



BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

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Application of San Diego Gas & Electric Company (U 902 M) for Approval of Low-Income Assistance Programs for Program Years 2012-2014.

Application 11-05-020  
(Filed May 16)

**The Joint Protest of  
The East Los Angeles Community Union (TELACU), the Maravilla Foundation, and the  
Association of California Community and Energy Services (ACCES) regarding the Applications of  
Pacific Gas and Electric Company (U 39 M), San Diego Gas & Electric Company (U 902E),  
Southern California Gas Company (U 904G) and Southern California Edison Company (U 388-E)  
for Approval of their 2012–2014 Energy Savings Assistance and California Alternative Rates for  
Energy Programs and Budgets.**

James L. Hodges for  
The East Los Angeles Community Union (TELACU)  
The Maravilla Foundation  
The Association of California Community and Energy Services (ACCES)  
1069 45<sup>th</sup> Street  
Sacramento CA 95819  
(916) 451-7011 voice  
(916) 914-2350 fax  
hodgesjl@surewest.net

June 17, 2011

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California Alternative Rates for Energy Programs and Budgets.**

TELACU, the Maravilla Foundation, and ACCES (the Joint CBOs) hereby protest the Applications of Pacific Gas and Electric Company, San Diego Gas & Electric Company, Southern California Gas Company, and Southern California Edison Company (the Joint Utilities) for Approval of their 2014–2014 Energy Savings Assistance Program (ESAP) and California Alternative Rates for Energy (CARE) Programs and Budgets.

The Joint CBOs provide a variety of services for low income households throughout the state of California including within the service territories of the Joint Utilities. Those services include the ESAP and CARE programs and, thus, the Joint CBOs will be directly affected by the Commission’s decisions on the Joint Utilities’ applications.

The Joint CBOs object to the granting of authority sought in the applications of the Joint Utilities until parties are provided the opportunity to thoroughly examine, through evidentiary hearings, issues including but not limited to the following areas.

1. **The effect of the Commission’s cost effectiveness tests on the program’s ability to reach the Commission’s ambitious goals**, especially multifamily goals. This includes

- A. A review of the ECONorthwest Impact Evaluation Report and its
  - a) Problematic population sample
  - b) Underestimation of electric savings,
  - c) Underestimation of water savings,
  - d) Underestimation of savings from the reduction of CARE subsidies,
- B. The proposed elimination by the Joint Utilities of certain measures including Duct Testing and Sealing,
- C. The effect of the Natural Gas Appliance Test on market penetration,
- D. Lost energy savings opportunities in the areas of overlap with Municipal electric territories,
- E. The effect of the elimination of air infiltration measures on the Commission’s overall goals.
- F. Moreover, the Commission’s Strategic Plan Goal to deliver “increasingly cost-effective and longer-term savings,” may be in conflict with the Commission’s high unit goals and the Strategic Plan Strategy to “Promote the growth of a trained Energy Savings Assistance Program workforce.”

2. **Joint Utilities proposed annual goals**,

- A. Their estimates of ESAP’s eligible population,
- B. The effect of the short lived increase in ARRA funding on proposed annual goals,
- C. The proposed annual goals’ effect on:
  - a) Program service delivery,
  - b) Workforce hiring,
  - c) Continued workforce employment and
  - d) The Commission’s Strategic Plan Strategy to “Promote the growth of a trained Energy Savings Assistance Program workforce.”

3. **Workforce Needs Assessment.**

The Commission’s Guidance Document directed the Joint Utilities to refer “to the California Workforce Needs Assessment Report and Recommendations.” But that Needs Assessment report has numerous errors and mischaracterizations of the ESAP

workforce issues and must not be used as a Commission policy document until those mistakes are corrected in an evidentiary proceeding.

4. **Multifamily issues**, including:

- A. Issues raised by the multifamily pilot project of California Housing Partnership Corp.,
- B. Issues raised by the Energy Division's Proposed Multifamily Pilot Project,
- C. Issues raised by AB 1124
- D. The effect of the Commission's cost effectiveness tests, disallowed and retired measures, including furnace, water heating, Duct Testing and Sealing, on multifamily goals, and
- E. ESAP vs. EE funding sources.

5. **The need to examine results of various studies and pilots.**

6. **Proposed schedule.**

We believe the first five of these issue categories require evidentiary hearings which will affect item six, our proposed schedule. The Joint CBOs herein raise issues of fact, interpretation, and policy which should be subject to evidentiary hearings. And though the Commission has previously issued decisions on several of these issues, new information and three more years of ESAP experience warrant a revisiting of certain issues such as the role and effect of the Commission's cost effectiveness requirement on its Strategic Plan Goals.

**1. The effect of the Commission's cost effectiveness tests on the program's ability to reach the Commission's ambitious goals, especially multifamily goals.**

In an evidentiary hearing we would produce evidence concerning the following issues.

Though cost effectiveness results are not the only factor considered when the Commission decides which measures are allowed or disallowed to be installed in the ESAP, it carries the most weight. The decision to allow or disallow certain measures has a direct effect on the number and type of units that are eligible to be served in various climate zones of California and has a ripple effect in many areas, including Workforce Hiring, Training, and Education, by determining the number of workers to be hired to

deliver program services, the type of services workers are trained to deliver, and the pay scale for those workers hired.

Moreover, given the Commission's current cost effectiveness requirements, the Commission's Strategic Plan Goal to deliver "increasingly cost-effective and longer-term savings," may be in conflict with Commission's ambitious unit goals and the Strategic Plan Strategy to "Promote the growth of a trained Energy Savings Assistance Program workforce."

### **LIEE 2009 Impact Evaluation**

The Commission directed utilities to use the 2009 draft impact report prepared by ECONorthwest and presented in 2011. This study shows significant reductions in savings for all measures, particularly in multi-family housing. But the results appear problematic for policy making, both because of data issues and because of conflicts between cost-effectiveness and goal-setting.

### **Data Issues when Calculating Cost-Effectiveness**

The Joint CBOs consulting economists' firm, JBS Energy, reviewed the draft report and JBS's comments (attached) suggest that a problem might have arisen because the evaluation study may have screened out the very people who could save significant amounts of energy from insulation and other weatherization measures – large users.

The initial screen removed anyone using over 1500 kWh of electricity in any month or over 100 therms of gas in any month. JBS Energy demonstrated, from Data provided by PG&E in its recent Phase II General Rate Case, that in the Central Valley Climate Zones, R, S, and W, about 20% of residential CARE customers end up in Tier 5 (300% of baseline) in at least one month out of the year. The Tier 5 level exceeds 1500 kWh per month in the summer in the Central Valley. Real customers were being screened out.

There are not as many large customers on Edison's system, but a review of Edison RASS data previously conducted by JBS Energy indicates that 11.2% of the customers using over 1500 kWh per month in 2002 had incomes below \$30,000. These customers are concentrated in hotter areas like the low deserts and Central Valley. Almost 50% of CARE customers in the low-desert (Zone 15) exceed 1500 kWh per month in hot summer months.

Similarly, 100 therms in January is only a third above the average monthly use in January for PG&E (76 therms). A single-family home that is poorly weatherized or contains senior citizens could easily use over 100 therms in a peak winter month.

As a result of screening out large customers, the ECONorthwest report found that the average base usage of customers served by low-income programs – before conservation - was almost 25% less in the 2009 study than in the earlier 2005 study. And because of smaller initial usage, savings were also smaller. This result by itself is suspect unless it can be explained by the analysts. It is unlikely that the population of low income customers receiving services actually uses 25% less now than those served in 2005. It is more likely that the change in defining eligible customers had this effect.

ECONorthwest went back and re-ran its analysis including high users, and found that average savings went down! In other words, including high users in the sample supposedly reduced average savings per household. The only explanation is that higher users saved less not only percentagewise but in absolute terms than lower users. This makes little sense.

But JBS Energy can explain this unusual result because of another problem with ECONorthwest's response to JBS's comments (attached). ECONorthwest's response went from one extreme (excluding legitimate large users) to the other (screening out almost no one by using consumption levels that were so high that they are extremely likely to have included bad data or master metered customers who skewed the results). A regression analysis is extremely sensitive to outliers. Bad data yield bad results, regardless of whether legitimate large users are excluded or skewed data are included.

A regression method of measuring savings is a standard methodology, but when it produces strange results like this, it renders a report unusable for policy making until it is examined and necessary corrections made.

### **Other Cost-Effectiveness Issues**

In addition to our other concerns, policy-makers are not including all relevant savings in their cost effectiveness evaluations.

1. There is a serious underestimate of electric savings resulting from insulation and other weatherization activities paid for by the gas companies. The problem is bigger for SoCal Gas than for PG&E (a dual fuel utility) but affects both. In neither the 2005 nor

the 2009 evaluation studies did the analysts consider electric savings resulting from insulation and other weatherization activities paid for by SoCal Gas. The bulk of the electricity savings will be reaped by Edison, but considerable amounts will accrue to Southern California municipal utilities and a small amount by PG&E (in parts of Santa Barbara and San Luis Obispo Counties). Similarly, PG&E and the analysts are ignoring electric savings accruing to SMUD and other municipal utilities that arise from PG&E's gas weatherization programs. As a result, statewide savings from weatherization are being underestimated; these programs appear less cost-effective than they really are; and it is affecting program design.

2. Water savings from Domestic Hot Water measures (and their embedded electricity) are not included. With all the work being done on trying to measure embedded electricity savings in water, leaving water savings out of LIEE DHW programs is not reasonable.

3. In addition to the calculation of the amount of savings, one more key item should be considered in cost-effectiveness analysis. Low-income programs reduce CARE subsidies paid by all other customers. While this is a transfer payment within the Total Resource Cost test, it is not a transfer from the participant to other customers (as would be participant bill savings in excess of marginal costs), but is a transfer that reduces costs paid by other ratepayers. Reducing CARE subsidies provides a reason beyond equity both to continue low-income programs even if not fully cost-effective and to consider targeting larger electric users because the electric CARE subsidy reduction is larger for large customers due to tiered electric rates.

### **Policy Conflicts Between Cost-Effectiveness and Program Goals**

Several of the utilities appear to have been using the 2009 cost-effectiveness analysis to screen out or de-emphasize various program elements.

SoCal Gas expects the contractors to experience additional challenges and obstacles in meeting 2012-2014 program goals due to the measures that have failed cost-effective tests in some or all dwelling types and climate zones. Specifically, the following may have an effect on program delivery with the potential to negatively impact customer enrollments:

- Envelope and Air Sealing (MF – CZ All)
- Faucet Aerator (MF – CZ All)

- Attic Insulation (SF – CZ 4, 6, 7, 8, 9, 10, 15 and 16)
- Duct Sealing and Testing (SF, MF, MH – CZ All)
- Attic Insulation (MF – CZ All)
- Water Heater Blanket (MF – CZ All)
- Water Heater Pipe Insulation (MF – CZ All)

In general, the most significant impact of the cost-effectiveness test results is the reduction of measure offerings in multi-family units. SoCalGas proposes the Commission consider a review of the eliminated measures due to cost-effectiveness test results and its impact on SoCalGas' ability to appropriately service multi-family units. To its credit, SoCal has requested that some of these measures be added back. However, the elimination of the listed measures available to some or all dwelling types in specific climate zones would further challenge SoCalGas' success in meeting the strategic planning goals. Given the three-measure minimum for SoCal, the removal of these measures could even eliminate all multi - family units being done in the program.

A further consideration is that the three-measure minimum (or minimum savings calculations that allow programs to go forward) include both gas and electric measures in IOU zones (while excluding electric savings from weatherization for SoCal as noted above) but include only gas measures in areas served by municipal utilities.

Essentially, the cities of Los Angeles and Sacramento (as well as a number of smaller cities across the state) could lose most low-income weatherization services by their gas utilities as a result of program changes in this cycle because the minimum requirements will not allow homes to be treated.

In sum, the ability to actually achieve the goal of treating 222,485 multi-family units (one-third of the total) is likely to be compromised by changes in program design and cost-effectiveness, with shortfalls particularly concentrated in Southern California and in areas with PG&E gas and municipal electric service.

In essence, we have a serious conflict between the Commission's goals for service to low-income customers and the new cost-effectiveness evaluations which, as noted above, appear suspect.

In addition, the Commission needs to address several other issues related to LIEE versus other EE funding and on program prioritization that came from other venues and proceedings. Concerns were raised in the recent PG&E Phase 2 proceeding that electric

LIEE programs should be prioritized to serve large users – which would reduce CARE discounts paid by other customers. We are not opposed to some prioritization in principle, but this goal could conflict with other important goals (serving the bulk of the population, cost-effectiveness through neighborhood-oriented programs, etc.), and it needs to be addressed carefully before it is implemented.

## 2. Individual Utilities’ Annual Goals and Concerns Regarding Workforce Issues.

In an evidentiary hearing we would produce evidence concerning the following issues.

As shown below, the Joint Utilities have goals that vary over time. For example, PG&E estimates that it will complete 133,329 units in 2011, but reduces its 2012 goal to 110,000, followed by an increase to 132,500 for 2013 and 2014.

SoCalGas fell behind in the 2009 - 2011 cycle and so is carrying over 28,875 units into 2012, resulting in a 2012 goal of 129,106 units. But it then drops its goal to 100,249 in 2013 and 2014.

The maintenance of a stable contractor workforce becomes difficult when goals fluctuate from year to year. We would propose to have goals stable or rising slowly rather than moving up and down, creating the possible need to hire and then lay off workers.

Utility ESAP Goals 2012 - 2014

Program Year	2012		2013		2014		Totals		
SoCalGas	Single Family	91,626	71%	71,145	71%	71,145	71%	233,916	71%
	Multifamily	28,814	22%	22,373	22%	22,373	22%	73,560	22%
	Mobile Homes	8,666	7%	6,730	7%	6,730	7%	22,126	7%
	Total	129,106	100%	100,248	100%	100,248	100%	329,602	100%
PG&E	Single Family	85,545	78%	103,044	78%	103,044	78%	291,633	78%
	Multifamily	18,004	16%	21,686	16%	21,686	16%	61,376	16%
	Mobile Homes	6,451	6%	7,770	6%	7,770	6%	21,991	6%
	Total	110,000	100%	132,500	100%	132,500	100%	375,000	100%
SDG&E	Single Family	10,235	51%	10,235	51%	10,235	51%	30,705	51%
	Multifamily	8,243	41%	8,243	41%	8,243	41%	24,729	41%
	Mobile Homes	1,522	8%	1,522	8%	1,522	8%	4,563	8%
	Total	20,000	100%	20,000	100%	20,000	100%	60,000	100%
SCE	Single Family	43,046	63%	48,601	63%	47,212	63%	138,859	63%
	Multifamily	19,474	29%	21,987	29%	21,359	29%	62,820	29%
	Mobile Homes	5,680	8%	6,412	8%	6,229	8%	18,321	8%
	Total	68,200	100%	77,000	100%	74,800	100%	220,000	100%
Totals	Single Family	230,452	70%	233,025	71%	231,636	71%	695,113	71%
	Multifamily	74,535	23%	74,289	23%	73,661	22%	222,485	23%
	Mobile Homes	22,319	7%	22,434	7%	22,251	7%	67,001	7%
	Total	327,306	100%	329,748	100%	327,548	100%	984,599	100%

The difference in goals between SCE and SoCal Gas raises issues related to, but separate from, concerns regarding municipal utilities noted in the policy discussion above. Given that it is likely to be difficult in many cases to meet three-measure minimum levels of service from SoCal Gas alone, some electric measures will need to be applied in many dwellings. A considerably lower goal for Edison (220,000 units over three years) than for SoCal Gas (330,000 units) may end up impeding the achievement of SoCal Gas' goals.

Importantly, an emphasis on workforce training is laudable in theory, but reductions in goals (as proposed by PG&E, for example) or reductions in the ability to achieve goals (as is likely to occur in multifamily housing) will translate directly into limited hiring and job opportunities for a new green workforce.

There also appear to be conflicts between living wage concerns and unit costs allowed by the utilities over the three-year period. Costs per unit have increased from the last period to the current period, largely due to increases in costs of materials (e.g., insulation). Yet, the utilities (except possibly SoCal) are proposing unit costs that rise by less than inflation over the three year period. Such limited increases are not proposed by utilities for their own costs.

Escalation Rates (Costs per Unit Served) 2011-2013

escalation	PG&E	SoCal	SDG&E	SCE
2011-2012	0.85%	5.86%	1.89%	-0.99%
2012-2013	3.52%	2.51%	1.65%	0.55%
2011-2013	2.18%	4.17%	1.77%	-0.22%

In addition, parties should have the opportunity to examine the assumptions behind the Joint Utilities numbers of “Unable to participate” and homes weatherized under different programs such as DOE’s ARRA program.

**3. Workforce Education and Training (WE&T) Assessment**

The California Long-Term Energy Efficiency Strategic Plan of August 2008 (Plan) set forth two goals in the area of WE&T:

- (1) Establish energy efficiency education and training at all levels of California’s educational systems, and
- (2) Ensure that minority, low income and disadvantaged communities fully participate in training and education programs at all levels of the energy efficiency industry.

To reach these goals the Plan described several near term actions. The first involves conducting an in-depth formal statewide training and education resource inventory and needs assessment. That assessment became available in March of 2011, and the Commission's "Guidance Document for CARE/ESAP Budget Applications PY 2012-2014" directs the utilities to "Refer to the ... California Workforce Needs Assessment Report and recommendations." But concerning the ESAP program, the Report got it wrong. The Report seriously mischaracterizes the low income program, an issue which should be addressed in an evidentiary hearing. Until such hearings the Assessment should not be used by policymakers in the area of low income programs.

A draft copy of RHA's comments on the Assessment was distributed to the network of ESAP/LIHEAP/WAP contractors and organizations and the final RHA document (attached) reflects input from those organizations. RHA's "Comments on the California Workforce Education and Training Report" ("Report") accurately describe the Report's errors of fact and interpretation.

The Report will be a key element in the shaping of the opinions of regulators, legislators, and policymakers when they consider the next steps necessary to prepare California's workforce for the Green Economy and, therefore, the Commission should conduct hearings to examine the Assessment analysis of low income programs.

The Reports states, "*The IOU LIEE programs, whose goal is to help low-income families reduce energy bills, may have an opportunity to both increase energy savings and improve access to good jobs if they are restructured.*" But the Report makes fundamentally mistaken assessments of the PUC and federal low income programs and, therefore, makes fundamentally mistaken recommendations for restructuring and improving the programs.

The Report paints with an overly broad brush, describing problems which may exist in the non-low income market but which do not exist in the heavily regulated low income programs. For example,

1. "*...the key workforce issue that surfaced in our interviews was the high incidence of poor quality installation... of new HVAC systems...*"

As described by RHA, this is not the case for the low income programs in which HVAC installations must pass inspection before payment.

2. *"This same issue is prevalent in the residential retrofit and commercial advanced lighting sectors, where poor quality installation and the resulting failure to deliver on expected energy savings has undermined market growth, including financing."*

As accurately explained by RHA, most low income program lighting quality issues observed in the field have not been due to poor quality installations, but from poorly manufactured lamps and ballasts, which have led to early lamp and ballast failure.

3. RHA correctly points out the Report's "characterization of LIEE and DOE WAP (ARRA) programs as taking *"a traditional single measure approach"* does not accurately represent the approach used in LIEE (now ESAP) and DOE WAP low-income programs."
4. *"...retrofit work in the residential sector is done without the required permits, so the work is never inspected to ensure it is compliant with these codes."*

While that may be true of the non-low income market, ESAP and LIHEAP work is inspected and most weatherization work does not require permits in most jurisdictions and do not require Title 24 analysis (with the recent exception of HVAC system replacement). Installing insulation, water saving devices, caulking, weather stripping, energy-efficient lamps, and other energy measures (tuning up a heating and/or air conditioning system) do not require permits.

5. As explained by RHA, the Report presents an incomplete picture of ESAP/LIHEAP/WAP workforce training, quality assurance practices, and pay practices.

This Report should not be used as a Commission policy document until those mistakes are corrected in an evidentiary hearing.

#### **4. Multifamily Issues**

Controversy at the CPUC and in the state legislature has arisen around the issue of low income multifamily rental housing. In December of 2010 the California Housing Partnership Corp. (CHPC) submitted a \$240 multifamily pilot proposal to PG&E and "Commission Staff." (attached). CHPC wrote, "This proposal was developed at the request of representatives from the Pacific Gas & Electric Company with the encouragement of CPUC staff. It proposes the establishing of a LIEE pilot program to

streamline the application process, and increase energy savings for low income households residing in multifamily buildings." The Joint CBOs, and others, opposed the pilot and it disappeared for a while.

A multifamily pilot reemerged in March 2011 under the sponsorship of the CPUC's Energy Division in the form of the "CPUC Energy Division's (ED) Principles for a Low Income Multifamily Housing Pilot." (attached). ED claimed this pilot was the result of working for several months with "various stakeholders," (though ED declined to name any of these "stakeholders," none of which included the Joint CBOs, see attached document) and was, ED said, intended for "treating California's under-served multi-family housing sector," even though the Commission had never issued a finding that California's multi-family housing sector is "under-served." ED's pilot proposal was clearly based on the earlier CHPC proposal and ED asked the Joint Utilities to request, in their upcoming ESAP applications, funds to conduct ED's pilot. The Joint CBOs, and others, opposed ED's pilot and no utility requested funds for such a pilot.

At about time of ED pilot proposal, CHPC sponsored legislation in the state legislature, AB 1124 (Skinner, attached), which would direct the CPUC to start a multifamily component of the ESAP program. The Joint CBOs, and others, opposed AB 1124 and the bill became a two-year bill going, in effect, into hibernation with the possibility of awakening in the second year of the two-year legislative session.

The Joint CBOs opposed both pilots and the legislation because each proposed to take a portion of ESAP funds and shift it exclusively to the investors and owners of federally assisted, deed restricted housing to upgrade their buildings. Both proposals and AB 1124 contained unexamined assertions of barriers to energy efficiency upgrades and unexamined, unverified claims of costs and benefits. The Joint CBOs agree there are barriers in the low income multifamily market which should be examined, but oppose attempts to "carve out" a portion of ESAP funds solely for the investors/owners of assisted, deed restrict housing.

The pilot proposals and legislation raised important multifamily issues which should be examined by this Commission in an evidentiary hearing:

1. Is California's low income multifamily sector underserved, as claimed by ED?
2. What percentage of California's low income multifamily renters live in "assisted, deed restricted housing?"

3. What are the energy savings opportunities in the low income multifamily market?
4. What are the barriers to capturing those energy savings?
5. What would be the costs of capturing those energy savings?
6. What are the benefits to multifamily investors/owners?
7. What are the benefits to multifamily renters and how are benefits measured?
8. What sources of funding, including owners' replacement accounts, programs, and subsidies, are currently available for this market?
9. Are additional programs and subsidies needed and justified?
10. If so, should ratepayers provide those funds?
11. If so, should additional programs and subsidies be made available for only a certain class (assisted, deed restricted) of low income multifamily rental buildings?
12. If so, should those funds be from ESAP funds or from non-low income EE funds (some occupants of deed restricted affordable housing may have incomes exceeding ESAP maximums, and programs for appliances in new housing may fit better within utility EE programs for new construction).

The Commission should have an evidentiary hearing on this issue. If it does not, it will surely see the issue debated in the state legislature.

#### **5. Need to examine results of various studies and pilots**

The Commission's Guidance Documents states, "Discuss the results of the studies and evaluations carried out during the 2009-2011 program cycle. Explain how the results will be incorporated into the 2012-2014 program cycle."

We are concerned that the 2009 Impact Evaluation Study, the LIEE Process Evaluation, and the WE&T Assessment, as well as other materials, were not available to utilities when they prepared their applications. Such studies, pilots, and audits include:

##### **Studies**

1. Impact Evaluation - Final not yet issued
2. Process Evaluation - Final issued 6/13/2011
3. Workforce Education and Training Pilot - Final issued 5/9/2011
4. High Usage Needs Assessment (HUNA) Segmentation Study - Final not yet issued
5. Non-Energy Benefits Study Phase 1 Results not publicly issued - Phase 2 cancelled.
6. PG&E CARE Recertification Study - Final not publicly issued
7. Refrigerator Degradation Study - Final not publicly issued

### **Pilot Project Evaluations**

1. Microwave (PG&E) - Final not yet issued
2. High Efficiency Clothes Washers (PG&E) - Final not yet issued
3. High Efficiency Force Air Units (SoCalGas) - Final issued. SCG said the pilot showed the new units are successful but SCG chooses not to add these units to program for reasons which should be examined.

### **CPUC Audits**

1. SCE
2. PG&E

These studies and pilot projects were ordered by the Commission specifically to provide information for the design of the ESAP programs for 2012 – 2014 but were not completed in time to be considered by the Joint Utilities. The Commission should have hearings on these studies and pilots.

### **6. Proposed Schedule**

Based on the issues described above, the Joint CBOs agree with DRA that the issues associated with ESAP deserve an extensive review and support DRA’s proposal (attached) for a year of bridge funding and DRA’s overall schedule with testimony and hearings in the fall and early winter.

<b>Event</b>	<b>Proposed Date(s)</b>
	<b>2011</b>
Applications and Applicants’ Opening Testimony Filed	May 16
(Posted on Commission calendar)	May 19
Intervenor Protests due	Jun 20
Replies to Protests	Jun 30
Pre-Hearing Conference Statements	Jul 8
Pre-Hearing Conference	Jul 13
Scoping Ruling	Jul 22
Notices issued for Public Participation Hearings	Late Jul
Public Participation Hearings	mid-Aug to mid-Sep
Intervenor/DRA Testimony	Oct 14
Applicants’ Reply Testimony	Nov 10

Evidentiary Hearings	week of Dec 5 – 9
	<b>2012</b>
Opening Briefs	Jan 16
Reply Briefs	Jan 31
Proposed Decision	Mar 1
Comments on Proposed Decision	Mar 21
Reply Comments on Proposed Decision	Mar 26
Final Decision no earlier than	Apr

The Joint CBOs urge the Commission to take the time necessary to thoroughly examine these issues and to get input from the network of CBOs and private contractors who for over 25 years have been delivering these services to California's low income households, so that the Commission can establish a solid record upon which to make a carefully considered decision.

Respectfully submitted,

June 17, 2011



James L. Hodges for  
The East Los Angeles Community Union (TELACU)  
The Maravilla Foundation  
The Association of California Community and Energy Services (ACCES)  
1069 45<sup>th</sup> Street  
Sacramento CA 95819  
(916) 451-7011 voice  
(916) 914-2350 fax  
hodgesjl@surewest.net

# ATTACHMENTS

To: James Hodges

From: William B. Marcus, Principal Economist JBS Energy, Inc.

April 18, 2011

**Review of “Impact Evaluation of the 2009 California Low Income Energy Efficiency Program”**

At your request, JBS Energy reviewed the Draft 2009 impact evaluation report of the Low-Income Energy Efficiency Program<sup>1</sup> to attempt to determine why savings from insulation and weatherization were so much lower than those in the previous report on the 2005 program.<sup>2</sup>

This review uncovered a serious problem with the Draft 2009 Report that causes it to underestimate savings. The underestimate may not explain all the difference between the Final 2005 Report and this later report studies, but it is a key issue which renders the Draft 2009 Report unusable for policy making until it is corrected.

The problem is that when running their statistical equations, the Draft 2009 Report left out customers who use large quantities of electricity and gas – the very customers who would benefit most from weatherization.

Participants with very low or very high consumption in any one month were removed. Low values were defined as less than 100 kWh for the electric model (no lower bound for gas given the seasonality of heating). High value thresholds were more than 1,500 kWh or 100 therms in any one month.<sup>3</sup>

The Draft 2009 report does not contain any information to state how many customers were excluded because they had “very high consumption.”

The 2005 Final Report did not remove customers for this reason. There was a data flag for insufficient or erratic billing, but this generally excluded accounts without enough data, not large users.<sup>4</sup> The intent in the 2005 report was stated as follows:

Insufficient or erratic billing history introduces a source of error into modeling efforts that would seriously compromise our ability to find savings. Premises and accounts that were eliminated for this reason sometimes showed no billing for several months in a row, or had less than a year of billing history before the program, usually due to account turnover, or some had unreasonably high bills, thus possibly indicating unrecognized

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<sup>1</sup> ECONorthwest, Impact Evaluation of the 2009 California Low Income Energy Efficiency Program: Draft Report, March 11, 2011. (Henceforth, “Draft 2009 Report”)

<sup>2</sup> West Hill Energy and Computing. Impact Evaluation of the 2009 California Low Income Energy Efficiency Program: Draft Report, revised August 19, 2008.. (Henceforth, “Final 2005 Report”)

<sup>3</sup> Draft 2009 report, page 68.

<sup>4</sup> Final 2005 Report, page 38.

master-metered accounts. High data error is especially important in this low-income population where savings are likely to be relatively small and difficult to detect.<sup>5</sup>

The large users that the Final 2005 Report intended to exclude were customers who were big enough to be “unrecognized master meter accounts,” not ordinary customers who were large users.

The problem with the Draft 2009 Report is serious, because the thresholds for defining a household with “very high” consumption are too low. A large number of low-income people can use more than 1500 kWh or 100 therms in a month, and these are likely to be some of the largest beneficiaries of LIEE services.

JBS has some data to estimate approximate numbers of electric customers screened out in at least certain climate zones.

Data provided by PG&E in its recent Phase II General Rate Case<sup>6</sup> shows that in the Central Valley Climate Zones, R, S, and W, a significant number of residential CARE customers end up in Tier 5 (300% of baseline) in at least one month out of the year. The Tier 5 level exceeds 1500 kWh per month in the summer in the Central Valley. As shown in Table 1, 70,000 PG&E central valley electric CARE customers (almost 20% of all CARE customers in the Central Valley) reach Tier 5 in one month and would be simply screened out of the analysis by EcoNorthwest. There will be smaller numbers of CARE customers screened out of the Draft 2009 Report in other climate zones but there will be some.

**Table 1: PG&E Central Valley CARE Customers Using Over 1500 kWh in at Least 1 Month Per Year**

PG&E Zone	Summer Baseline per Day	Summer Baseline Per Month	Tier 5 300%	CARE Tier 5*
R	18.1	555	1,665	29,014
S	16.5	506	1,518	25,246
W	19.4	595	1,785	15,272
* at least one month per year			Subtotal	69,532

A review of Edison RASS data previously conducted by JBS indicates that 11.2% of the customers using over 1500 kWh per month in 2002 had incomes below \$30,000.<sup>7</sup> These customers are concentrated in hotter areas like the low deserts and Central Valley. Almost 50% of CARE customers in the low-desert (Zone 15) exceed 1500 kWh per month in hot

<sup>5</sup> Id.

<sup>6</sup> PG&E, Response to The Utility Reform Network Data Request 1-8, App. 10-03-014.

<sup>7</sup>William B. Marcus and Gregory Ruzsovan, **Know Your Customers: A Review of Load Research Data and Economic Demographic, and Appliance Characteristics of California Residential Energy Use**, December, 2007, page 20. [http://www.jbsenergy.com/downloads/Know\\_Your\\_Customers\\_Paper.pdf](http://www.jbsenergy.com/downloads/Know_Your_Customers_Paper.pdf)

summer months along with about 4% in Edison's Central Valley Zone 13 and 3.5% in Edison's largest Zone (old zone 17).<sup>8</sup>

The use of 100 therms of gas as a screening point is even less supported under peak weather conditions. PG&E's average residential use of gas in the peak month (January) under average weather conditions is 76 therms.<sup>9</sup> Given that this average includes both single-family and multi-family customers, a fairly large number of single-family customers will exceed 100 therms per month. An analysis conducted by JBS in 2002 indicated that simply adding a senior citizen to a household would add 15-22 therms of usage in January and 100 therms year round.<sup>10</sup> Therefore, 100 therms is not an unusually large user but is probably equivalent to an average single-family household that includes one or more senior citizens. Moreover, since we are looking at the cost-effectiveness of weatherization, and poorly weatherized units use more, when low-income people use that much gas, one cannot rule out that the 100-therm user who is screened out used that much gas because they are in a unit that needed weatherization.

In other words, in an attempt to screen out anomalous data, the Draft 2009 Report removed real people with high usage who would likely obtain the largest savings from weatherization from its billing data regression model. These are most likely to be single-family households in hot climate areas (for electricity) and single-family households that are either poorly weatherized to begin with or have senior citizens living there or both (for gas).

It is unreasonable for Energy Division and other parties to use this flawed data to develop policy recommendations (e.g., to limit ceiling insulation and other weatherization activities) until the error is corrected.

### **Other Comments on the Draft 2009 Report**

In addition to the large error in the 2008-09 evaluation study (screening out real customers who are likely receiving the most benefit from weatherization), several other comments need to be made regarding the evaluation of low-income energy efficiency programs which may cause policy-makers not to include all relevant savings when determining the fate of these programs.

1. In neither the 2005 nor the 2008-09 evaluation studies did the analysts consider electric savings resulting from insulation and other weatherization activities paid for by SoCal Gas. The bulk of the electricity savings will be reaped by Edison, but considerable amounts will accrue to Southern California municipal utilities and a

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<sup>8</sup> Id., page 5.

<sup>9</sup> Calculated from PG&E Workpapers in its 2010 BCAP.

<sup>10</sup> William B. Marcus, Gregory Ruzovan, and Jeffrey A. Nahigian, **Economic and Demographic Factors Affecting California Residential Energy Use**, September 2002, pages 41, 43. Available at <http://www.jbsenergy.com/downloads/California%20Residential%20Energy%20Use%20Economic%20and%20Demographic%20Report.pdf>

small amount to PG&E (Santa Barbara and San Luis Obispo Counties). As a result, statewide savings from weatherization are being underestimated.

2. Similarly, it is not clear how PG&E and the analysts treat electric savings accruing to Edison (which serves part of PG&E's gas service area in the southern Central Valley), SMUD and other municipal utilities that arise from PG&E's gas weatherization programs. If left out, these will also be left out of statewide energy savings.
3. Water savings from DHW measures (and their embedded electricity) are not included.
4. Aside from the calculation of the amount of savings, two other key items should be considered in cost-effectiveness analysis.
  - a. Beyond energy savings, low income programs are likely to deliver reductions in arrearages, which reduce cash working capital, credit and collections costs, and uncollectible account expenses, as well as the societal costs of loss of service.
  - b. The targeting of low-income programs at large users will reduce CARE subsidies paid by all other customers; while this is a transfer payment within the Total Resource Cost test, it is not a transfer from the participant to other customers (as would be a participant bill savings), but reduces costs paid by other ratepayers.

# ECONorthwest

ECONOMICS • FINANCE • PLANNING

TEL • 503-222-6060  
FAX • 503-222-1504  
WEB • WWW.ECONW.COM

PIONEER TOWER • SUITE 1460  
888 SW FIFTH AVENUE  
PORTLAND, OREGON 97204-2028

OTHER OFFICES  
EUGENE • 541-687-0051

STEPHEN GROVER, PH.D.  
PRINCIPAL

EMAIL • GROVER@PORTLAND.ECONW.COM

## MEMORANDUM

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**TO:** Megha Lakhchaura

**DATE:** May 7, 2011

**RE:** Analysis of data screening methods and affect on final 2009 LIEE impact estimates

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This memo details the alternative regression modeling that was done as part of the 2009 LIEE Impact Evaluation. This modeling was done to explore the possible affect that our data screening methods might be having on the final impact estimates reported in the Draft LIEE Program Impact Evaluation Report (March 11, 2011). This alternative modeling exercise was conducted to address questions raised in an April 18 memo from The East Lost Angeles Community Union (TELACU) regarding the screening criteria used for the regression model reported in the draft impact evaluation report. In this memo, TELACU hypothesizes that the low reported impact estimates are due not to market factors, but rather to screening criteria that were too stringent, thereby reducing savings by limiting the model to only customers with relatively low gas or electricity consumption.

One of the challenges of using a billing regression to estimate impacts for residential measures is that there is significant variation in energy consumption across households. This problem is compounded by the fact that the expected savings from many of the low-income measures is small relative to overall energy use in these homes. If this variation is not accounted for in the regression model, it can affect the savings estimates (either positively or negatively) depending on the source of variation. With the population model we estimated using the participant tracking data, there was limited information available on these households, which in turn limited our ability to create variables to control for the factors causing the variation. To help address this issue, we implemented a screening process that removed some customers with excessively large or small amounts of usage in particular months. This was done to increase the likelihood that the model would produce meaningful savings estimates and avoid the problem of having the savings effect overwhelmed by the variation in usage across customers.

To address the hypothesis that our screening methods (rather than other market factors) are responsible for producing the low impact estimates presented in the draft report, we re-ran the regression models with the screening criteria relaxed. In the original models, customers were dropped if they had usage of greater than 1,500 kWh in a single month or 100 therms in a single month. In the new model, these criteria were relaxed with the maximum limits set to 60,000 kWh per year and 10,000 therms per year – both of these limits far exceed the average usage for the

low income customers in our analysis dataset. In both models, additional observations were screened out for the following reasons:

- Missing data in critical fields used in the model
- Insufficient pre-period billing data
- Insufficient post-period billing data
- Monthly billing period had too few days (<20 days) or too many days (>40 days)

The results of the original and new screening methods are shown in Table 1. As shown in the bottom row, new screening criteria results in the sample for the regression increasing from 35,894 customers to 46,701 customers (30 percent) for the electric model and from 35,341 to 65,182 (84 percent) for the gas model. By relaxing the usage screens, the number of customers that are screened out due to high usage falls by 64 percent for the electric model and 96 percent of the gas model. The other screens for missing data described above were maintained in the new model.

**Table 1: Comparison of Usage Screening Criteria**

	Draft Report Screens		Relaxed Usage Screens	
	kWh Obs	Therm Obs	kWh Obs	Therm Obs
Raw Data	110,544	118,420	110,544	118,420
High / Low Screens	16,886	31,041	6,079	1,200
Other Screens	57,764	52,038	57,764	52,038
Screened Dataset	35,894	35,341	46,701	65,182
Screened Obs	74,650	83,079	63,843	53,238
Percent Screened	67.53%	70.16%	57.75%	44.96%

Once the new analysis dataset was created, a billing regression model was estimated using the same model specification presented in the draft report. The model estimates were then used to calculate program impacts and compared to the results presented in the draft report. These results are presented in Table 2 for the electric model and Table 3 for the gas model. Note that for both models, the measures with *negative* savings (that is, measures where the model predicts an *increase* in energy use) are capped at zero savings.

As shown in Table 2, the new electric model with the relaxed screening criteria results in generally lower savings overall (41 percent decrease). With the relaxed screening criteria, CFL savings fall to zero and HWD Light savings decrease by 21 percent. Savings for Refrigerators and Insulation/Cooling also decrease with the relaxed usage screen method. While some measures do show an increase in savings in the new model (Evaporative Cooler, Weatherization/Cooling), these increases are not enough to overcome the decrease in savings estimated for the other measures.

**Table 2: Electric Model Results Comparison (Per Unit kWh Savings)**

Measure	Model from Draft Report		Relaxed Usage Screen	
	# Homes	Savings (kWh)	Savings (kWh)	Change
Refrigerator	9,086	709.46	544.75	-23%
DHW Conservation	2,253	0.00	0.00	0%
CFL	32,077	93.20	0.00	-100%
HWD Light	11,951	100.21	79.55	-21%
Pool Pump	7	0.00	0.00	0%
Evaporative Cooler	1,191	464.57	503.18	8%
AC	112	56.23	178.10	217%
Insulation/Heating	44	0.00	125.63	0%
Insulation/Cooling	58	148.76	105.66	-29%
Weatherization/Heating	1,213	0.00	65.02	0%
Weatherization/Cooling	803	80.16	90.03	12%
<b>Total Savings</b>		<b>11,265,990</b>	<b>6,682,301</b>	<b>-41%</b>

Results of the gas model using both screening methods are shown in Table 3. As with the electric model, the relaxed screening method results in lower overall savings (decrease of 13 percent overall). For the individual measure estimates, there is an increase in the Insulation impact estimate (24 percent increase) and a slight increase in DHW Conservation (3 percent increase). However, these increases are overwhelmed by decreases in the Duct savings (68 percent decrease) and the Weatherization measures, where savings disappear entirely when using the relaxed screening criteria.

**Table 3: Gas Model Results Comparison (Per Unit Therm Savings)**

Measure	Model from Draft Report		Relaxed Usage Screen	
	# Homes	Savings (Therms)	Savings (Therms)	Change
DHW Conservation	35,200	8.2	8.5	3%
DHW Repair/Replace	1,570	0.0	0.0	--
Insulation	2,404	8.6	10.5	23%
Furnace Repair	1,596	0.0	0.0	--
Furnace Replace	2,778	0.0	0.0	--
Ducts	3,689	4.0	1.3	-68%
Weatherization	25,783	1.9	0.0	-100%
<b>Total Savings</b>		<b>375,883</b>	<b>328,359</b>	<b>-13%</b>

As these results show, the original usage screening methods used in the draft report are not the cause of the low impact estimates for either the electric or gas model. Given the generally lower savings estimates from relaxing the usage screen criteria, we believe that the original, more stringent screening method is appropriate. Therefore, we do not recommend changing the impact estimates from the values already presented in the draft impact evaluation report.

June 10, 2011

Ms. Carol Zabin  
Donald Vial Center on Employment in the Green Economy  
Center for Labor Research and Education  
2521 Channing Way #5555  
Berkeley CA 94720-5555

RE: ESAP/LIHEAP/WAP Contractors endorse "RHA, Inc. Comments on the California Workforce Education and Training Report."

Dear Ms. Zabin:

Last week a draft copy of RHA's comments was distributed to the network of ESAP/LIHEAP/WAP contractors and organizations and the final RHA document reflects input from those organizations. RHA's attached "Comments on the California Workforce Education and Training Report" ("Report") accurately describe the Report's errors of fact and interpretation.

We understand the Report will be a key element in the shaping of the opinions of regulators, legislators, and policymakers when they consider the next steps necessary to prepare California's workforce for the Green Economy.

The Reports states, "*The IOU LIEE programs, whose goal is to help low-income families reduce energy bills, may have an opportunity to both increase energy savings and improve access to good jobs if they are restructured.*" But the Report makes fundamentally mistaken assessments of the PUC and federal low income programs and, therefore, makes fundamentally mistaken recommendations for restructuring and improving the programs.

The Report paints with an overly broad brush, describing problems which may exist in the non-low income market but which do not exist in the heavily regulated low income programs. For example,

1. *"...the key workforce issue that surfaced in our interviews was the high incidence of poor quality installation... of new HVAC systems..."*  
As described by RHA, this is not the case for the low income programs in which HVAC installations must pass inspection before payment.
2. *"This same issue is prevalent in the residential retrofit and commercial advanced lighting sectors, where poor quality installation and the resulting failure to deliver on expected energy savings has undermined market growth, including financing."*  
As accurately explained by RHA, most low income program lighting quality issues observed in the field have not been due to poor quality installations, but from poorly manufactured lamps and ballasts, which have led to early lamp and ballast failure.
3. RHA correctly points out the Report's "characterization of LIEE and DOE WAP (ARRA) programs as taking "a traditional single measure approach" does not accurately

represent the approach used in LIEE (now ESAP) and DOE WAP low-income programs."

4. *"...retrofit work in the residential sector is done without the required permits, so the work is never inspected to ensure it is compliant with these codes."*

While that may be true of the non-low income market, ESAP and LIHEAP work is inspected and most weatherization work does not require permits in most jurisdictions and do not require Title 24 analysis (with the recent exception of HVAC system replacement). Installing insulation, water saving devices, caulking, weather stripping, energy-efficient lamps, and other energy measures (tuning up a heating and/or air conditioning system) do not require permits.

5. As explained by RHA, the Report presents an incomplete picture of ESAP/LIHEAP/WAP workforce training, quality assurance practices, and pay practices.

We hope you can appreciate the need to update your report to present a more accurate picture of the state's low income energy efficiency programs.

Sincerely,



James Hodges for  
The East Los Angeles Community Union (TELACU)  
The Maravilla Foundation  
The Association of California Community and Energy Services (ACCES)  
The Pacific Energy Policy Center  
The Association of Rural Northern California Energy Providers (ARNCEP)  
Redwood Community Action Agency  
The Southern California Forum for Energy Efficiency,  
Environmental, and Human Services Providers (SoCal Forum)

CC:

Commissioners  
Julie Fitch  
Jeanne Clinton  
Low Income Oversight Board  
Service List of A0805022

June 8, 2011

Ms Carol Zabin  
Donald Vial Center on Employment in the Green Economy  
Center for Labor Research and Education  
2521 Channing Way #5555  
Berkeley, CA 94720-5555

RE: *Comments on the California Workforce Education and Training Report*

To Whom It May Concern:

As a longtime provider of energy efficiency programs in California with extensive experience in workforce training and development, Richard Heath and Associates, Inc. (RHA) recognizes the importance of a thorough review of California's workforce education and training needs in the energy efficiency sector. RHA understands that with a trained and prepared workforce, the more California can accomplish in energy efficiency. Enclosed please find our observations and comments on the California Workforce Education and Training Report.

Thank you for the opportunity to submit our observations and comments. Please feel free to contact the undersigned should you have any questions or if you would like to discuss the enclosed document further.

Sincerely,



Tom Barrett  
Senior Advisor,  
Strategic Planning and Technical Resources

offices  
ALAMEDA  
CHICO  
LOS ANGELES  
SACRAMENTO  
SAN DIEGO  
corporate office  
FRESNO

# Comments on the California Workforce Education and Training Needs Assessment

Prepared by Tom Barrett  
RHA, Inc.

RHA recognizes the importance of a thorough review of California's workforce education and training needs in the energy efficiency sector. The better trained and prepared the workforce, the more we can accomplish. As a longtime provider of energy efficiency programs in California with extensive experience in workforce training and development, we provide our observations and comments on Part One of the report as listed below.

## 1. Page XII

*“The residential sector represents about one-third of California’s current electricity and natural gas consumption. The EE Strategic Plan sets ambitious targets for energy use reduction in existing housing stock, and aims to give all eligible low-income customers the opportunity to participate in the fully-subsidized Low-Income Energy Efficiency (LIEE) program. The statewide residential retrofit incentive program mandated in AB 758 is now under the umbrella of Energy Upgrade California and has a budget of approximately \$275 million from all funding sources. The IOU LIEE program has a budget of approximately \$310 million for 2010 and the federally funded low-income programs have increased their budget to \$257 million due to a temporary influx of 2009 American Recovery and Reinvestment Act (ARRA) funds.”*

*“In all three sectors, the key workforce issue that surfaced in our interviews was the high incidence of poor quality installation, affecting immediate energy savings and the growth of the energy efficiency sector. This issue is most dramatic in the HVAC sector, where prior studies have reported that 30 to 50 percent of new HVAC systems and up to 85 percent of replacement systems are installed incorrectly, and that by 2020 potential energy savings from higher quality HVAC installation and maintenance could eliminate the need for the equivalent of two combined- cycle gas-fired 500 MW power plants. This same issue is prevalent in the residential retrofit and commercial advanced lighting sectors, where poor quality installation and the resulting failure to deliver on expected energy savings has undermined market growth, including financing.”*

### Comments:

By stating “in all three sectors,” the author claims there are significant quality issues within the HVAC sector, residential retrofit (low-income and retrofit incentive programs) sector, and commercial lighting sector, yet the authors provide supporting data for only the HVAC, residential incentive, and commercial lighting programs. The inclusion of low-income programs in the residential sector implies there are significant quality issues in this area, when this is not the case according to the full report.

While the author is certainly correct that “prior studies” have found “that 30 – 50 percent of new HVAC systems and up to 85 percent of replacement systems are installed incorrectly”, this statement is based on a report published in 1999 and based on studies conducted in the mid-1990s by John Proctor and others. The findings of these studies resulted in utility-provided; HVAC installation training for contractors and innovative incentive programs to address the inadequacies identified by these reports. The CEC also responded by adding more Title 24 requirements to address these issues at the permit compliance level where they had been ignored before.

Studies conducted by RHA in the mid-1990s on duct system installations found that HVAC installers were not installing ducts to code or using the proper materials to seal ducts, which resulted in duct failure, leaks, and poor performance. As a result of these studies, PG&E developed a comprehensive program to train contractors on proper duct installation and sealing; provide rebates to incentivize contractors to install ducts to code; produce duct installation standards for contractors; and to monitor the program through quality assurance and control processes by utility personnel and third-party inspectors. These studies also informed the CEC to require duct testing as part of the Title 24 permit process to ensure proper installation. Similar studies today would provide vastly different results than those cited in the WE&T Needs Assessment.

Commercial lighting retrofit programs are described in the WE&T report as also suffering from poor quality installations, But most quality issues observed in the field have not been due to poor quality installations, but from poorly manufactured lamps and ballasts, which led to early lamp and ballast failure, much to the dissatisfaction of customers. RHA’s commercial lighting retrofit program technicians (trained in-house) have installed tens of thousands of CFLs, energy-efficient lamps and ballasts, and energy-efficient fixtures with almost all “quality” issues stemming, not from poor installation practices, but from equipment failures. It is unclear how the author reached the conclusion that commercial lighting retrofit programs suffer inadequate training which results in poor quality installations as our experience with commercial lighting retrofit programs, documented by high customer satisfaction levels and positive evaluations by utility verifiers, doesn’t result in the same conclusion.

## **2. Page XIII**

*“Low-Income Energy Efficiency programs, which have received significant additional funding through both one-time ARRA funds and on-going ratepayer funds, continue to take a traditional single measure approach to energy retrofits. Sometimes this work is based on subcontracting individual measures to other firms or individuals in ways that discourage leveraging of all available funding sources or linking of measures in a whole-house approach. The IOU LIEE programs, whose goal is to help low-income families reduce energy bills, may have an opportunity to both increase energy savings and improve access to good jobs if they are restructured.”*

Comments:

The authors' characterization of LIEE and DOE WAP (ARRA) programs as taking "a traditional single measure approach" does not accurately represent the approach used in LIEE (now ESA – Energy Savings Assistance) and DOE WAP low-income programs. Low-income energy efficiency programs use a whole-house, "prescriptive" approach that is designed to install "all feasible measures" and do not take a "single measure" approach. This statement implies that low-income weatherization programs are not sophisticated or effective as the Whole House programs, which is not true.

In the low-income, whole-house, prescriptive approach retrofit measures are "prescribed" from a standardized list of cost-effective residential energy measures. These lists of measures have been vetted through numerous in-situ studies and building simulations. They are also Climate Zone based and typically meet stringent cost-effectiveness criteria required of each program's funding sources. The funds available on a per unit basis for each program and the cost-effectiveness criteria are different, so while both programs install similar measures, the State's Federally-funded programs can spend more per household and operate from a longer list of measures to install. While the lists of measures are not exhaustive, they do cover almost all cost-effective energy retrofits possible. Both programs also address combustion appliance safety issues that may arise from tightening the building shell. In addition, federally funded low-income programs also use a portion of their funds to fix non-energy items that may be hazardous to occupants.

The prescriptive approach eliminates the need to do an energy audit to justify the installation of any of the measures. An assessor or energy specialist identifies measures to be installed on a home from the list, which is passed on to the installation crew. By installing from a list of measures, preselected for cost-effectiveness, the LIEE and WAP programs not only save time, but are also able to spend more on energy saving measures by eliminating the cost of an energy audit for each household.

The "traditional single-measure approach" can be characterized by utility and government-funded, non-low income incentive programs. In these non-low income programs, homeowners and/or their hired contractors purchase and/or have installed an energy-efficient piece of equipment or measure and then apply for an incentive (utility rebate and/or government tax credit). Often contractors use marketing services (sales forces) with limited energy knowledge to market the incentives under the guise of energy savings to homeowners. No trained energy auditor makes a determination as to whether or not the home will benefit from the measure being promoted. The measure may be installed by the homeowner or by a contractor, who may or may not have specific training pertaining to proper installation of the retrofit measure. This approach in the non-low income sector is completely different from LIEE/ESA or WAP approaches and often leads to poorly installed measures, inadequate assessment of energy savings potential, and customer dissatisfaction. Homeowners and untrained contractors can inadvertently cause a number of air quality and safety issues when they seal a home too much or fail to implement combustion appliance safety requirements.

A third approach, the “Whole House Approach”, is a “performance approach”. This approach utilizes a detailed energy audit and building diagnostics to create a list of energy retrofit measures for the homeowner. The approach is based on the concept of a “house as a system” where changes made to one part effect other parts and this interaction needs to be taken into account to make the house more efficient. Many of these same diagnostic tests are also conducted in the DOE WAP prescriptive approach and the LIEE/ESA program conducts natural gas appliance testing in their prescriptive approach. The end result is very similar to standard weatherization practices; however, as one spokesperson stated at a conference, “Weatherization is a low-income program, whole-house retrofits is not a low-income program.”

While the whole-house approach is considered by many to be a “Best Practice” and the “gold standard of residential energy retrofits”, the total cost to implement all the recommendations to make an older house energy efficient, can be in the \$20,000 - \$30,000 range, or more. This type of “up-scale” weatherization work is the “high road” goal that is touted as the place the State’s workforce development is trying to reach; however, the cost of doing the work and the ability to for a homeowner to pay for the work is the major obstacle to this approach. Not only may the energy savings never cover the cost of the improvements, but also many people may not be able to finance the work without deep incentives or special financing programs. Economic factors, more than the lack of a trained competent workforce, are impeding the progress of this approach in the non-low income market segment which is larger and consumes far more energy than the low-income segment and has the greatest opportunity for meeting the State’s goals.

The low-income programs (DOE WAP, LIHEAP, and LIEE/ESA) utilize program leveraging to provide low-income households with the best package of measures for which they are qualified. Besides program requirements that households receive a minimum number of measures (not a single measure) agencies and contractors strive to provide as much as they can within program limitations. The authors’ portrayal of this segment of the energy retrofit market appears to be based on inadequate information. Restructuring existing programs that have function successfully for over 20 years based on the conclusions stated would have little effect on increasing energy savings and improving access to “good” jobs. These programs have already added hundreds of workers at all levels from clerical to managerial to the State’s job force.

### 3. Page 103

*“The main policy instruments aimed at achieving residential energy efficiency goals in the state are direct-install weatherization programs for low-income households, and incentive programs for homeowners. In addition, Titles 20 and 24 of the California Code of Regulations set minimum standards for appliances and work specifications for home remodels. As mentioned above, these codes were recently updated to require more stringent energy efficiency measures and third-party inspections. However, in many cases remodeling and retrofit work in the residential sector is done without the required permits, so the work is never inspected to ensure it is compliant with these codes.”*

#### Comments:

The authors fail to understand that most weatherization work does not require permits in most jurisdictions. Energy efficiency retrofits also do not require Title 24 analysis, with the recent exception of HVAC system replacement. Installing insulation, water saving devices, caulking, weather stripping, energy-efficient lamps, and other energy measures (tuning up a heating and/or air conditioning system) do not require permits. In many communities, energy efficient window retrofits (which are not part of the LIEE/ESA low-income program) also do not require a permit.

In California, the LIEE/ESA and DOE/LIHEAP programs utilize program-specific Weatherization Installation Standards (WIS), internal QA inspections, and third-party QA/QC inspections. The WIS addresses installation issues that may not be covered by building codes to ensure a quality installation. Each crew has their own WIS Manual in their vehicles to refer to while on the job-site. Third-party inspectors utilize the same WIS manual to inspect Wx contractors' jobs for proper installation. All the low-income programs in the State (LIHEAP, DOE WAP, and LIEE/ESA) require that all HVAC work goes through the permitting, inspection, and signing off process. This is not the same in the private sector where the permit process can be easily avoided.

In PG&E's service territory during the first part of 2011 the "All Contractor Pass Rate" as of April showed that there was a 94.9% pass rate among PG&E's Wx contractors and a 97.8% Contractor Performance Index for installed measures for the first quarter of the year. Measures and/or homes that did not "pass" are corrected after the inspections. Contractors are required to maintain a 90% minimum pass rate in the All Contractor Pass Rate category and a 95% pass rate for the Contractor Performance Index. So while the report is correct that work is never inspected to the building code, it fails to recognize that most weatherization activities are not regulated under building codes and that the quality of weatherization work is determined by standards developed and enforced by the IOUs.

Weatherization work utilizing DOE and LIHEAP funds is also conducted using weatherization installation standards, third-party inspections, and corrective action. When

problems are identified in the field by the QA/QC inspectors, the State's WAP program provides additional in-field training and technical assistance to help poor-performing agencies improve their installation practices to deliver a quality product.

Unlike weatherization measures installed under a State or IOU weatherization program, in the non-low income programs there are no installation standards or third-party inspections of the work to ensure a quality installation.

#### **4. Page 107-108**

*“...WAP and most LIEE workers, including installation workers, are required to attend short-term trainings at approved training facilities (such as PG&E's Energy Training Center in Stockton) before starting work. These training programs provide certificates of completion to workers, which are the only certificates that were identified for the weatherization installer job category in California. PG&E and SCE have established specific training standards and courses; these courses follow a specific set of training standards established by the utilities. However, the other two IOUs do not require their contractors to follow specific standards.”*

Each LIEE/ESA weatherization program requires workers to be trained (see the discussion on the first page); however, only PG&E has a formalized weatherization training facility. SDG&E and the SoCal Gas Company require their contractors to train weatherization workers in-house. Gas combustion appliance safety training happens through at the Community Action Partnership of San Bernardino County's Weatherization Training Center.

In SDG&E's case, the program is too small to operate a full-fledged training program. The Wx contractors, who have been successfully (based on QA/QC inspections) working on the program for over ten years train their employees in-house. Two of SDG&E's Wx contractors are also State WAP contractors who have had their workers put through formal Wx training.

SoCal Gas's basic Wx training is provided by a Gas Company employee at the request of the contractor and is held at the contractor's facility.

## 5. Page 107

*“Though the WAP and LIEE programs are very similar, the training requirements differ, so that a worker trained for a WAP contractor is required to undergo new training to be eligible to work for a LIEE contractor. The DOE is now funding efforts to align all the major trainings and link them as much as possible to their new voluntary guidelines for skill standards and training, discussed below.”*

### Comments:

Training requirements are different (see discussion of the training below) between the utility company and State Wx programs. This reflects the amount and type of work to be performed that is based on the funds available. IOU programs were not developed to address every energy issue in every home and yet they have been effective in reducing energy consumption.

DOE has no regulatory authority over IOU weatherization program training requirements, so while it could be developing a set of training standards, its aim is to make training consistent throughout the U.S. for its program (WAP).

Required training for low-income weatherization programs funded by the CPUC (LIEE/ESA) is limited to a series of courses provided by the utility companies (except SDG&E and SoCal Gas Company):

- Basic Weatherization (5 days)
- NGAT or combustion appliance safety (5 days)
- Energy Specialist (8 days)
- Duct Testing and Sealing (1 day)

Required training for Federally-funded LIHEAP, and DOE Wx programs managed by the State (CSD) are required for the following job classification: Assessors/Auditors, Weatherization Installers, and Quality Assurance Inspectors and include the following training:

- Pre-Weatherization Training: Measurement, Energy Basics, Tool Types and Uses, Construction Nomenclature
- Basic Weatherization
- Health and Safety (Basic Workplace Safety (OSHA); Ladders; Slips, Trips & Falls; Heat Exposure; Vermin; and Customer Issues)
- Environmental Hazards (lead, asbestos, mold, etc. awareness training)
- Lead-Safe Weatherization Practices
- Combustion Appliance Safety
- Duct Blaster/Blower Door Diagnostics
- Advanced Weatherization (optional)
- Energy Audit Software training (optional)
- Field Assessment Training (Assessors only)
- Inspector Field Training (QA Inspectors only)

Informal training, AKA apprenticeship, mentoring, on-site training, on-the-job training (OJT), or in-field training, was not discussed in this document. Informal training is the most important aspect of a person's skilled learning path in any technical training program. Formal training provides the knowledge base for activity and information training provides the skill base a worker needs to develop competency. The weatherization training programs rely heavily on the apprenticing and OJT of newly trained crewmembers by "older" crewmembers. SDG&E does not provide basic weatherization training, as their program is too small to warrant the expenditure of a training facility; however, the contractors providing weatherization services have been the same contractors for over twelve years who provide all their training to crewmembers on-site. A couple SDG&E's ESA contractors are also CSD Wx agencies that have received formal training.

With regard to career pathways for weatherization workers to HVAC technician or energy auditor or beyond, it is unlikely to be a straight path process from the low-income weatherization field as most weatherization in the State is done without an energy audit. In these cases, the career pathway typically proceeds from to entry-level position to installer, NGAT technician, Crew Leader, Inspector, Field Foreman, Supervisor, and even Project Manager. At each step employee wages and benefits increase and create the "higher road" opportunities within the industry. While the need for energy auditors is small, the skill set is also very different as energy audits are done with computers and there is a need for a different type of technical training – computer skills and typing for potential energy auditors. This simple lesson of supply and demand was missed by community college administrators who obtained grant funding to train hundreds of energy auditors, who graduated to a market with little demand for their services.

The low to high-skill technical pathway in weatherization also does not exist for many weatherization workers where the higher paying opportunities are from supervisory and management positions. Higher-skilled technical work such as HVAC repair in State-run WAP programs is often "subbed out". A number of agencies and contractors have skilled and trained personnel with HVAC skills and do their own limited HVAC work; however, many do not have HVAC technicians on staff and end up hiring HVAC contractors to do this work. In some cases a weatherization installer with experience sealing ducts could cross over to another company in the HVAC sector. The LIEE/ESA program contracts much of its low-income repair and replacement (R&R) HVAC work to licensed HVAC contractors and is not included as part of the weatherization program.

Community colleges and some four-year colleges jumped into weatherization training in 2009 without talking to weatherization contractors or agencies. If they had, they would have found out that WAP agencies needed to ramp up immediately to meet the additional unit goals and could not wait for students to attend one to three semesters of training. Furthermore, graduates from these programs would still have to complete the State-certified Wx courses to work on its program.

The ARRA funding created an opportunity for hiring more weatherization workers; however, the "ramp-up" for training individuals happened at the same time as the need

for getting units weatherized, so weatherization agencies needed to hire all available workers, trained or untrained, and could not wait for the two-year community college training program to produce trained, unskilled workers. Untrained workers were hired and trained in the industry-training model – short specific technical classes and on-the-job training under the supervision of a more knowledgeable crew person.

## 6. Page 108

*“In residential retrofit, the quality issues that surfaced in our interviews included concerns about safety, loss of immediate potential energy savings, and slowing down the expansion of the market for retrofits. Safety concerns were focused mostly sharply on the necessity of testing for appliance combustion safety in order to avoid dangerous buildup of toxic gases inside the building as a consequence of envelope sealing. In terms of immediate energy savings, interviewees identified both single measure quality issues, such as improper installation of insulation, and the more sophisticated diagnostics and workmanship needed for whole house retrofits. Finally, interviewees also emphasized the importance of consumer satisfaction for market expansion. Since growing the market for homeowner investments in energy efficiency retrofits depends in large measure on word-of-mouth advertising and other social marketing, consumer dissatisfaction resulting from inadequate work quality can significantly undermine sector growth.*

*Traditionally IOU incentive programs and low-income weatherization programs have relied primarily on post- installation inspections of a sample of dwellings. This method only captures a fraction of the work that is done, and when poor quality is found, often requires expensive reworking. Though certainly part of any quality assurance package, back-end inspections have not rid programs of quality concerns.”*

### Comments:

In many cases in the non-low income sector, single measure installations such as ceiling insulation, wall insulation, and appliance replacement are performed by individuals without training, installation standards, and the benefit of building codes. There is no quality assurance or control for these installations and often the only verification is to ensure that the item was installed before a rebate is issued.

Single measure installations should not be confused with LIEE/ESA programs. In these programs, installers are trained and monitored through third-party quality assurance and follow-up post inspections, which can result in consequences to the contractors. Even IOU rebate programs have a “back-end” quality inspection program.

Back-end inspections will never rid programs of quality concerns; however, it is impossible to conduct “front-end” inspections and “upfront contractor requirements, including licensure, permitting, a standard agreement, and a mandated orientation course” or hiring only individuals and companies sporting “certificates.” These requirements are

encouraged; yet do not guarantee quality installations, especially in a cost-competitive market where contractors underbid each other and to cut cost by cutting corners and hiring “low-road” workers to make a profit for their efforts.

The author does not discuss what “loss of immediate potential energy savings” and why this is an installation and training issue.

## 7. Page 109

*“The “Recovery through Retrofit Workforce Working Group,” convened by the Obama administration to scale up the residential retrofit market, identified the lack of a skilled and credentialed workforce as a key obstacle to the industry’s growth. As a result, the U.S. Department of Energy (DOE) has developed a set of industry guidelines for worker certifications and training program accreditation for the four main field job categories: Installer/ Technician, Crew Chief, Energy Auditor, and Quality Assurance Inspector.<sup>45</sup> These guidelines were created through rigorous technical analyses of job tasks and minimum technical requirements, standard work specifications, and essential knowledge and skills for workers in each job category. The development of these guidelines followed well-known protocols that included substantive feedback from industry and educators. They provide the first standard for the entry level job category of weatherization installer/technician, which can be used to ensure workers are prepared to do quality work. Now, BPI, WAP, and training programs around the country are working with DOE to align their standards with these basic guidelines. Los Angeles Trade–Technical College (LATTC) is one of the training centers funded by DOE and is working to align the WAP, LIEE, and other curricula. The DOE is encouraging these voluntary standards, and it remains to be seen whether these guidelines will be adopted as mandatory certification requirements by any major state or local retrofit program.”*

### Comments

The author fails to credit the State’s WP and LIEE/ESA programs with the programs set up to train weatherization workers, energy specialists, energy auditors, assessors, and quality assurance inspectors which have been in place for years. The effort that DOE is undertaking in developing standardized training and installation guidelines is aimed at states and organizations that have never provided training to their weatherization workers or have even provided weatherization services to low-income households. California has been a national leader in weatherization since 1978 and most training programs and installation standards used by DOE WAP programs were derived from California’s weatherization training and standards.

While LATTC is trying to “align” WAP, LIEE/ESA, and other weatherization and energy retrofit curricula, they are basically the same training materials (for WAP and LIEE/ESA), written by the same person (James E. O’Bannon of RHA). Aligning training

or developing a “one training fits all” approach will not necessarily work until program delivery and standards are standardized and aligned.

## 8. Page 109

*“The challenge LATTC articulates is that in order for certification to actually lead to strong career pathways with higher skills and higher wages, there must be adequate floors on wages and wide acceptance of the value of certification within the industry, so that employers are willing to pay certified workers more. It is not clear yet whether the residential market can offer these conditions.”*

### Comments:

The authors fail to point out that while it would be nice to have “floors on wages and acceptance of the value of certification,” contracts are awarded to weatherization providers based on price of services delivered. When the Request for Proposals (RFP) is announced by a utility company or the CPUC for LIEE/ESA programs, winning bidders have to provide the greatest number of units served at the lowest cost. Over the years, successive bidding cycles demand that proposers increase the number of units to be served and measures to be installed at lower costs. This funding deflation works against labor and material cost inflation and the CPUC and utilities require competitive companies to provide “more for less” it forces the price contractors can pay for labor down. In other words, the bidding process drives the “low-road” response regardless of the certifications and skills of the workforce.

At the State level, DOE and LIHEAP ARRA funding had the opposite effect on labor costs. The Davis-Bacon requirement for minimum labor rates drove up the cost of labor, which benefitted workers. The Davis-Bacon labor rates came directly from the DOE and LIHEAP funded weatherization programs, which are typically higher than other construction rates in most counties due to the nature of the agencies with Wx programs. However, funding is provided from the Federal government to pay for these labor rates and measures must meet a cost-effectiveness criterion that covers these costs. This cost-effectiveness requirement is significantly different from the CPUC’s cost-effectiveness criteria, which is continually ratcheted downward while the federal criteria only covers the direct cost-to-install and the actual cost of the measure. Administrative and other costs are ignored in the DOE cost-effectiveness calculation, making cost-effectiveness a very relative term.

# Green Rental Home Energy Efficiency Network

*An alliance of nonprofit organizations  
dedicated to the sustainability of California's affordable rental homes*

December 16, 2010

TO: Pacific Gas & Electric Company & Public Utilities Commission Staff

FROM: CHPC on behalf of GREEN Endorsers (to be collected after review/discussion)

SUBJECT: **Low Income Energy Efficient (LIEE) Comprehensive Retrofits for Multifamily Properties**  
*Submitted for the 2012-2014 California Publicly Utilities Commission Cycle*

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## Summary

This proposal was developed at the request of representatives from the Pacific Gas & Electric Company with the encouragement of CPUC staff. It proposes the establishing of a LIEE pilot program to streamline the application process, and increase energy savings for low income households residing in multifamily buildings.

## Energy Policy Context

The California Long-Term Energy Efficiency Strategic Plan published by the CPUC in 2008 (the “Strategic Plan”) states that “the passage of the California Global Warming Solutions Act of 2006 (Assembly Bill 32) has amplified the need for intensive energy efficiency efforts across California.” The Draft Scoping Plan, which offers preliminary indication of how the State plans to achieve its GHG reduction targets, establishes a statewide energy efficiency target of at least 32,000 gigawatt hours and 800 million therms by 2020. AB 32 and other pivotal legislation and policy in California — such as the Energy Action Plan II, AB 2021 (establishing statewide energy efficiency goals), the Low-Income Energy Efficiency statutes, the Governor’s Green Building Executive Order, the 2007 IEPR and the passage of AB758 in 2009, requiring the PUC and CEC “to develop and implement a comprehensive program to achieve greater energy savings in California’s existing residential and nonresidential building stock”— create an environment where energy efficiency efforts must not only continue to thrive but scale up unprecedented levels.

A focus on low-income households residing in multifamily buildings is critical both to meet the goals of the Strategic Plan, as well as to alleviate the utility burden for disadvantaged populations. A few key statistics:

- According to the Plan, the residential sector represents approximately 32% of total state electricity usage and 36% of its natural gas consumption.

- Low income households consume 27% more energy due to the age and condition of the housing they can afford to live in and there are more than 600,000 deed restricted low income apartments in California.
- More than half of eligible Low Income households with incomes below 200% of the Federal Poverty Level live in multifamily buildings.
- While the current version of LIEE appears to work reasonably well for single family dwellings, the most important energy savings opportunities in multifamily buildings have been missed due to a variety of barriers discussed below.

The Strategic Plan describes a number of goals and trends including the following related to retrofitting existing buildings:

- By 2020, all eligible customers will be given the opportunity to participate in the Low Income Energy Efficiency (LIEE) program.
- LIEE will be made more efficient through the adoption of more operationally and administratively efficient strategies.
- Other State, Federal and local programs will be leveraged.
- LIEE programs will be integrated with core energy efficiency programs.
- In the near term the IOUs will develop partnerships with community organizations and local governments to leverage existing services and jobs.
- A whole-house approach will be taken in retrofitting existing homes including HVAC systems.
- Energy consumption in existing homes will be reduced by 20% by 2015 and 40% by 2020.
- Comprehensive, statewide solutions will be favored that include tailored efficiency measures and demand management.

The goal of this pilot program is to demonstrate a new cost effective means for achieving maximum increases in energy efficiency in low income multifamily buildings that result in the highest level of property performance in the most cost efficient manner. Properties participating in the pilot will achieve a minimum of 20% energy savings.

This pilot is intended to complement rather than replace other initiatives also intended to make energy retrofit resources more available to low income multifamily buildings including Energy Upgrade California, the anticipated Whole House Multifamily Retrofit Program, Energy Watch programs, and possible initiatives by CPUC and IOU staff to facilitate a more integrated approach to accessing energy retrofit resources. It is hoped that existing LIEE services providers with interest and experience in serving multifamily buildings will play an active role in the pilot.

## **Objectives**

This new approach has several key objectives:

1. Demonstrate the greater cost effectiveness of energy retrofits to larger multifamily buildings using a whole building, performance-based approach.
2. Demonstrate the advantages of a program with a single point of entry for low income multifamily properties, recognizing the unique needs of low income multifamily housing.
3. Eliminate barriers to accessing energy retrofit programs for providers of low income multifamily properties.
4. Align income eligibility and other programmatic requirements with other federal and state energy rebate and incentive programs to maximize leveraging opportunities.
5. Implement a rigorous data collection and analysis to determine with this approach is effective.

To meet these objectives, a new framework must be established that is designed to better serve specific property types rather than program categories. Accomplishing these objectives will help the PUC meet its targets described in the Strategic Plan.

A critical component of this proposal is to align the pilot program eligibility standards and service delivery model with current Federal and State procedures and protocols so that property owners can leverage a variety of low income multifamily energy efficiency programs including the Department Of Energy's Weatherization Assistance Program (administered by the California Department of Community Services and Development), HUD's Green Retrofit Program, the recommendations of the State of California's Multifamily Home Energy Retrofit Coordinating Committee, and the California Energy Commission's multifamily programs. In addition, expenditures under this pilot would be expected to leverage other housing finance programs to pay for capital needs not covered by the energy efficiency programs. The ability to leverage a diverse set of funding sources is essential to achieving deeper retrofits and, by extension, higher levels of energy savings.

### **Problem Statement and Barriers to Access**

While various programs such as LIEE, ARRA WAP, and LIHEAP are available to offset the cost of energy improvements, numerous barriers prevent owners of multifamily buildings from attempting to access these funds or services in a cost effective way. The most notable barriers are outlined below:

1. Households must individually qualify, agree to participate, and provide access to their homes. In large multifamily buildings this can result in hundreds of individual qualifications in order to address whole-building solutions that most directly address the energy efficiency needs of the property.
2. Low income energy efficiency retrofit programs (LIEERP) typically require specific prescriptive measures designed for single family homes that are not suitable for larger multifamily properties with more complex energy systems.
3. LIEEP services lack coordination with energy efficiency rebates and incentives, making it difficult for owners to leverage them with other renovation work and maximize the energy efficiency retrofit opportunities.

4. Only certified contractors may deliver services, few of which are certified to work on multifamily (currently only 6 out of 48 contractors).
5. Some funds/services cannot be spent on heating and cooling systems that yield the greatest potential energy savings in larger rental properties.

### Key Pilot Program Elements

1. **Eligibility:** Property owners apply on behalf of their low income tenants. A property may have no fewer than 66% of the units occupied by eligible low income households to participate.<sup>1</sup> It is anticipated that an average of 80% of all tenants will qualify as low income within the course of the pilot.<sup>2</sup> In order to insure that tenants and not owners benefit, only properties that have at least five (5) years remaining in a regulatory agreement with a public agency requiring that rents on units to be counted be set so that they do not exceed 30% of the tenants actual income (or in the case of Low Income Housing Tax Credit properties, rents cannot exceed 30% of the regulated maximum income levels) will be allowed to participate.<sup>3</sup> Properties certified by HUD and DOE as eligible under ARRA as eligible for WAP will be deemed eligible for participation, as will all properties self-certifying pursuant to the process described below. Consistent with current LIEE standards, properties participating in the pilot should be of at least 5 units per building and 20 units per property to test economies of scale.

Owners may use the following process to evidence income eligibility:

- (1) An owner or designee reviews rent rolls to determine if the multifamily property meets the CPUC income eligibility requirement that two-thirds of the households in each property have incomes that are at or below 200 percent of the current federal poverty level based on household size. The determination must be based on HUD, State Housing Finance Agency (HFA), or Low Income Housing Tax Credit Allocating Agency (TCAA) certified income records as described below.
- (2) Owners must submit to the IOU: (a) a self-certification that the property meets CPUC income eligibility requirements; (b) documentation from current property records that confirm compliance with CPUC income eligibility requirements; and (c) an agreement that establishes a penalty if the documentation submitted to the IOU is found to be inaccurate and the property does not to meet the CPUC income eligibility requirements.

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<sup>1</sup> The 66% income eligibility threshold was chosen to conform to current DOE standards used in the WAP program as there is evidence that HUD and DOE will continue developing programs using this standard in the future.

<sup>2</sup> Meeting/exceeding the 80% average eligibility level would be achieved by having a mix of properties that meet the 66% minimum eligibility with properties that have certified at 100% eligible; the reality is that the properties certified as having met the 66% minimum have significantly higher average income eligibility anyway.

<sup>3</sup> The five-year minimum remaining affordability term has been chosen to insure that the substantial public benefit of the larger LIEE investment in the multifamily building will be enjoyed by tenants for at least this period without the possibility that an owner might try to sell the building to capture the added value of the improvements.

Attachment “A” provides a description of these three components.

To ensure that the benefits of the retrofit activity accrue to the tenants, as is the intent of the LIEE program, property owners will comply with the guidance provided by DOE for the Weatherization Assistance Program as authorized in DOE Program Notice 10-15 and interpreted by [CSD’s Multifamily WAP Guidance #13](#) which states that:

While ensuring that the energy-efficiency objectives of the program are met, DOE Energy Service Providers must ensure that weatherization activities result in energy cost savings, and that any derived energy savings accrue directly to the tenants in one of the following primary forms or benefits:

- Protection against rent increases beyond that required under the DOE WAP regulations (10 CFR 440.22(b)(3)ii);
- Investment of the energy savings in facilities or services that offer a measureable benefit direct benefits to tenants;
- Establishment of a shared savings where energy costs savings are aggregated and distributed to tenants; or
- Longer term preservation of the property as affordable housing.

Recognizing that the benefits of weatherization services are not exclusive to energy-efficiency, DOE Service Providers are strongly encouraged to certify and document the accrual of non-energy benefits to tenants. Non-energy benefits are considered secondary, and DOE Service Providers must certify the existence of at least one primary energy-efficiency benefit to qualify the Multifamily Provider for DOE weatherization services. Acceptable non-energy benefits include:

- Investment of the energy savings from the weatherization work in specific health and safety improvements with measurable benefits to tenants; or
- Improvements to heat and hot water distribution, and ventilation, to improve the comfort of residents.

DOE Energy Service Providers must obtain the required documentation from MFP owners or managing agents to certify the accrual of at least one primary and at least one secondary benefits to tenants for DOE funded weatherization services at MFPs, regardless of whether the property is individually or master-metered.

2. **Funding:** The program will provide incentive funding for cost-effective energy improvements as determined by a whole-building energy audit, as described in Section 5. below. In basing the allocation of funding on a building-specific energy analysis, the program can ensure that LIEE funds are specifically, and exclusively, used to cover those

costs that represent energy savings to the property and its tenants. No LIEE funds will be used for deferred maintenance or other non-energy efficiency owner obligations.

The pilot program will provide incentive payments to cover the cost of a retrofit package in an amount commensurate with the level of affordability and the projected savings to be achieved, as follows:

<b>Tenant Household Income as a % of Federal Poverty Level (FPL)</b>	<b>15% - 20% reduction in energy use<sup>4</sup></b>	<b>21% - 30% reduction in energy use</b>
100% ≤ 200% of FPL	90% of total cost	100% of total cost
80% - 99% ≤ 200% of FPL	80% of total cost	90% of total cost
60% - 79% ≤ 200% of FPL	70% of total cost	80% of total cost
40% - 59% ≤ 200% of FPL	60% of total cost	70% of total cost

Owners must use other sources, such as property reserves or another source of subsidy, to augment LIEE funding to complete the retrofit. This leveraging will allow for deeper retrofits and greater savings. And, the use of an energy audit will ensure that LIEE funds are focused exclusively on energy improvements that offer verifiable savings over time.

Notwithstanding the above, the pilot funding will be capped at \$15,000 per dwelling unit in LIEE funding, indexed annually for inflation the housing component of the most locally available Consumer Price Index.<sup>5</sup> This amount includes both the cost of the measure, as well as the cost of labor<sup>6</sup>.

In addition to paying for energy efficiency measures, the pilot program will also fund the cost of the energy audit meeting the standards described below, in Section 5, up to a maximum of \$20,000 per property, with an initial upfront advance payment of 50% of the audit cost being borne by the owner. The program will reimburse the owner for its 50% of the cost of the audit upon completion of the retrofit construction and verification as described below.

The program will also fund the cost of at least one Quality Assurance and Verification inspection upon completion of construction, as defined in Section 8 below.

<sup>4</sup> The reduction is based on the total projected savings to be achieved from a package of measures that are installed together.

<sup>5</sup> The \$10,000 per unit cap was derived in part by studying the experience of the U.S. Department of Housing and Urban Development with its Green Retrofit Program. GRP provided grants up to \$15,000 per unit to private owners of HUD-assisted buildings meeting certain criteria including income eligibility. The average grant size was \$10,000 per unit. While it certainly can be argued that California’s climate zones require less intensive measures than other zones nationally, it can also be argued that construction costs are significantly higher here than in most other states. The \$15,000 per unit cap is also based on a review of Enterprise’s Green Retrofit Pilot Program’s 15 energy audits which identified an average cost of \$8,800 per unit in energy efficiency measures.

<sup>6</sup> The cost of labor may include compliance with Davis Bacon or State prevailing wages as applicable local, State or Federal requirements dictate

3. **Allowable Measures:** The package of MF LIEE Pilot measures may include, but is not limited to:
- Centralized systems: heating, cooling, domestic hot water
  - Windows (including wood frame and glass)
  - Roof and/or wall insulation
  - Lighting/timers/occupancy sensors
  - Common areas and exterior of property
  - Sink and faucet aerators
  - Renewables
  - EnergyStar appliances
  - Unit furnaces
  - Wall installation
  - Doors (exterior and interior)
  - Toilets
  - Pool and spa pumps, filtrations pumps, motors, and heater
  - Installation of gas and electric submeters
  - Solar hot water
  - Solar PV systems
  - Cogeneration systems
4. **Cost Effectiveness Metric:** The cost effectiveness of the program, as well as individual measures, will be measured using a TRC of .25 and will incorporate into it, factors that account for the economic, health and safety benefits of reducing energy costs for low income households and extending the affordability of their homes.
5. **Audit Protocol:** Owners will commission an energy audit that meets the standards of the Multifamily Home Energy Retrofit Coordinating Committee (MF HERCC) audit protocol as approved by the California Energy Commission.<sup>7</sup> The audit will provide a list of recommended measures and the cost effectiveness metric that represent the optimal package of energy efficient improvements tailored to the particular characteristics of their property and its occupants.
6. **Program Delivery System:** Each IOU would identify a Single Point of Contact (SPOC) for all MF LIEE applications. The SPOC could be internal to the IOU or be a third party hired through a competitive selection process. The SPOC would be required to have significant experience in the following: the development, ownership, operation, and financing of deed-restricted multifamily low income housing as well as with energy retrofits in these types of buildings. The SPOC could evidence this experience either through its own staff or by contractual agreements with third parties. The IOU would issue (or cause the SPOC to issue) a two-tiered Notice Of Funding Availability (NOFA)

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<sup>7</sup> MF HERCC will periodically update this audit protocol.

for MF LIEE describing the funding available (both for the initial audit and for the measures and verification protocols), applicant and property threshold criteria, a checklist of required application information along with a method for indicating whether the applicant was seeking a grant or a loan, which is allowed only in the event that the housing was financed or is being financed with Low Income Housing Tax Credits. The SPOC would review the MF LIEE owner funding request for completeness and respond within 30 days either with a preliminary funding commitment or with any questions or concerns regarding the request. Once any open questions/concerns have been addressed, the IOU would (1) send a loan or grant agreement to the owner for execution and once executed, (2) authorize an escrow account to be established with a title company with instructions for funds to be disbursed on a monthly basis in amounts equal to 90% of the owner's certified actual incurred costs. The remaining 10% would be released from escrow only after the Qualified Assurance and Verification inspection has verified that (1) the proposed work has been completed, and (2) that the minimum energy savings specified in the application has been achieved.

7. **Contractor Selection and Certifications:** Owners will hire contractors who are qualified and experienced in the prosecution of the approved scope of work and in constructing improvements that accomplish a high standard of energy efficiency. All energy retrofit and health and safety measure installations must be completed by a BPI Building Performance Institute, and/or Build It Green Certified GreenPoint Rater, and/or California Property Performance Contractor Association certified contractors, or contractors with approved equivalent certification. This approach has been endorsed by the MF HERCC Recommendations which note that, "...it is important that multifamily developer/owners not be limited to using contractors approved by the incentive program. Developer/owners tend to have relationships with general contractors and trade contractors they trust, which is very different from single-family homeowners who don't typically have a suite of construction professionals under contract to them."
8. **Quality Assurance and Verification:** All completed retrofit projects will undergo a Quality Assurance and Verification inspection at least once upon completion of construction. This inspection will be conducted by a professional with appropriate certifications for the project specific measures and scope as defined in the CEC approved MF HERCC Recommendations Verification Team Qualification Section. At a minimum, all projects will include an on-site visual inspection to verify proper installation of each measure per specifications. For projects that implement more complex energy efficiency measures such as boiler replacements, and hot water distribution loop re-design, performance test-outs may be conducted to verify proper operation of the installed measure.
9. **Energy Savings/Projected Program Accomplishments**

The LIEE target for the 2009-2011 cycle is 800,000 units, with services worth approximately \$310 million budgeted each year. The proposed MF LIEE Pilot target for

2012-14 would be 24,000 units (8,000 units per year) with an average subsidy per unit of \$10,000.

**10. Budget Requirements** TBD

**11. Schedule** TBD

OPEN ISSUES

Waive 10-year minimum between LIEE participation

Boiler/furnace limitations (but could be reimbursed by other EE programs)

DRAFT

## ATTACHMENT “A”

- (a) Self Certification. The self-certification must be signed by the property owners and attest that:
- i. The property owner maintains certified income records for households residing at the property;
  - ii. The property owner has reviewed its current certified income records; and
  - iii. Based on the review of its income records the property owner has determined that for each property at the property at least two-thirds of the units in each property have certified incomes that are at or below 200 percent of the current federal poverty level based on household size.
- (b) Documentation.
- i. General information about the property.
    1. HUD or equivalent state Housing Finance Agency (HFA) or LIHTC Allocating Agency (TCAA) ID Number
    2. Property Name
    3. Address
    4. Number of Units
    5. Number of Buildings on Property
    6. Number of Stories
    7. Number of Properties
    8. Number of years remaining on use restriction and/or subsidy contract
  - ii. HUD 50059 or HFA or TCAA property level income certification form completed within the past 12 months for all units at the property. (These are the standard income certification forms used by HUD and HFA and state LIHTC programs.)
  - iii. A map of the property showing the units by property with addresses for each property.
  - iv. Percent of households in each property meeting CPUC income requirements.
  - v. Regulatory agreement with federal, state or local public agency with at least 5 years remaining in the term requiring rents to be set at no more than 30% of actual income (or in the case of Low Income Housing Tax Credit properties, not more than 30% of the regulated maximum income levels).
- (c) Agreement. The property will be subject to a penalty if the property is found by the IOU or its grantees not to meet the standard income eligibility requirements for the program. In accordance with the practice of some Federal programs, this penalty may include the recovery of grant funds expended on an ineligible property. These penalties are reasonable both because of how unlikely it is that a property already subject to federal, state and/or local government monitoring would be subject to them and also because they are already subject to similar penalties.

From: Sarvate, Sarita <sarita.sarvate@cpuc.ca.gov>  
Date: Tue, Mar 22, 2011 at 3:46 PM  
Subject: Energy Division Staff Recommendations for a Multi-Family Pilot  
To: "Sarvate, Sarita" <sarita.sarvate@cpuc.ca.gov>

Greetings

Please find attached the CPUC Energy Division's (ED) Principles for a Low Income Multifamily Housing Pilot and the underlying assumptions and analyses thereof.

The Energy Division has been exploring the development of a pilot project for treating California's under-served multi-family housing sector with various stakeholders over the last several months. ED anticipates that the final pilot proposal would be included in the IOUs' Energy Savings Assistance Program Budget applications for the 2012-2014 cycle. The aim of the pilot is to explore cost-effective, whole building approaches to providing energy efficiency to low income multifamily housing.

Based on recent work by the California Home Energy Retrofit Coordinating Committee (CA HERCC), the existing Energy Upgrade California program, the Energy Savings Assistance Program, and the Multifamily Energy Efficiency Rebate (MFEER) program, ED has developed a range of estimates for the cost and scope of an effective, yet measureable pilot. In its analyses of various pilot outcomes, ED has attempted to balance the size of the pilot with considerations of equity and cost-effectiveness.

Sarita Sarvate

## Low-Income Multifamily Pilot

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### Guiding Principles

Energy Division recommends consideration of a Low-Income Multifamily Pilot that adheres to the following Principles:

1. Be consistent with demonstrating progress toward the relevant 2020 goals and strategies identified in the Energy Efficiency Strategic Plan:
  - a. Multifamily buildings will achieve a 40% reduction in energy purchases over 2008 baseline, and
  - b. Increase number of households treated under the Energy Savings Assistance Program (formerly known as LIEE) to produce long term energy savings;
2. Be implemented during the 2012-2014 program portfolio cycle and completed before the end of the 2014 program year;
3. Be jointly developed with at least two large California investor owned utilities (IOUs) and implemented in at least two large IOU service territories;
4. Fully leverage and integrate the Energy Savings Assistance Program with utility core energy efficiency programs and other applicable State, Federal and local programs in order to streamline and improve program delivery, and achieve maximum energy efficiency savings relative to the expenditures by ratepayers, taxpayers, and other financial investments. This shall include but not be limited to:
  - a. Leveraging with the US Department of Housing and Development, California Community Services and Development, and various local government partnership programs.
  - b. Seeking to minimize overall project and program financial and transaction costs, including access to relevant data needed to inform subsequent upgrade activities.
  - c. Avoiding double counting of energy savings.
5. Include as eligible measures first those approved in the current Energy Savings Assistance Program, then the first four tiers of the energy efficiency “loading order,”<sup>1</sup> which recommends building improvements in the following order:
  1. air sealing to obtain a tight building envelope;
  2. insulation to complete the thermal boundary;
  3. proper sizing, design, installation, combustion safety testing and commissioning of space heating and cooling systems;
  4. proper sizing, design, installation, combustion safety testing, commissioning and insulation of hot water systems, including distribution;
  5. efficient lighting and appliances, and demand response measures; and
  6. renewables.

Although not recommended for this pilot program, installation of measures in tiers 5-6 at time of treatment could further leverage available single measure rebates. The costs of the installed Energy Savings Assistance Program approved measures and any financial incentives awarded based on energy savings achieved from the measures installed from IOU program funds under 1-4 would be allocated to the pilot budget. All other measure costs should be leveraged with existing single measure rebates or from other outside funding sources.

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<sup>1</sup> “2008 Energy Action Plan Update”, California Energy Commission and California Public Utilities Commission, February, 2008.

6. Institute a performance-based program based on demonstrated reductions in kW, kWh and Therms.
  - a. Pilot development should explore an approach similar to the Energy Upgrade California single family performance-based program where incentives awarded are based on the percentage of projected energy savings (site BTUs) per home. This pilot should consider a similar structure with variations made suitable to the multifamily market segment.
7. Aim to treat a minimum of 18,000 multi-family units with a maximum of 24,000 multifamily units with a total pilot budget not to exceed \$46 Million, in total. (Estimates comprising this figure consist of \$28.4 Million from the Energy Savings Assistance Program and \$17.1 Million from Energy Upgrade California / EE Core.)
8. Reduce barriers to multifamily participation (including providing a single point of delivery for program to the greatest extent feasible);
9. Promote equity across the low-income housing sector by targeting buildings with the highest proportion of the tenants that are eligible for the Energy Savings Assistance Program and ensuring that these tenants represent under-served households;
10. Ensure consistency with applicable California Public Utilities Commission cost-effectiveness guidance by:
  - a. Installing the most cost-effective measures that provide an energy resource for California, while reducing low-income customers' bills and improving their quality of life, and
  - b. Ensuring compatibility of pilot with portfolio-level cost-effectiveness requirements
11. Ensure that benefits accrue to tenants (including, but not limited to, energy bill savings, health and safety improvements, and improved comfort of residents); and
12. Educate participants on the benefits of energy efficiency and the gains from conservation behaviors.

## **Recommendations for Multifamily Low Income Pilot Pilot Scope/Budget/Penetration Parameters**

### **Pilot Scope and Budget Recommendations**

Energy Savings Assistance Program (ESAP, formerly known as ESAP) staff and Energy Efficiency Program (EEP) staff at the Energy Division jointly recommend a penetration target for the Multi-Family (MF) whole building pilot of between 3-4% of the California ESAP population, or 18,000 - 24,000 units. We also recommend an IOU total budget range for the pilot of between \$34 Million - \$46 Million (Estimated EE Portion \$13 Million - \$17 Million; ESAP Portion \$21 Million - \$28 Million.)

**The following is not intended as a prescriptive approach or requirement, but rather a starting point for discussion. Our recommendation is based on analysis with the assumptions and results provided below. While we have used these assumptions to build our analysis and make our recommendations, we caution the IOUs and involved stakeholders to diligently formulate their own assumptions for the actual pilot program design. We consider that the range of potential approaches to incentive design for this pilot are not yet fully understood, and that a range of approaches could be contemplated.**

#### Recommended Budget and Penetration Target

1. Penetration Target- Between 3-4% ESAP Population, or 18,000 - 24,000 Units
2. Total Pilot Cost- \$34 Million – \$46 Million (estimated EE Portion \$13 Million - \$17 Million; ESAP Portion \$21 Million - \$28 Million)
3. ESAP Subsidy estimated at \$1200/Unit, remaining costs covered by EE and other leverage sources
4. Assumptions: Calculated based on EE Incentive Level of **25%** given at estimated total project cost of \$2900/Unit<sup>1</sup>. With a program average ESAP subsidy of \$1200/unit plus an EE contribution of \$750 (which is 25% of the total estimated \$2900 project cost per unit) the ratepayer contribution will amount to \$1925/Unit (ESAP+EE).
5. ED anticipates that the remaining cost of the project will come from other sources.

#### Potential Lower Minimum Budget and Penetration Target (not recommended):

1. Penetration Target - Between 1-2% ESAP Population, or 6,000 - 12,000 Units
2. Total Pilot Cost - \$8 Million - \$16 Million
3. ESAP Subsidy estimated at \$1200/Unit, remaining costs covered by EE and other leverage sources
4. Assumptions: (Calculated based on EE Incentive Level of **5%** Incentive given at estimated cost of \$2900/Unit- ESAP Subsidy estimated at \$1200/Unit, with Average Budget per Unit - \$1,345/Unit (ESAP + EE))

#### Potential Higher Maximum Budget and Penetration Target (not recommended):

1. Penetration Target - Between 4-5% ESAP Population, or 24,000 - 30,000 Units
2. Total Pilot Cost - \$56 Million - \$70 Million

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<sup>1</sup> The estimated cost of \$2900/Unit is from the Multifamily Subcommittee of the California Home Energy Coordinating Committee (MF HERCC) report (Table A- 1) dated October 2010:

[http://www.builditgreen.org/files/Admin/HERCC/MF\\_HERCC\\_report\\_10152010.pdf](http://www.builditgreen.org/files/Admin/HERCC/MF_HERCC_report_10152010.pdf)

3. ESAP Subsidy estimated at \$1200/Unit, remaining costs covered by EE and other leverage sources
4. Assumptions: (Calculated based on EE Incentive Level of **40%** Incentive given at estimated cost of \$2900/Unit- ESAP Subsidy at \$1200/Unit, with Average Budget per Unit - \$2,360/Unit (ESAP + EE))

Table 1 summarizes how we assessed potential pilot budgets given a) different penetration targets, and b) different Energy Upgrade California(EUC)/EE Core contributed incentive levels. The ESAP contribution is fixed for all scenarios at \$1200, based on the current average per unit cost for the program. The bottom row indicates the combined ESAP and EUC/EE Core budget allocated per unit under the range of budget results.

Table 1:

# Homes	ESAP Penetration Target	Funding @ 5% Incentive	Funding @ 10% Incentive	Funding @ 20% Incentive	Funding @ 25% Incentive	Funding @ 30% Incentive	Funding @ 40% Incentive	
5,912	1%	\$7,951,909	\$8,809,178	\$10,523,716	\$11,380,985	\$12,238,254	\$13,952,792	
11,824	2%	\$15,903,818	\$17,618,356	\$21,047,432	\$22,761,970	\$24,476,508	\$27,905,584	
<b>17,737</b>	<b>3%</b>	\$23,855,727	<b>\$26,427,534</b>	<b>\$31,571,148</b>	<b>\$34,142,955</b>	<b>\$36,714,762</b>	<b>\$41,858,376</b>	
<b>23,649</b>	<b>4%</b>	\$31,807,636	<b>\$35,236,712</b>	<b>\$42,094,864</b>	<b>\$45,523,940</b>	<b>\$48,953,016</b>	<b>\$55,811,168</b>	
29,561	5%	\$39,759,545	\$44,045,890	\$52,618,580	\$56,904,925	\$61,191,270	\$69,763,960	
		EE	\$145	\$290	\$580	\$725	\$870	\$1,160
		ESAP	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200
<b>\$/Unit (ESAP+ EE)</b>		\$1,345	\$1,490	<b>\$1,780</b>	<b>\$1,925</b>	<b>\$2,070</b>	<b>\$2,360</b>	

*ASSUMPTIONS: Estimate based on 40 unit building built before 1980 to 20% savings levels and a MFHERCC Estimate of \$2900/Unit (with ESAP budget of \$1200/unit and assuming the above mentioned EE incentive cost reimbursement level.)*

In our analysis, for a **25%** incentive funding scheme, we assumed that the existing EE EUC core IOU program would pay 25% (\$725) of the MFHERCC \$2900/Unit estimate for 20% energy savings/unit. We combined this with a ESAP contribution of \$1200/Unit (the highest ESAP average cost/unit of all four IOUs) to estimate a theoretical total cost per unit. Table 2 shows the ranges of total funding commitments by program, and by penetration rate, with our recommended budget levels indicated in red:

Table 2:

<b>MFHERCC Estimate of \$2900/Unit @ 25% Incentive (by ESAP and EUC / EE Core Funds)</b>				
# Homes	ESAP Penetration Target	ESAP Funds at \$1200/Unit	EE Funds at \$ 725/unit	Total
5,912	1%	\$ 7,094,640.00	\$ 4,286,345.00	\$ 11,380,985.00
11,824	2%	\$ 14,189,280.00	\$ 8,572,690.00	\$ 22,761,970.00
<b>17,737</b>	<b>3%</b>	<b>\$ 21,283,920.00</b>	<b>\$ 12,859,035.00</b>	<b>\$ 34,142,955.00</b>
<b>23,649</b>	<b>4%</b>	<b>\$ 28,378,560.00</b>	<b>\$ 17,145,380.00</b>	<b>\$ 45,523,940.00</b>
29,561	5%	\$ 35,473,200.00	\$ 21,431,725.00	\$ 56,904,925.00
<b>Estimated \$/Unit (\$1200 ESAP+ EE)</b>				<b>\$ 1,925</b>

According to the MFHERCC data, projected energy savings vary by climate zone. Table 3 shows approximate energy savings per ratepayer dollar based on the different funding levels for the pilot (and by climate zone.). The cost/unit of energy saved is notably high.

Staff recommends that Energy Division management consider this issue when considering the Energy Division’s recommended funding level for the ESAP MF Whole Building Pilot. We also recommend that management use this as a signal that additional work is needed to analyze current and planned whole house/building programs and pilots, develop a stronger theoretical foundation, and articulate a longer term (up to ten years) funding vision for these programs.

Table 3:

<b>Total Funding Matrix (ESAP + EUC/EE Core Funds by Gas/Electric)</b>										
	<b>15% Incentive</b>		<b>20% Incentive</b>		<b>25% Incentive</b>		<b>30% Incentive</b>		<b>40% Incentive</b>	
	kwh Savings/ Dollar	Therm savings/ Dollar								
CZ 3	68.33	2.33	62.76	2.14	58.04	1.98	53.97	1.84	47.34	1.62
CZ 8	39.52	20.02	36.30	1.24	33.57	1.15	31.22	0.93	31.22	0.93
CZ 10	62.35	2.13	57.27	1.95	52.96	1.81	49.25	1.47	43.20	1.47
CZ 12	103.49	3.53	95.06	3.24	87.90	3.00	81.74	2.79	71.70	2.45

**Summary**

In sum, the pilot’s treated home goals could range from 5,912 to 29,561 MF units without factoring outside leveraging sources with an average per unit cost ranging from \$1,345-\$2,360. Projected pilot costs could range from \$7.9 Million to \$69.8 Million

**CHPC Proposal**

The original CHPC pilot proposal asked to treat 24,000 units (about 4% of the ESAP eligible population) with a ceiling of \$10,000/Unit. The maximum cost of that proposal in ratepayer dollars would be \$240 Million.

**Staff Proposal**

Aim to treat 18,000- 24,000 multi-family units with a funding request level between \$34 Million to \$46 Million. This figure consists of ESAP Portion \$21 Million - \$28 Million and Energy Upgrade California Portion of \$13 Million - \$17 Million.

LIEE approved measures should be installed first if appropriate.

Secondly, pilot properties should access EUC funds to cover, in loading order:

- 1) air sealing to obtain a tight building envelope;
- 2) insulation to complete the thermal boundary;
- 3) proper sizing, design, installation , combustion safety testing and commissioning of space heating and cooling systems;
- 4) proper sizing, design, installation, combustion safety testing, commissioning and insulation of the hot water systems, including distribution;
- 5) efficient lighting and appliances, and demand response measures; and
- 6) renewables, although not recommended for this pilot program.

Lastly, for those measures offered outside of the LIEE or EUC, properties can access MFEER rebates or are encourage to access other outside funding sources to cover costs. To avoid double-dipping, measures accessed via LIEE or EUC are not eligible for MFEER rebates.

Footnote: \*Rebates utilized outside of measure offerings funds may/may not be used in the determination of energy savings for performance threshold. No double counting of energy savings.

(From Energy Division Staff Recommendations: Excel Multi-Family Pilot Scope Data 3-22-11 xls, "Measure Lists tab)

TABLE 1  
Total Funding Mix (LEEC, ELEC, ELEC)

# Homes	LEEC Funding @ 5% Total	Funding @ 10% Total	Funding @ 15% Total	Funding @ 20% Total	Funding @ 25% Total	Funding @ 30% Total	Funding @ 40% Total
1,512	\$7,560,000	\$15,120,000	\$22,680,000	\$30,240,000	\$37,800,000	\$45,360,000	\$52,920,000
1%	\$756,000	\$1,512,000	\$2,268,000	\$3,024,000	\$3,780,000	\$4,536,000	\$5,292,000
17.77%	\$13,308,000	\$26,616,000	\$39,924,000	\$53,232,000	\$66,540,000	\$79,848,000	\$93,156,000
23.66%	\$11,880,000	\$23,760,000	\$35,640,000	\$47,520,000	\$59,400,000	\$71,280,000	\$83,160,000
25.00%	\$11,880,000	\$23,760,000	\$35,640,000	\$47,520,000	\$59,400,000	\$71,280,000	\$83,160,000
EE/WH	\$144	\$288	\$432	\$576	\$720	\$864	\$1,008
LE/WH	\$1,248	\$2,496	\$3,744	\$4,992	\$6,240	\$7,488	\$8,736
LE/WH @ 20% LE/WH @ 25%	\$1,248	\$1,600	\$1,952	\$2,304	\$2,656	\$3,008	\$3,360

\*ASAP/PTTC/PC: Estimate based on 40-unit building with 100% to 20% savings levels, with HERC Estimate of \$200/Unit (on 100% LEE budget) and assuming the above mentioned ELEC (lowest cost available) is used.

TABLE 2  
Total Funding Mix (Broken out by LEE and ELEC Funds)

Penetration Target	LEEC Funds at \$100/Unit	LEEC Funds at \$120/Unit	LEEC Funds at \$140/Unit	LEEC Funds at \$160/Unit	LEEC Funds at \$180/Unit	LEEC Funds at \$200/Unit	LEEC Funds at \$220/Unit	LEEC Funds at \$240/Unit	LEEC Funds at \$260/Unit	LEEC Funds at \$280/Unit	LEEC Funds at \$300/Unit	LEEC Funds at \$320/Unit	LEEC Funds at \$340/Unit	LEEC Funds at \$360/Unit	LEEC Funds at \$380/Unit	LEEC Funds at \$400/Unit	LEEC Funds at \$420/Unit	LEEC Funds at \$440/Unit	LEEC Funds at \$460/Unit	LEEC Funds at \$480/Unit	LEEC Funds at \$500/Unit	LEEC Funds at \$520/Unit	LEEC Funds at \$540/Unit	LEEC Funds at \$560/Unit	LEEC Funds at \$580/Unit	LEEC Funds at \$600/Unit	LEEC Funds at \$620/Unit	LEEC Funds at \$640/Unit	LEEC Funds at \$660/Unit	LEEC Funds at \$680/Unit	LEEC Funds at \$700/Unit	LEEC Funds at \$720/Unit	LEEC Funds at \$740/Unit	LEEC Funds at \$760/Unit	LEEC Funds at \$780/Unit	LEEC Funds at \$800/Unit	LEEC Funds at \$820/Unit	LEEC Funds at \$840/Unit	LEEC Funds at \$860/Unit	LEEC Funds at \$880/Unit	LEEC Funds at \$900/Unit	LEEC Funds at \$920/Unit	LEEC Funds at \$940/Unit	LEEC Funds at \$960/Unit	LEEC Funds at \$980/Unit	LEEC Funds at \$1,000/Unit																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
1%	756	1,512	2,268	3,024	3,780	4,536	5,292	6,048	6,804	7,560	8,316	9,072	9,828	10,584	11,340	12,096	12,852	13,608	14,364	15,120	15,876	16,632	17,388	18,144	18,900	19,656	20,412	21,168	21,924	22,680	23,436	24,192	24,948	25,704	26,460	27,216	27,972	28,728	29,484	30,240	31,000	31,756	32,512	33,268	34,024	34,780	35,536	36,292	37,048	37,804	38,560	39,316	40,072	40,828	41,584	42,340	43,096	43,852	44,608	45,364	46,120	46,876	47,632	48,388	49,144	49,900	50,656	51,412	52,168	52,924	53,680	54,436	55,192	55,948	56,704	57,460	58,216	58,972	59,728	60,484	61,240	62,000	62,756	63,512	64,268	65,024	65,780	66,536	67,292	68,048	68,804	69,560	70,316	71,072	71,828	72,584	73,340	74,096	74,852	75,608	76,364	77,120	77,876	78,632	79,388	80,144	80,900	81,656	82,412	83,168	83,924	84,680	85,436	86,192	86,948	87,704	88,460	89,216	89,972	90,728	91,484	92,240	93,000	93,756	94,512	95,268	96,024	96,780	97,536	98,292	99,048	99,804	100,560	101,316	102,072	102,828	103,584	104,340	105,096	105,852	106,608	107,364	108,120	108,876	109,632	110,388	111,144	111,900	112,656	113,412	114,168	114,924	115,680	116,436	117,192	117,948	118,704	119,460	120,216	120,972	121,728	122,484	123,240	124,000	124,756	125,512	126,268	127,024	127,780	128,536	129,292	130,048	130,804	131,560	132,316	133,072	133,828	134,584	135,340	136,096	136,852	137,608	138,364	139,120	139,876	140,632	141,388	142,144	142,900	143,656	144,412	145,168	145,924	146,680	147,436	148,192	148,948	149,704	150,460	151,216	151,972	152,728	153,484	154,240	155,000	155,756	156,512	157,268	158,024	158,780	159,536	160,292	161,048	161,804	162,560	163,316	164,072	164,828	165,584	166,340	167,096	167,852	168,608	169,364	170,120	170,876	171,632	172,388	173,144	173,900	174,656	175,412	176,168	176,924	177,680	178,436	179,192	179,948	180,704	181,460	182,216	182,972	183,728	184,484	185,240	186,000	186,756	187,512	188,268	189,024	189,780	190,536	191,292	192,048	192,804	193,560	194,316	195,072	195,828	196,584	197,340	198,096	198,852	199,608	200,364	201,120	201,876	202,632	203,388	204,144	204,900	205,656	206,412	207,168	207,924	208,680	209,436	210,192	210,948	211,704	212,460	213,216	213,972	214,728	215,484	216,240	217,000	217,756	218,512	219,268	220,024	220,780	221,536	222,292	223,048	223,804	224,560	225,316	226,072	226,828	227,584	228,340	229,096	229,852	230,608	231,364	232,120	232,876	233,632	234,388	235,144	235,900	236,656	237,412	238,168	238,924	239,680	240,436	241,192	241,948	242,704	243,460	244,216	244,972	245,728	246,484	247,240	248,000	248,756	249,512	250,268	251,024	251,780	252,536	253,292	254,048	254,804	255,560	256,316	257,072	257,828	258,584	259,340	260,096	260,852	261,608	262,364	263,120	263,876	264,632	265,388	266,144	266,900	267,656	268,412	269,168	270,000	270,756	271,512	272,268	273,024	273,780	274,536	275,292	276,048	276,804	277,560	278,316	279,072	279,828	280,584	281,340	282,096	282,852	283,608	284,364	285,120	285,876	286,632	287,388	288,144	288,900	289,656	290,412	291,168	291,924	292,680	293,436	294,192	294,948	295,704	296,460	297,216	297,972	298,728	299,484	300,240	301,000	301,756	302,512	303,268	304,024	304,780	305,536	306,292	307,048	307,804	308,560	309,316	310,072	310,828	311,584	312,340	313,096	313,852	314,608	315,364	316,120	316,876	317,632	318,388	319,144	319,900	320,656	321,412	322,168	322,924	323,680	324,436	325,192	325,948	326,704	327,460	328,216	328,972	329,728	330,484	331,240	332,000	332,756	333,512	334,268	335,024	335,780	336,536	337,292	338,048	338,804	339,560	340,316	341,072	341,828	342,584	343,340	344,096	344,852	345,608	346,364	347,120	347,876	348,632	349,388	350,144	350,900	351,656	352,412	353,168	353,924	354,680	355,436	356,192	356,948	357,704	358,460	359,216	360,000	360,756	361,512	362,268	363,024	363,780	364,536	365,292	366,048	366,804	367,560	368,316	369,072	369,828	370,584	371,340	372,096	372,852	373,608	374,364	375,120	375,876	376,632	377,388	378,144	378,900	379,656	380,412	381,168	381,924	382,680	383,436	384,192	384,948	385,704	386,460	387,216	387,972	388,728	389,484	390,240	391,000	391,756	392,512	393,268	394,024	394,780	395,536	396,292	397,048	397,804	398,560	399,316	400,072	400,828	401,584	402,340	403,096	403,852	404,608	405,364	406,120	406,876	407,632	408,388	409,144	409,900	410,656	411,412	412,168	412,924	413,680	414,436	415,192	415,948	416,704	417,460	418,216	418,972	419,728	420,484	421,240	422,000	422,756	423,512	424,268	425,024	425,780	426,536	427,292	428,048	428,804	429,560	430,316	431,072	431,828	432,584	433,340	434,096	434,852	435,608	436,364	437,120	437,876	438,632	439,388	440,144	440,900	441,656	442,412	443,168	443,924	444,680	445,436	446,192	446,948	447,704	448,460	449,216	449,972	450,728	451,484	452,240	453,000	453,756	454,512	455,268	456,024	456,780	457,536	458,292	459,048	459,804	460,560	461,316	462,072	462,828	463,584	464,340	465,096	465,852	466,608	467,364	468,120	468,876	469,632	470,388	471,144	471,900	472,656	473,412	474,168	474,924	475,680	476,436	477,192	477,948	478,704	479,460	480,216	480,972	481,728	482,484	483,240	484,000	484,756	485,512	486,268	487,024	487,780	488,536	489,292	490,048	490,804	491,560	492,316	493,072	493,828	494,584	495,340	496,096	496,852	497,608	498,364	499,120	499,876	500,632	501,388	502,144	502,900	503,656	504,412	505,168	505,924	506,680	507,436	508,192	508,948	509,704	510,460	511,216	511,972	512,728	513,484	514,240	515,000	515,756	516,512	517,268	518,024	518,780	519,536	520,292	521,048	521,804	522,560	523,316	524,072	524,828	525,584	526,340	527,096	527,852	528,608	529,364	530,120	530,876	531,632	532,388	533,144	533,900	534,656	535,412	536,168	536,924	537,680	538,436	539,192	540,000	540,756	541,512	542,268	543,024	543,780	544,536	545,292	546,048	546,804	547,560	548,316	549,072	549,828	550,584	551,340	552,096	552,852	553,608	554,364	555,120	555,876	556,632	557,388	558,144	558,900	559,656	560,412	561,168	561,924	562,680	563,436	564,192	564,948	565,704	566,460	567,216	567,972	568,728	569,484	570,240	571,000	571,756	572,512	573,268	574,024	574,780	575,536	576,292	577,048	577,804	578,560	579,316	580,072	580,828	581,584	582,340	583,096	583,852	584,608	585,364	586,120	586,876	587,632	588,388	589,144	589,900	590,656	591,412	592,168	592,924	593,680	594,436	595,192	595,948	596,704	597,460	598,216	598,972	599,728	600,484	601,240	602,000	602,756	603,512	604,268	605,024	605,780

LIEE approved measures should be installed first if appropriate. Secondly, pilot properties should access EUC funds to cover, in loading order: 1) air sealing to obtain a tight building envelope; 2) insulation to complete the thermal boundary; 3) proper sizing, design, installation, combustion safety testing and commissioning of space heating and cooling systems; 4) proper sizing, design, installation, combustion safety testing, commissioning and insulation of the hot water systems, including distribution; 5) efficient lighting and appliances, and demand response measures; and 6) renewables, although not recommended for this pilot program. Lastly, for those measures offered outside of the LIEE or EUC, properties can access MFEER rebates or are encouraged to access other outside funding sources to cover costs. To avoid double-dipping, measures accessed via LIEE or EUC are not eligible for MFEER rebates.

Measure	Energy Savings Assistance Program Approved	Include as a Pilot eligible measure?	MFEER rebates available to access outside of Pilot*
94% AFUE central natural gas furnace with built in VSM (CZ 11, 12, 13 only)	No	Yes	\$200/unit
94% AFUE Central natural Gas furnace with no VSM	No	Yes	\$150/unit
96% AFUE Central Natural Gas Furnace w/ VSM (CZ 11, 12, 13 only)	No	Yes	\$300/unit
96% AFUE Central Natural Gas Furnace w/o VSM	No	Yes	\$250/unit
Appliances	No	No	
Building Envelope	Yes	Yes	
Central System Natural Gas Water Heaters / Space Heating	No	Yes	\$500/unit
Centralized systems: heating, cooling, domestic hot water	No	Yes	
Cogeneration systems	No	?	
Commercial Pool/Spa Heater	No	?	
Common areas and exterior of property	Yes on Limited exterior lighting No, traditional CFLs only or limited exterior lighting	Eligible Measures only	
Delamping fluorescent with electronic ballasts	Yes Repair, No replacement	Seek further input from IOUs/Parties Yes Repair, No replacement	\$6/per \$100/unit
Doors			
Ducted Evaporative Cooling System, Level 1 and Level 2	No	Yes	\$300-600/unit

Measure	Energy Savings Assistance Program Approved	Include as a Pilot eligible measure?	MFEER rebates available to access outside of Pilot*
Electric storage water heater	No	Yes	\$30/unit
EnergyStar Room Air Conditioners	Yes for Room AC with owner Co-Pay	Yes (?)	\$50/unit
EnergyStar appliances	Yes for refrigerators with owner Co-Pay	Yes, once all possible shell measures have been installed	
High efficiency clothes washers (in coin-op laundry area)	Pilot Basis for SF only	Yes, once all possible shell measures have been installed	\$150/unit
High efficiency clothes washers (inside tenant dwelling)	Pilot Basis for SF only	Yes, once all possible shell measures have been installed	\$50/unit
High efficiency dishwashers	No	No	\$30-50/unit
High performance dual pane windows	Yes Repair, No replacement	Yes	\$0.75/sf
HVAC	No	Yes, for high efficiency HVAC systems (room systems only if central cannot be installed)	
Installation of gas and electric submeters	No	No	
LED Exit signs	No	No	\$35/per
Lighting/timers/occupancy sensors	Yes	Yes	
Multifamily central system natural gas boilers/space heating	No	Yes	\$1,500 / unit
Natural Gas Storage Water Heater	No	Yes	\$30-50 / unit
Occupancy sensor	Yes	Yes	\$10/unit
Package Terminal Air Conditioners and Package Terminal Heat Pumps	No	Seek further input from IOUs/Parties	\$100/unit
Photocells	No	Seek further input from IOUs/Parties	\$10/unit

Measure	Energy Savings Assistance Program Approved	Include as a Pilot eligible measure?	MFEER rebates available to access outside of Pilot*
Pool / Spa Pumps and Motors	Yes on Pool pumps only	Yes on Pool pumps only once all possible shell measures have been installed	
Pool and spa pumps, filtrations pumps, motors, and heater	Yes on Pool pumps only	Yes on Pool pumps only once all possible shell measures have been installed	
Refrigerator, freezer, and room AC recycling	Refrigerator with Owner Co-Pay	Refrigerator with Owner Co-Pay	\$25-35 * ARP
Renewables	No	No	
Roof insulation/cool roof	Yes on Attic Insulation	Yes	
Screw in CFL reflector bulbs-R30 and R40	No, traditional CFLs only	No	\$8-10/unit
Sink and faucet aerators	Yes	Yes	
Solar hot water	No	No	
Solar PV systems	No	No	
T8 or T5 fixtures with electronic ballasts	No, except for limited exterior lighting which may/may not correspond	Yes	\$32-45/unit
Time clocks	No	No	\$36/per
Toilets	No	No	
Unit furnaces	Yes on minor repairs, No on replacement	Yes	
VSD/[F]2] Pool Pump	No	Seek further input from IOUs/Parties	\$2.00/Mbtu
VSD[1] Pool Filtration pump/motor	No	Seek further input from IOUs/Parties	\$100/unit
VSM Air Handler System	No	Yes	\$50/unit
Wall insulation	No	Yes	\$0.50 / sf

Measure	Energy Savings Assistance Program Approved	Include as a Pilot eligible measure?	MFEER rebates available to access outside of Pilot*
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\*Rebates utilized outside of measure offerings funds may/may not be used in the determination of energy savings for performance threshold. No double counting of energy savings.

<sup>[1]</sup> VSD stands for Variable Frequency Drive.

<sup>[2]</sup> VF stands for variable frequency.

**Total Funding Matrix (LIEE + EUC Funds by Gas/Electric)**

	5% Incentive		10% Incentive		15% Incentive		20% Incentive		25% Incentive		30% Incentive		40% Incentive	
	Therm savings/ Dollar	kwh Savings/ Dollar	Therm Savings/ Dollar	kwh Savings/Dollar	Therm savings/ Dollar	kwh Savings/Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar	kwh Savings/ Dollar	Therm savings/ Dollar	Therm savings/ Dollar
CZ 3	83.06	74.98	2.56	66.33	2.33	62.76	2.14	58.04	1.98	\$53.97	1.84	\$47.34	1.62	1.62
CZ 8	48.04	43.37	1.48	39.52	20.02	36.30	1.24	33.57	1.15	31.22	0.93	31.22	0.93	0.93
CZ 10	75.79	68.42	2.34	62.35	2.13	57.27	1.95	52.96	1.81	49.25	1.47	43.20	1.47	1.47
CZ 12	125.80	113.56	3.88	103.49	3.53	95.06	3.24	87.90	3.00	81.74	2.79	71.70	2.45	2.45

**Total Funding Matrix (LIEE + EUC Funds)**

# Homes	LIEE Penetration Target	Funding @ 5% Incentive		Funding @ 10% Incentive		Funding @ 15% Incentive		Funding @ 20% Incentive		Funding @ 25% Incentive		Funding @ 30% Incentive		Funding @ 40% Incentive	
		\$	1,345	\$	1,490	\$	1,635	\$	1,780	\$	1,925	\$	2,070	\$	2,360
5,912	1%	\$ 7,951,909	8,809,178	\$ 9,686,447	\$ 10,523,716	\$ 11,380,985	\$ 12,238,254	\$ 13,095,523	\$ 13,952,792	\$ 14,810,061	\$ 15,667,330	\$ 16,524,600	\$ 17,381,869	\$ 18,239,138	\$ 19,096,407
11,824	2%	\$ 15,903,818	17,618,356	\$ 19,332,894	\$ 21,047,432	\$ 22,766,970	\$ 24,476,508	\$ 26,186,036	\$ 27,905,574	\$ 29,625,112	\$ 31,344,650	\$ 33,064,188	\$ 34,783,726	\$ 36,503,264	\$ 38,222,802
17,737	3%	\$ 23,855,727	26,427,534	\$ 28,999,341	\$ 31,571,748	\$ 34,142,965	\$ 36,714,762	\$ 39,276,579	\$ 41,868,376	\$ 44,992,993	\$ 48,117,400	\$ 51,241,817	\$ 54,486,234	\$ 57,730,651	\$ 61,075,068
23,649	4%	\$ 31,807,636	35,236,712	\$ 38,665,788	\$ 42,094,864	\$ 45,523,940	\$ 48,953,016	\$ 52,811,168	\$ 56,668,474	\$ 60,473,982	\$ 64,094,950	\$ 67,714,918	\$ 71,336,886	\$ 75,088,854	\$ 78,850,822
29,661	5%	\$ 39,759,545	44,045,890	\$ 48,332,235	\$ 52,618,580	\$ 56,904,925	\$ 61,191,270	\$ 65,474,000	\$ 69,746,740	\$ 74,019,480	\$ 78,292,220	\$ 82,565,000	\$ 86,837,740	\$ 91,110,480	\$ 95,383,220
		\$ 1,345	\$ 1,490	\$ 1,635	\$ 1,780	\$ 1,925	\$ 2,070	\$ 2,360							

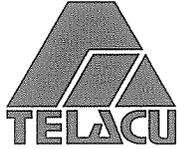
**HERC Estimate of \$29000Unit @ 25% Incentive (by LIEE and EE Funds)**

LIEE Funds at \$1200/Unit	EE Funds at \$725/unit	Total
\$ 7,094,640.00	\$ 4,286,345.00	\$ 11,380,985.00
\$ 14,189,280.00	\$ 8,572,690.00	\$ 22,761,970.00
\$ 21,283,920.00	\$ 12,859,035.00	\$ 34,142,955.00
\$ 28,378,560.00	\$ 17,145,380.00	\$ 45,523,940.00
\$ 35,473,200.00	\$ 21,431,725.00	\$ 56,904,925.00
\$/Unit (\$1200 LIEE+ EUC)	\$	\$ 1,925

\* ASSUMPTIONS: Estimate based on 40 unit building built before 1980 to 20% savings levels, with HERC Estimate of \$29000Unit (and Max LIEE budget of \$12000unit and assuming the above mentioned EUC incentive cost reimbursement level.)

**Estimated Improvements Summary**

CZ (yrs)	HERS Index		kWh		Therm		BTU Conversion	
	Savings	Split	Savings	Split	Savings	Split	1 kWh = 3413 Btu	1 therm = 100,000 Btu
3	8.878	3.510	30,300,614	7,955	381,300,614	92.05%	381,300,614	100.00%
8	21,725	1,464	74,147,425	33.62%	146,400,000	66.38%	220,547,425	100.00%
10	39,534	2,130	134,929,542	38.78%	213,000,000	61.22%	347,929,542	100.00%
12	37,973	4,479	129,601,849	22.44%	447,900,000	77.56%	577,501,849	100.00%



5400 E Olympic Blvd • Third Floor  
Los Angeles • CA 90022  
T 323.721.1655  
F 323.724.3560  
www.TELACU.com

March 28, 2011

Ms. Julie A. Fitch  
Director, Energy Division  
California Public Utilities Commission  
505 Van Ness Avenue, Room 4004  
San Francisco, CA 94102-3298

**VIA EMAIL AND FEDERAL EXPRESS**

**Re: Energy Division Staff Recommendations for a Multi-Family Pilot**

Dear Ms. Fitch:

On March 22, 2011, I received from Ms. Sarita Sarvate of CPUC's Energy Division ("ED") an email titled "Energy Division Staff Recommendations for a Multi-Family Pilot."

By its title, one would be led to believe that this email and its various attachments provide recommendations that would enhance the low income program's ability to serve all multi-family properties for the benefit of low-income households that need ESAP and EE measures the most. Very disturbingly, it does not.

In its essence, ED's Staff Recommendations appear to direct the IOUs to produce (in the IOUs' upcoming applications) a pilot program (the "Pilot") designed to provide the justification for a thinly disguised raid on ESAP and EE ratepayer funds to benefit:

- A. Assisted Housing Owners who possess buildings with antiquated energy systems that are in need of capital repairs, and;
- B. Assisted Housing Developers trying to finance new projects which, unless provided ESAP funds, are not feasible due to financing shortages in the housing industry.

The email further discloses and exposes these troubling realities:

1. ED has been exploring the development of this Pilot with representatives of assisted multi-family housing owner/developers over the last several months. The main advocate for the Pilot is California Housing Partnership Corporation, a party to the low income proceeding A08-05-022. The communications, explorations and workings of the development of the Pilot have not been transparent and may have violated the Commission's Rules of Practice and Procedure.

2. ED is recommending a “carve-out” of up to \$46 million in ESAP and EE funds to directly benefit the projects of assisted housing owner/developers. These funds are not intended for that purpose.

3. As a major owner/developer of assisted housing, TELACU knows that assisted multi-family housing developments and tenants are among the most-assisted in the low-income housing space. ED’s recommendations completely ignore the needs of households occupying non-assisted multi-family housing. Non-assisted multi-family housing is where the large masses of underserved low-income people live – households which are among the least-assisted in California.

4. ED recommends and anticipates that the Pilot’s final \$46 million proposal will be included in at least two IOUs' ESAP Budget applications for the 2012-2014 cycle. It is unclear where the authority for ED to direct IOUs to implement this Pilot comes from without a full proceeding and a vote of five commissioners, three in the affirmative. We have seen ED routinely criticize the IOUs for filing large programs through the advice letter process – programs that commissioners should know about and deliberate fully. Yet this is exactly what ED is now directing the IOUs to do with the Pilot.

TELACU is both a longstanding advocate for the energy efficiency needs of California’s low-income families and a large provider for the housing needs of low-income families and senior citizens. We therefore understand first-hand the ever-increasing challenges that owner/developers of low income multi-family assisted housing have in addressing capital repair needs and shortages of financing. However, we firmly believe that fulfilling these needs by raiding a program designed to help the least-served population of low-income Californians is just plain wrong and disingenuous.

**TELACU therefore stands vehemently opposed to ED’s recommendations for the Pilot.**

Further, TELACU requests answers to the following questions:

Question 1: This proposed Pilot was not included in Decision 08-11-031, and does not appear to be either a Commission order or an ALJ order. Is ED ordering the utilities to include this Pilot project in their applications? If so, under what authority?

Question 2: Which Commissioner's office is overseeing this Pilot?

Question 3: Did CHPC communicate with any Commissioners or their advisors concerning the Pilot? If so, did CHPC file Notices of Ex Parte Communication as required by Commission rules?



Ms. Julie A. Fitch  
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Question 4: Which specific "various stakeholders" were invited by ED to explore the development of the Pilot? With which of these stakeholders did ED actually explore development of the Pilot? Where and when did this occur?

Question 5: What factors did ED consider when it decided not to notify all parties to A08-05-022 that it was "exploring the development of a pilot project"?

Question 6: What was the process ED used for "exploring the development of a pilot project"? Were there workshops? Were interested parties notified that ED was "exploring the development of a pilot project"? If so, when and by what means?

Question 7: Does ED agree that, when "exploring the development of a pilot project" using ESAP and EE funds for low income multi-family housing, the Commission and ratepayers are best served when that process is open and transparent, and provides an opportunity for all interested parties to participate? If so, then was such a process followed?

It appears to us that ED is moving quickly and possibly beyond its authority in an effort to implement an unexamined Pilot which would predominantly benefit owner/developers of assisted multi-family housing. ED's recommendations are conclusionary and assume facts that are not in evidence (such as identification of barriers to serving the multi-family market and steps necessary to reduce those barriers.) We suggest that this is outside of the processes long established by the Commission.

In the event, upon examination of the IOUs' upcoming applications, ED or any other party to the proceeding finds shortcomings, the parties have the option to request that the Commission examine any issue such as this in sufficient detail through a fair, open and transparent process in order to build a substantive record upon which the Commission can base a decision.

**We therefore request that you rescind your recommendations for the Pilot and provide to ALL stakeholders in the proceeding answers to the questions we have asked regarding this matter.**

We would appreciate your prompt response.

Sincerely,

TELACU



Michael Lizárraga



David C. Lizárraga



James Hodges



**Ms. Julie A. Fitch**  
**Page 4**  
**March 28, 2011**

Enclosures: Email from Sarita Sarvate with Attachments dated March 22, 2011

c: CPUC Commissioners  
CPUC Commissioner Advisors  
ALJ Kimberly Kim  
Sarita Sarvate, ED  
Orson Aguilar, Greenlining  
Mark Toney, TURN  
Ralph Cavanagh, NRDC  
Alex Sotomayor, Maravilla Foundation  
Members of the Low Income Advisory Board  
Service List of A0805022



**PUBLIC UTILITIES COMMISSION**

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



May 9, 2011

Mr. Michael Lizarraga, Mr. David C. Lizarraga, and  
Mr. James Hodges  
TELACU  
5400 E Olympic Blvd, Third Floor  
Los Angeles, CA 90022

**Re: Your letter dated March 29, 2011 RE: Energy Division Guiding Principles for a Multi-Family Low-Income Pilot**

Dear Messer's Lizarraga, Lizarraga, and Hodges:

This is in response to your letter dated March 29, 2011 expressing opposition to Energy Division's (ED) Guiding Principles ("Principles"), released on March 22, 2011 to a list of utility program personnel and interested stakeholders. I apologize for the delay in answering your letter; I was unavoidably out on medical leave for about a month, but have now returned and wanted to respond to your concerns.

In general, the Principles circulated by Energy Division were intended to provide tools for discussing various options for treating low income multi-family (MF) buildings in California under a possible pilot program. I fully understand the concerns raised in your letter, but fear there has been a misunderstanding as to the purpose and effect of the Principles document.

To provide some background into how the pilot idea came about, on June 10, 2010, the CPUC and the California Debt Limit Allocation Committee (CDLAC) hosted a Housing Forum. Among the discussion topics was the need for more effective treatment of MF housing under the Energy Savings Assistance Program (ESAP, formerly referred to as LIEE) as well as the perceived barriers to entry into the program faced by the eligible population residing in MF buildings. At that time, Energy Division management suggested that the more appropriate forum for proposing any modifications to the ESAP program for more effectively treating MF housing would be via a pilot proposal to be submitted in the upcoming 2012-2014 ESAP budget applications for review by the Commission.

The Principles we circulated were offered by Energy Division staff to help guide what is anticipated to be a May 15 pilot program proposal as part of the ESAP budget applications by the utilities. However, there is no requirement that the utilities make such a pilot proposal at all. Only the Commission itself would have the authority to order such a proposal be submitted. We simply circulated the Principles to spur discussion among parties, including criticism, to help flesh out the concepts and considerations in the event that a pilot is proposed. Our hope is that discussions have occurred among interested parties prior to now, and that those will continue once a proposal is made by the utilities.

Michael Lizarraga, David C. Lizarraga & James Hodges

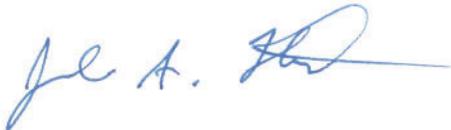
May 9, 2011

Page 2

We are also aware that there are various Legislative proposals and other pilot ideas being discussed. The Principles we circulated were intended as non-binding guidance and recommendations, designed to inform all parties, including the utilities, of the thinking and analysis of our staff. We circulate these types of papers from time to time to encourage discussion and analysis. As with all Commission proceedings, any actual proposal to be acted upon by the Commission will be subjected to an open public input process. All interested parties will have the opportunity to give comments and input in a proceeding prior to any final decisions being made by the Commission.

As the Commission considers any proposal(s) by the utilities, I encourage you to give your input in the proceeding, so that we can take advantage of your knowledge and experience. If you have any further questions or concerns in the meantime, please feel free to contact myself or Ava Tran, the lead analyst on this project, at (415) 703-2887.

Sincerely,

A handwritten signature in blue ink, appearing to read "Julie A. Fitch".

Julie A. Fitch  
Director, Energy Division

Cc: CPUC Commissioners  
Service List of A.08-05-022

AMENDED IN ASSEMBLY APRIL 7, 2011

CALIFORNIA LEGISLATURE—2011–12 REGULAR SESSION

**ASSEMBLY BILL**

**No. 1124**

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**Introduced by Assembly Member Skinner**  
(Coauthors: Senators DeSaulnier and Hancock)

February 18, 2011

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An act to add Section ~~385.5~~ 383 to the Public Utilities Code, relating to the ~~Low-Income Energy Efficiency program~~ *energy*.

LEGISLATIVE COUNSEL'S DIGEST

AB 1124, as amended, Skinner. Low-Income Energy Efficiency program.

Existing law authorizes the Public Utilities Commission to establish programs to provide financial assistance for energy efficiency improvements for existing residential and nonresidential building stock. Pursuant to this authorization, the ~~The~~ Public Utilities Commission established the Low-Income Energy Efficiency (LIEE) program to pay for the cost of energy efficiency improvements to dwellings occupied ~~by~~ *for* low-income households. Decisions issued by the commission held, among other things, that repairs or replacements of furnaces or water heating systems for a multifamily building occupied by low-income households do not qualify for financial assistance under the LIEE program.

This bill would state the intent of the Legislature to ~~disapprove the above holding~~ *modify the application* of those decisions and would provide that the energy efficiency improvements to furnaces or water heating systems for multifamily buildings occupied by low-income households in a majority of the units are eligible for financial assistance under the LIEE program and other energy efficiency programs under

~~the jurisdiction of the commission~~ *require the commission to ensure that low-income multifamily rental apartment buildings, as defined, receive energy efficient furnaces and water heating systems and energy efficiency measures in common areas recommended by an energy audit pursuant to the LIEE program, a successor program, or other energy efficiency program under the jurisdiction of the commission. The bill would impose additional requirements on the LIEE program in serving low-income multifamily rental apartment buildings.*

Vote: majority. Appropriation: no. Fiscal committee: yes.  
State-mandated local program: no.

*The people of the State of California do enact as follows:*

1 SECTION 1. (a) The Legislature finds and declares all of the  
2 following:  
3 (1) The Legislature enacted Chapter 470 of the Statutes of 2009  
4 (Chapter 470) and directed the Public Utilities Commission (PUC)  
5 and the State Energy Resources Conservation and Development  
6 Commission (Energy Commission) to develop policies and plans  
7 to encourage improvement to all existing buildings in California.  
8 (2) Pursuant to Chapter 470, the Energy Commission is required  
9 to develop a comprehensive program to achieve greater energy  
10 savings in the state's existing residential and nonresidential  
11 building stock and energy efficiency financing options.  
12 (3) Pursuant to Chapter 470, the PUC is required to investigate  
13 the ability of the electrical corporations and gas corporations to  
14 provide various energy efficiency financing options to their  
15 customers for the purposes of implementing the program developed  
16 by the Energy Commission and to assess the implementation of  
17 the program by the electrical corporations and the gas corporations.  
18 (4) The residential ~~sectors~~ *sector* represents approximately 32  
19 percent of the total electricity usage and 36 percent of the total  
20 natural gas consumption, and low-income households consume  
21 27 percent more energy due to the age and condition of the housing  
22 they can afford to live in.  
23 (5) The PUC has approved the use of ratepayer funds to pay for  
24 100 percent of the cost of certain energy efficiency improvements  
25 to dwellings occupied by low-income households with incomes  
26 below 200 percent of the federal poverty level in the form of *the*  
27 Low-Income Energy Efficiency (LIEE) program.

1 (6) More than one-half of the eligible low-income households  
2 with incomes below 200 percent of the federal poverty level live  
3 in multifamily *rental apartment* buildings.

4 (7) The primary opportunity for energy savings in many  
5 multifamily *rental apartment* buildings is in increasing the  
6 efficiency of the heating and hot water systems.

7 (8) Decision 07-12-051 issued by the PUC on December 12,  
8 2007, stated that “[w]e are not convinced that utility ratepayers  
9 should assume the costs of appliance repairs and replacements.”

10 ~~(8)~~

11 (9) Decision 08-11-031 issued by the PUC on November 10,  
12 2008, reaffirmed the position of the PUC stated in Decision  
13 07-12-051 by ruling that “no furnace repair and replacement or  
14 water heater repair or replacement work shall occur in violation  
15 of our holding in D.07-12-051 that heating and water heating in  
16 rental housing are the responsibility of the landlord.”

17 ~~(9)~~

18 (10) The PUC has interpreted that decision to mean that, with  
19 respect to the LIEE program, only minor repairs and adjustments  
20 may be made to furnaces and water heaters for the purpose of  
21 increasing energy efficiency. As a consequence, contractors  
22 implementing the LIEE program have generally avoided investing  
23 LIEE funds in improving the efficiency of furnaces and water  
24 heaters even though ~~this is the largest potential energy saving in~~  
25 ~~multifamily buildings~~ *these are the largest potential energy savings*  
26 *in many multifamily rental apartment buildings.*

27 (b) It is the intent of the Legislature to do all of the following:

28 (1) Promote the investment of existing ratepayer energy  
29 efficiency funds to increase the efficiency of furnace and water  
30 heating systems in multifamily ~~housing~~ *rental apartment buildings*  
31 occupied by low-income households to achieve the maximum  
32 potential energy savings in the residential sector.

33 (2) Promote the use of ratepayer funds to pay for ~~improvements~~  
34 ~~to energy efficient~~ heating and water heater systems in multifamily  
35 ~~properties~~ *rental apartment buildings* and in particular in those  
36 that have contracts with federal, state, or local *governmental*  
37 agencies that require them to serve low-income households ~~in a~~  
38 ~~majority of the units for not less than 30 years.~~

39 (3) ~~Disapprove the~~ *Modify the application of* Decision 07-12-051  
40 and Decision 08-11-031, insofar as those decisions disallowed the

1 repair or replacement of furnaces and water heaters through the  
2 LIEE or other residential energy efficiency programs under the  
3 PUC’s jurisdiction.

4 ~~SEC. 2. Section 385.5 is added to the Public Utilities Code, to~~  
5 ~~read:~~

6 ~~385.5. (a) Energy efficiency improvements to furnaces and~~  
7 ~~water heating systems for multifamily buildings occupied by~~  
8 ~~low-income households in a majority of the units shall be eligible~~  
9 ~~for financial assistance pursuant to the Low-Income Energy~~  
10 ~~Efficiency (LIEE) program and other energy efficiency program~~  
11 ~~under the jurisdiction of the commission.~~

12 ~~(b) The commission shall give priority consideration in the~~  
13 ~~approval of an eligible energy efficiency improvement as specified~~  
14 ~~in subdivision (a) that has all of the following objectives:~~

15 ~~(1) Demonstrate the greater cost-effectiveness of energy retrofits~~  
16 ~~to larger multifamily buildings using a whole building,~~  
17 ~~performance-based approach.~~

18 ~~(2) Demonstrate the advantage of a program with a single point~~  
19 ~~of entry for low-income multifamily properties, recognizing the~~  
20 ~~unique needs of low-income multifamily housing.~~

21 ~~(3) Eliminate barriers to accessing energy retrofit programs for~~  
22 ~~providers of low-income multifamily properties.~~

23 ~~(4) Align income eligibility and other programmatic~~  
24 ~~requirements with other federal and state energy rebate and~~  
25 ~~incentive programs to maximize leveraging opportunities.~~

26 ~~SEC. 2. Section 383 is added to the Public Utilities Code, to~~  
27 ~~read:~~

28 ~~383. (a) (1) As used in this section, “low-income multifamily~~  
29 ~~rental apartment building” means a building that meets all of the~~  
30 ~~following requirements prior to receiving assistance:~~

31 ~~(A) Has five or more dwelling units.~~

32 ~~(B) At least 66 percent of the total dwelling units are occupied~~  
33 ~~by households with incomes below 200 percent of the federal~~  
34 ~~poverty level.~~

35 ~~(C) A deed restriction or affordability covenant is held by a~~  
36 ~~federal, state, or local governmental entity that ensures that the~~  
37 ~~percentage of units described in subparagraph (B) will be available~~  
38 ~~at an affordable rent for a period of at least 15 years following~~  
39 ~~installation of the energy efficiency improvement.~~

1     (2) *The commission shall establish certification requirements*  
2 *to implement this subdivision the United States Department of*  
3 *Energy's Weatherization Assistance Program for Low-Income*  
4 *Persons.*

5     (b) *The commission shall ensure that low-income multifamily*  
6 *rental apartment buildings receive the following forms of assistance*  
7 *pursuant to the Low-Income Energy Efficiency (LIEE) program,*  
8 *a successor program, or other energy efficiency program under*  
9 *the jurisdiction of the commission:*

10     (1) *Energy efficient furnaces and water heating systems.*

11     (2) *Energy efficiency measures in common areas recommended*  
12 *by an energy audit.*

13     (c) *Financial assistance pursuant to this section shall be for*  
14 *100 percent of the cost of the improvement less a percentage equal*  
15 *to the percent of total dwelling units not occupied by households*  
16 *with incomes 200 percent below the federal poverty level.*

17     (d) *The commission shall require the Low-Income Energy*  
18 *Efficiency (LIEE) program, as implemented by an electrical*  
19 *corporation or gas corporation, to incorporate all of the following*  
20 *elements in serving low-income multifamily rental apartment*  
21 *buildings:*

22     (1) *Use a whole building, performance-based approach based*  
23 *on site-specific measures recommended by an energy audit of the*  
24 *building.*

25     (2) *Provide a single point of entry for low-income multifamily*  
26 *rental apartment building residents so that they can access*  
27 *efficiently and effectively the Low-Income Energy Efficiency (LIEE)*  
28 *program and other energy efficiency program resources.*

29     (3) *Eliminate barriers to accessing energy retrofit programs*  
30 *for owners of low-income multifamily rental apartment buildings.*



**DRA Proposed Proceeding Schedule  
for 2012-2014 Utility Low-Income Applications**

**FILED**  
05-31-11  
04:59 PM

This conservative schedule illustrates that with fact-intensive, quantitative, and significant policy issues that exist surrounding the utilities' applications, evidentiary hearings will be required.

Event	Proposed Date(s)
	<b>2011</b>
Applications and Applicants' Opening Testimony Filed	May 16 (Mon)
(Posted on Commission calendar)	May 19 or 20
Intervenor Protests due	Jun 20 (Mon)
Replies to Protests	Jun 30
Pre-Hearing Conference Statements	Jul 8
Pre-Hearing Conference	Jul 13
Scoping Ruling	Jul 22
Notices issued for Public Participation Hearings	Late Jul
Public Participation Hearings	mid-Aug to mid-Sep
Intervenor/DRA Testimony	Oct 14
Applicants' Reply Testimony	Nov 10
Evidentiary Hearings	week of Dec 5 – 9
	<b>2012</b>
Opening Briefs	Jan 16
Reply Briefs	Jan 31
Proposed Decision	Mar 1
Comments on Proposed Decision	Mar 21
Reply Comments on Proposed Decision	Mar 26
Final Decision no earlier than	Apr

CERTIFICATE OF SERVICE

I hereby certify, pursuant to the Commission's Rules of Practice and Procedure, that I have this day served a true copy of "The Joint Protest of The East Los Angeles Community Union (TELACU), the Maravilla Foundation, and the Association of California Community and Energy Services (ACCES) regarding the Applications of Pacific Gas and Electric Company (U 39 M), San Diego Gas & Electric Company (U 902E), Southern California Gas Company (U 904G) and Southern California Edison Company (U 388-E) for Approval of their 2012–2014 Energy Savings Assistance and California Alternative Rates for Energy Programs and Budgets."

[X] By first class U.S. mail, postage prepaid, to the Administrative Law Judge assigned to this proceeding, to the Assigned Commissioner, and to all parties listed with no e-mail address on the official service list referred to below.

AND

[X] By Electronic Mail – serving the enclosed via e-mail transmission to each person the application lists as being authorized to receive service and to those on service list of A.11-05-020.

Dated at Sacramento, California this 29th day of June, 2011.



James L. Hodges  
1069 45<sup>th</sup> Street  
Sacramento CA 95819  
(916) 451-7011 voice  
(916) 914-2350 fax  
hodgesjl@surrewest.net



California Public  
Utilities Commission

CPUC Home

## CALIFORNIA PUBLIC UTILITIES COMMISSION Service Lists

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**PROCEEDING: A1105020 - SDG&E - FOR APPROVAL**

**FILER: SAN DIEGO GAS & ELECTRIC COMPANY**

**LIST NAME: LIST**

**LAST CHANGED: JUNE 29, 2011**

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## Parties

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CHARLIE HARAK  
STAFF ATTORNEY  
NATIONAL CONSUMER LAW CENTER  
7 WINTHROP SQUARE, 4TH FLOOR  
BOSTON, MA 02110-1006  
FOR: NATIONAL CONSUMER LAW CENTER

JOY C. YAMAGATA  
REGULATORY MGR.  
SAN DIEGO GAS & ELECTRIC/SOCALGAS  
8330 CENTURY PARK COURT, CP 32 D  
SAN DIEGO, CA 92123-1550  
FOR: SAN DIEGO GAS & ELECTRIC COMPANY

MITCHELL SHAPSON  
CALIF PUBLIC UTILITIES COMMISSION  
LEGAL DIVISION  
ROOM 4107  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214  
FOR: DRA

ALEX JACKSON  
NATURAL RESOURCES DEFENSE COUNCIL  
111 SUTTER STREET, 20TH FLOOR  
SAN FRANCISCO, CA 94104  
FOR: NATURAL RESOURCES DEFENSE COUNCIL

ROSS NAKASONE  
CALIFORNIA HOUSING PARTNERSHIP CORP.  
369 PINE STREET, STE. 300  
SAN FRANCISCO, CA 94104  
FOR: CALIFORNIA HOUSING PARTNERSHIP  
CORP.

STEVEN R. SHALLENBERGER  
SYNERGY COMPANIES  
28436 SATELITE STREET  
HAYWARD, CA 94545  
FOR: SYNERGY COMPANIES

ENRIQUE GALLARDO  
LEGAL COUNSEL  
THE GREENLINING INSTITUTE  
1918 UNIVERSITY AVE., 2ND FLOOR  
BERKELEY, CA 94704-1051  
FOR: THE GREENLINING INSTITUTE

CAROL ZABIN  
IN THE GREEN ECONOMY  
THE DONALD VIAL CENTER ON EMPLOYMENT  
2521 CHANNING WAY, STE. 5555  
BERKELEY, CA 94720-5555  
FOR: THE DONALD VIAL CENTER ON  
EMPLOYMENT IN THE GREEN ECONOMY

## Information Only

---

HUGH YAO  
SOUTHERN CALIFORNIA GAS COMPANY  
EMAIL ONLY

KIM F. HASSAN  
ATTORNEY  
SAN DIEGO GAS & ELECTRIC COMPANY

EMAIL ONLY, CA 00000

555 WEST FIFTH STREET, GT-14E7  
LOS ANGELES, CA 90013ALLAN RAGO  
FOR THE ENERGY COUNCIL  
QUALITY CONSERVATION SERVICES, INC.  
4751 ARROW HIGHWAY  
MONTCLAIR, CA 91763CASE ADMINISTRATION  
SOUTHERN CALIFORNIA EDISON COMPANY  
2244 WALNUT GROVE AVENUE  
ROSEMEAD, CA 91770LARRY R. COPE  
ATTORNEY  
SOUTHERN CALIFORNIA EDISON COMPANY  
2244 WALNUT GROVE AVE. / PO BOX 800  
ROSEMEAD, CA 91770ANNLYN MA. FAUSTINO  
SDG&E/SCGC  
8330 CENTURY PARK COURT (CP31E)  
SAN DIEGO, CA 92123CENTRAL FILES  
SAN DIEGO GAS AND ELECTRIC COMPANY  
8330 CENTURY PARK COURT, CP-32DI  
SAN DIEGO, CA 92123CALIFORNIA ENERGY MARKETS  
425 DIVISADERO STREET, SUITE 303  
SAN FRANCISCO, CA 94117JESSICA HALPERN-FINNERTY  
CENTER FOR LABOR RESEARCH & EDUCATION  
DONALD VIAL CENTER ON EMPLOYMENT  
2521 CHANNING WAY, NUMBER 5555  
BERKELEY, CA 94720-5555

## State Service

---

BERNARD AYANRUOH  
CALIF PUBLIC UTILITIES COMMISSION  
UTILITY AUDIT, FINANCE & COMPLIANCE BRAN  
AREA 3-C  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214KIMBERLY KIM  
CALIF PUBLIC UTILITIES COMMISSION  
DIVISION OF ADMINISTRATIVE LAW JUDGES  
ROOM 5021  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214NIKI BAWA  
CALIF PUBLIC UTILITIES COMMISSION  
DEMAND SIDE ANALYSIS BRANCH  
AREA 4-A  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214RAHMOM MOMOH  
CALIF PUBLIC UTILITIES COMMISSION  
ELECTRICITY PLANNING & POLICY BRANCH  
ROOM 4102  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214RASHID A. RASHID  
CALIF PUBLIC UTILITIES COMMISSION  
LEGAL DIVISION  
ROOM 4107  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214SYREETA GIBBS  
CALIF PUBLIC UTILITIES COMMISSION  
DEMAND SIDE PROGRAMS BRANCH  
AREA 4-A  
505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3214[TOP OF PAGE](#)[BACK TO INDEX OF SERVICE LISTS](#)