01  
Designed and guided implementation of strategic plan for meeting Campaign goals to  
preserve wilderness and wild rivers; Wrote successful grant proposals for \$940,000;  
Created reporting processes and procedures to track measurable results; Led team  
effort to create Statewide Proposal based on data submitted by hundreds of volunteers;  
Worked with programmer to design and develop sophisticated database to track and  
assist campaign progress.

California Wilderness Coalition, Conference Coordinator, Davis, 11/99-6/00  
Managed all aspects of California Wilderness Conference. The event exceeded all  
objectives and set the standard of excellence for similar events throughout the western  
U.S.; Directed all operations, including: facility, catering, conference registration,  
educational materials, and promoting the event through earned media.

California Duck Days, Coordinator, Davis, 3/95-6/99  
During my term as Coordinator the event grew from 300 to 1,500 attendees, won  
several regional awards, and the budget grew from \$15,000 to \$45,000. Coordinated  
Steering Committee to devise program, fund the budget, and promote the event.  
Created Business Sponsor program. Recruited, trained, and managed volunteers

Yolo Basin Foundation, Coordinator, Discover the Flyway Davis, 4/97 – 5/98.  
Designed and implemented the first environmental education program for the Yolo  
Basin Wildlife Area. Designed volunteer program, and recruited and trained  
volunteers. Coordinated production of training manual and teacher training workshops.

### **VOLUNTEER ACTIVITIES**

*Northern California Solar Energy Association:* Board of Directors, Secretary. 2003  
*Davis Solar Group:* organized local homeowners to purchase and install solar systems  
as a group. 2001 to present.  
*Davis Energy Task Force:* helping to design and establishing solar PV program 2002.  
*Sierra Club California:* Board of Directors, Vice Chair 2001 to present.  
*California Duck Days:* Board of Directors, Vice Chair. Responsible for web page  
design and maintenance, volunteer recruitment and training, fundraising. 1999-2001.

# Laura Creely

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707 Braddock Court  
Davis, CA 95616

POSITION: Administrative Associate, Davis Energy Efficiency Project  
226 F Street, Davis, CA 95616  
530-757-5635, [lcreely@cityofdavis.org](mailto:lcreely@cityofdavis.org)

EDUCATION: Sacramento State University, Sacramento

EXPERIENCE: **The McMullen Company, Inc.**, Davis, CA  
*Office Manager:* Assist Fire Safety Consultant with daily operations of company. Supervise office staff and work load. Manage finances and client accounts. Coordinate special projects and activities.

**Environmental Standards**, Davis, CA

*Administrative Assistant:* Manage daily finances, personnel & benefits, purchasing, contracts, client activities, travel arrangements & reimbursements and library administration. Secretary to three environmental chemists/consultants. Assist with data validation, reporting and billing.

**University of California**, Davis, CA

*Administrative Assistant:* Manage daily finances, payroll, personnel, purchasing, travel arrangements & reimbursements. Administer contracts and grants. Liaison between departments, general public, and vendors. Special projects coordinator.

VOLUNTEER EXPERIENCE:

**Make A Wish Foundation, Sacramento, CA**

*Wish Team Member*

**Davis High School football Backers, Davis, CA**

*President*

**Kaepa Volleyball Tournament, Sacramento, CA**

*Invited Intern*

**Davis Little League, Davis, CA**

*Special Events Coordinator, Snack Bar Czar*

## Section VIII. Budget

Provide a summary budget table.

Table VIII.A: Budget

Budget Items	Budget	Allocation Rate (%)	Allocation Base (\$)
<b>Administrative</b>			
<b>Managerial and Clerical Labor</b>			
Labor – Clerical	\$11,700		
Labor - Program Development	\$10,000		
Labor - Program/Project Management	\$12,000		
Labor - Staff Management	\$40,000		
<i>Subtotal Managerial and Clerical Labor</i>	<i>\$63,700</i>		
<b>Human Resource Support and Development</b>			
Benefits - Administrative Labor	\$12,493	13.0%	\$ 96,100
Benefits - Direct Implementation Labor	\$31,850	13.0%	\$245,000
Benefits - Marketing/Ad/Outreach Labor	\$17,160	13.0%	\$132,000
Payroll Tax – Administrative Labor	\$12,493	13.0%	\$ 96,100
Payroll Tax – Direct Implementation Labor	\$31,850	13.0%	\$245,000
Payroll Tax – Marketing/Ad/Outreach Labor	\$17,160	13.0%	\$132,000
<i>Subtotal HR Support and Development</i>	<i>\$123,006</i>		
<b>Travel and Conference Fees</b>			
Travel - Mileage	\$11,400		
Conference Fees	\$ 1,125		
Travel - Lodging	\$ 770		
Travel - Meals	\$ 245		
<i>Subtotal Travel and Conference Fees</i>	<i>\$14,540</i>		
<b>Overhead -Gen./ Admin.- Labor / Materials</b>			
Labor - Administrative	\$11,400		
Labor - Corporate Services	\$20,000		
Subcontractor Labor - Information Technology	\$20,000		
Labor - Regulatory Reporting	\$45,000		
Facilities - Lease/Rent Payment	\$47,500		
Equipment - Communications	\$44,100		
Equipment - Computing	\$24,000		
<i>Subtotal Overhead</i>	<i>\$212,000</i>		
<b><i>Total Administrative Costs</i></b>	<b><i>\$423,246</i></b>		

Budget Items, continued	Budget	Allocation Rate (%)	Allocation Base (\$)
<b>Marketing/Advertising/Outreach</b>			
Labor - Business Outreach	\$40,000		
Labor - Customer Outreach	\$38,000		
Labor - Marketing	\$54,000		
Brochures	\$12,500		
Advertisements / Media Promotions	\$17,500		
Print Advertisements	\$35,000		
<b>Total Marketing/Advertising/Outreach</b>	<b>\$197,000</b>		
<b>Direct Implementation</b>			
Financial Incentives to Customers	\$512,000		
Labor - Customer Education and Training	\$50,000		
Installation and Service - Labor	\$331,250		
Rebate Processing and Inspection - Labor and Materials			
Labor - Field Verification	\$160,000		
Labor - Rebate Processing	\$35,000		
Rebate Processing City Fees	\$20,000		
<b>Total Direct Implementation</b>	<b>\$1,108,250</b>		
<b>Evaluation, Measurement and Verification</b>			
<b>EM&amp;V Labor and Materials</b>			
Labor - EM&V	\$10,200		
Subcontractor Labor - EM&V	\$64,000		
<i>Subtotal EM&amp;V Activity - Labor</i>	<i>\$74,200</i>		
<b>EM&amp;V Overhead</b>			
Benefits - EM&V Labor	\$1,326	9.5%	\$15,000
Payroll Tax - EM&V Labor	\$1,326	13.5%	\$15,000
Subcontractor Benefits - EM&V Labor	\$10,880	17.0%	\$100,000
Subcontractor Payroll Tax - EM&V Labor	\$ 8,960	14.0%	\$100,000
<b>Total EM&amp;V</b>	<b>\$144,194</b>		
<b>Other</b>			
Financing Costs	N/A		
Profit (only for non-utility implementers)	N/A		
<b>TOTAL BUDGET</b>	<b>\$1,837,988</b>		

If a program has a significant proportion of the budget devoted to an information program element (as described in D.03-08-067), estimate that proportion of the budget and provide a description..

Information activities directly related to EEM marketing are included in this budget, under the Marketing/Advertising/Outreach section. These costs are for marketing the YEEP-1 EEMs only, not for other information purposes. The companion proposal for YEEP-2 includes outreach and information costs associated with general information, other implementers incentives, etc. as discussed in Section I.

Discuss each budget line item detail that may need additional description/clarification.

Table VIII.C: YEEP-1 Budget Line Item Explanations

<b>Budget Items</b>	<b>Budget</b>	<b>Explanation</b>
<b>Administrative</b>		
Managerial and Clerical Labor		
Labor - Clerical	\$11,700	VEEC labor: typing, report prep, copying
Labor - Program Development	\$10,000	VEEC labor: refining Lights Light process and evaporative cooler installation process, initial work with partners
Labor - Program/Project Management	\$12,000	VEEC labor: includes minimal supervision of interns, plus all aspects of overall program management
Labor - Staff Management	\$40,000	City of Davis labor (PM & DPW), 60,000 total split between two programs; 40,000 in YEEP-1 and 20,000 in YEEP 2
<i>Subtotal Managerial and Clerical Labor</i>	<i>\$73,700</i>	
Human Resource Support and Development		
Benefits - Administrative Labor	\$12,493	Allocated at 13% of labor
Benefits - Direct Implementation Labor	\$31,850	Allocated at 13% of labor
Benefits - Marketing/Advertising/Outreach Labor	\$17,160	Allocated at 13% of labor
Payroll Tax - Administrative Labor	\$12,493	Allocated at 13% of labor
Payroll Tax - Direct Implementation Labor	\$31,850	Allocated at 13% of labor
Payroll Tax - Marketing/Advertising/Outreach Labor	\$17,160	Allocated at 13% of labor
<i>Subtotal HR Support and Development</i>	<i>\$123,006</i>	
Travel and Conference Fees		
Travel - Mileage	\$12,400	(Lights Lite at 70 Miles per job @\$0.36/mile * 370 jobs) plus (Carpool to Canvass @ \$3,000 total) plus conference mileage @ 300
Conference Fees	\$1,125	ACEEE - three attendees @ 750 each, split 50-50 with YEEP 2
Travel - Lodging	\$770	7 nights @ 110 for Bay Area travel re: CPUC meetings, meeting to coordinate with other implementers
Travel - Meals	\$245	7 days @ \$35 per diem
<i>Subtotal Travel and Conference Fees</i>	<i>\$14,540</i>	

Overhead (General and Administrative) - Labor and Materials		
Labor - Administrative	\$11,400	VEEC labor: general administration
Labor - Corporate Services	\$20,000	includes legal support (\$15,000 lump sum-City of Davis), accounting support (\$4,000-VEEC), and labor (\$6,000-VEEC) to support VEEC Board direction of staff in all YEEP-1 activity (equal amount budgeted in YEEP-2)
Subcontractor Labor - Information Technology	\$20,000	for computer support, plus upgrading Lights Lite software and reporting software, total 40,000 split 20:20 for YEEP-1:2
Labor - Regulatory Reporting	\$45,000	labor to provide reports, workbooks, and revisions
Facilities - Lease/Rent Payment	\$47,500	includes lease/rent, janitorial, plus water, electric & gas utilities core staffing requirement. This covers YEEP 1 space needs. (YEEP-2 covers additional space needs)
Equipment - Communications	\$44,100	(YEEP total is 5 lines for \$2,000 for 24 months = 48,000) plus (4 cell @ 50/phone/month for 21 months =\$4,200 ); plus 10,000 set up,plus \$2800 DSL =\$65,000 total split 67-33% between YEEP-1 and -2
Equipment - Computing	\$24,000	purchase of computers, copier & fax, including laptops for field verification of Lights Lite, plus support of one City computer 6,000) total 42,000 is split 24,000 YEEP-1 and 18,000 YEEP 2
Subtotal Overhead	\$212,000	
<b>Total Administrative Costs</b>	<b>\$423,246</b>	
<b>Marketing/Advertising/Outreach</b>		
Labor - Business Outreach	\$40,000	VEEC staff and intern labor for outreach to promote Lights Lite commercial lighting retrofit program
Labor - Customer Outreach	\$38,000	VEEC interns/staff labor for tabling and other outreach directly related to EEMs - YEEP-2 has a separate larger outreach budget under this line item for info and education
Labor - Marketing	\$54,000	VEEC staff/intern labor for promotion of rebates, lights lite, and marketing residential lighting
Brochures	\$12,500	includes mailings, includes fact sheets, program materials of various kinds, including production of applications
Advertisements / Media Promotions	\$17,500	Radio and TV and other if needed, plus Tabling / Booth / Canvass expenses incl clipboards, booths, signage, etc. - shared cost with YEEP-2
Print Advertisements	\$35,000	Newspaper and other printed advertising
<b>Total Marketing/Advertising/Outreach</b>	<b>\$197,000</b>	
<b>Direct Implementation</b>		
Financial Incentives to Customers	\$512,000	Rebates and direct install items
Activity - Labor		

Labor - Customer Education and Training	\$50,000	VEEC staff and intern labor for Evap Cooler canvass, lighting education for small & v small business, and education component of other incentive items
Subtotal Activity	\$50,000	
Installation and Service - Labor		
Installation and Service, Direct Install	\$331,250	
Subtotal Installation	\$331,250	
Rebate Processing and Inspection - Labor and Materials		
Labor - Field Verification	\$160,000	for Lights Lite and Evap Cooler
Labor - Rebate Processing	\$35,000	VEEC labor, all EEMs, includes FPOs for rebate checks to cust (Shadescreen) & contr (Lights Lite) including verification of invoices of multiple jobs, etc.
Labor - Rebate Processing	\$20,000	City of Davis labor, incl. set up of tracking system and processing rebates FPOs - this will be billed on a fee for service per check plus start up start-up fee rather than hourly labor.
Subtotal Rebate Processing and Inspection	\$215,000	
<b>Total Direct Implementation</b>	<b>\$1,108,250</b>	
<b>Evaluation, Measurement and Verification</b>		
EM&V Labor and Materials		
Labor - EM&V	\$10,200	VEEC labor to manage and assist EM&V contractor
Subcontractor Labor - EM&V	\$64,000	EM&V contractor labor.
Subtotal EM&V Activity - Labor	\$74,200	
EM&V Overhead		
Benefits - EM&V Labor	\$1,326	
Payroll Tax - EM&V Labor	\$1,326	
Subcontractor Benefits - EM&V Labor	\$10,880	
Subcontractor Payroll Tax - EM&V Labor	\$8,960	
Subcontractor Overhead - EM&V	\$12,800	
Subtotal EM&V Overhead	\$35,292	
<b>Total EM&amp;V</b>	<b>\$109,492</b>	
Other		No other costs
<b>Total Budget</b>	<b>\$1,837,988</b>	

END OF YEEP-1 PROPOSAL