BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

In the Matter of:	)	A. 99-05-002
	)	
Application of San Diego Gas & Electric Company for	)	A.99-05-005
Authority to Increase its Gas and Electric Revenue Requirements	)	A.99-05-007
to Reflect its Accomplishments for Demand-Side Management	)	A.99-05-008
Program Years 1994 and 1997, Energy Efficiency Program Year	)	
1998, Low Income Program Year 1998, and to Address Policy and	)	
Procedural Issues for Future Program Years 1999 through 2001	)	
in the 1999 Annual Earning Assessment Proceeding ("AEAP")	)	
_____	)	

And Related Matters

_____)

Testimony of the California Energy Commission for the
1999 Annual Earnings Assessment Proceeding

This is the testimony of the California Energy Commission (CEC) for the 1999 Annual Earnings Assessment Proceeding. The testimony consists of two parts:

Section 1 contains the CEC's recommendations with respect to the proposed role of the California DSM Measurement Advisory Committee (CADMAC) and other parties in measurement and evaluation planning; and Section 2 contains the CEC's recommendations concerning the overall level of potential earnings that should be authorized for program year 2000 and 2001 energy efficiency programs in order to achieve the California Public Utility Commission's (CPUC or Commission's) market transformation objectives.

The CEC has two main reasons for filing testimony in this matter:

1. The CEC has an ongoing interest and responsibility to comment on proposed changes which affect its role in CADMAC and, in the larger sense, the CEC's statutory role in developing, administering and completing market assessment and evaluation studies, both now and during the potential transition to CEC oversight of energy efficiency programs.

2. The CEC has a policy interest in ensuring that the authorized level of earnings for future program years 2000 and 2001 strikes the right balance between rewarding utility managers for superior performance and minimizing the level of public goods funds spent on performance awards to program administrators that could have been better spent on program implementation.

It is important to note that at this time the CEC is also preparing a report to the California Legislature on the transition and operation of PGC funded energy efficiency programs and MA&E activities for the post 2001 time period. The CEC's current support in this testimony of CADMAC's role in the oversight and administration of MA&E studies is independent and separate from any subsequent recommendations which the CEC may decide to include in the report which it will file with the Legislature for the post 2001 time period. Additionally, this testimony does not pre-judge a determination of any particular administrative structure for post 2001, including the role of utilities and appropriate utility earnings.

Section 1 of the California Energy Commission's Testimony

Proposed Role Of The California DSM Measurement Advisory Committee (CADMAC) In Planning Years 2000/2001 Market Assessment &Evaluation (Witness: Gary Cullen)

A. INTRODUCTION

The current 1999 Annual Earnings Assessment Proceeding (AEAP) at the California Public Utilities Commission (CPUC or Commission) is considering, among other issues, the future role of the California DSM Measurement Advisory Committee (CADMAC), the Energy Commission (CEC), and the California Board for Energy Efficiency (CBEE) in the oversight and administration of Market Assessment and Evaluation (MA&E) studies that support the energy efficiency programs funded by the Public Goods Charge (PGC) funds. MA&E efforts are currently administered by CBEE, but a lack of technical staff at CBEE has led the CPUC to re-assess MA&E administrative responsibilities. For the Planning Year 2000 and 2001 timeframe, the Energy Commission supports transferring the administrative responsibilities of MA&E from CBEE to CADMAC. Within this timeframe, CADMAC and its members would make recommendations to the CPUC on MA&E budgets and studies.

B. BACKGROUND

CADMAC is an advisory committee to the CPUC. Among other things, CADMAC (1) provides a forum for presentations, discussions and review of market assessment and evaluation studies for energy efficiency programs; (2) coordinates the development and implementation of studies common to all or most of the utilities: and (3) facilitates the development of effective, state-of-the-art protocols for measuring and evaluating the impacts of energy efficiency programs. CADMAC consists of representatives from the four investor-owned utilities, the CEC, the Office of Ratepayer Advocates (ORA), the Natural Resources Defense Council (NRDC), and the California Institute for Energy Efficiency (CIEE). Since its

establishment in 1993, CADMAC has proven to be a highly effective and professional organization that has advanced the field of energy efficiency measurement and evaluation.

On July 21, 1999, CADMAC held a meeting to discuss and draft a joint report on the proposed role of CADMAC for Planning Year 2000 and 2001 MA&E. These discussions, and the subsequent drafting of a related report, were in direct response to a CBEE request to have CADMAC play an advisory role in MA&E. These discussions were also in response to the Energy Commission's recommendation to the CPUC (in its June response filling to CPUC Resolution E-3592) that CADMAC be the primary advisor to the CPUC on MA&E activities in the Planning Year 2000 and 2001 timeframe. All members of CADMAC were in attendance at this meeting except for ORA, and all members in attendance agreed on the report's content and agreed to take its content back to its respective organizations for final approval. The ORA filed its own testimony on August 6, 1999 regarding the role of CADMAC and its oversight and administration of MA&E studies. This ORA testimony recommended a similar role for CADMAC.

C. CADMAC'S FUTURE MA&E ROLES AND RESPONSIBILITIES

The Energy Commission supports the CADMAC Report on its proposed MA&E role, as agreed to at the CADMAC meeting on July 21 and as submitted by CADMAC in its AEAP testimony dated August 6, 1999. In its filed AEAP testimony, CADMAC proposes to (1) continue its current role of serving as a forum for discussion of MA&E issues common to all utilities, and (2) coordinate the development and implementation of MA&E projects on a statewide basis. To accomplish this, CADMAC proposes that the CPUC adopt revisions to the current statement of purpose of CADMAC and to CADMAC's roles with respect to other key institutions in the MA&E field.

Major elements of the CADMAC Report describe how CADMAC will identify an MA&E study portfolio, how differences in opinion among parties on approach will be resolved, and who will perform the studies (e.g. utility will lead on studies that support earnings claims, the CEC will lead on statewide customer characteristic data collection, and utility/CEC leadership will be shared on other statewide MA&E studies that are not directly linked to earnings claims). Through CADMAC, parties will attempt to form consensus positions on MA&E activities and submit their respective MA&E plans and budgets to the CPUC for approval. Non-consensus positions will be resolved by the CPUC as necessary.

The Energy Commission is supportive of these recommended changes to CADMAC for three primary reasons:

1. CADMAC is a well functioning, existing organization that has historically addressed many of the same measurement and evaluation technical issues faced by CBEE through its MA&E responsibilities.

2. Market transformation requires working cooperatively with multiple market actors to achieve measurable changes in the marketplace. To be effective in the new "market

transformation" paradigm, CADMAC needs to move toward a less structured environment that promotes cooperative efforts from all parties involved in MA&E. The current structure of exacting protocols, and the need for consensus decision making, will be eased under the CADMAC proposal.

3. The role of the Energy Commission as the leader in statewide customer characteristic data collection is clearly defined. (This role was lost with the passage of Assembly Bill (AB) 1890 and the creation of CBEE).

CADMAC is currently soliciting applications for additional members. The Energy Commission supports an expansion of CADMAC membership, especially to broaden representation in areas supporting market transformation. However, as has been a requirement in the past, the Energy Commission supports the position that all members of CADMAC, both new and existing, have technical background in the areas of measurement and evaluation. Most of the issues addressed by CADMAC are highly technical in nature, thus requiring that CADMAC members have such technical expertise. The CEC also encourages the CPUC, in expanding membership for CADMAC, to ensure that the membership profile has a balance among various private sector interests and strong representation from public interest organizations.

Section 2 of the California Energy Commission's Testimony

Recommended Program Performance Earnings Mechanisms and Levels For PY 2000 and 2001 Energy Efficiency Programs (Witness: Mike Messenger)

A. INTRODUCTION AND SUMMARY

This section of the CEC's AEAP testimony presents recommended performance incentive caps for the Program Year (PY) 2000 and PY 2001 energy efficiency programs based on prior experience with the cap mechanism in 1998. Current caps set a ceiling on the level of earnings any administrator can earn as a function of an authorized budget amount times a fixed percentage. Specifically, the current caps were set at 12.5 percent of authorized program budgets in 1998, and 11 percent for 1999 budgets based on the recommendation of CBEE and utility program administrators. The CPUC has asked for testimony on whether there is a need to modify the current earnings mechanism or incentive caps for PY 2000 or 2001.

In the testimony which follows, the Energy Commission proposes changes to the performance incentive mechanism that will likely decrease the effective caps on program earnings to between 6 and 10 percent of authorized program dollars in the short run, but will allow utilities to earn up to 11 percent on program expenditures in the long run. The CEC's recommended earnings level mechanism was derived from analysis of the success of the first year's mechanism in achieving the CPUC's policy goals and the level of risk or difficulty in achieving

different types of milestones. We propose that the overall caps on each administrator's earnings range from 7 to 11 percent of authorized program budgets, depending on the level of market risk administrators are willing to take as revealed by their proposed performance milestones for PY 2000 programs.

B. BACKGROUND

There has been a downward trend in earnings as a percentage of total program costs for all utilities since 1997. Utility shareholder incentive or program performance awards have varied between 9 percent to 36 percent of utility program expenditures during the period from 1991 to 1997. In 1998, potential program earnings ranged from 10 percent to 17 percent of actual program expenditures for each of the four utility administrators. Earnings were capped at 12.5 percent of program budget for PG&E (the largest program) in 1998 and then reduced to 11 percent for 1999 programs.. The downward trend is partially due to the change in the type of mechanism used to award earnings, and partially due to the recommendations of CBEE to significantly reduce the overall level of potential earnings available to administrators during the restructuring period.

Testimony filed by the four major investor owned utilities in this proceeding recommends keeping the current performance awards cap at 11 percent of authorized budget or approximately $30 million for the projected combined budgets of $280 million for all utilities in PY 2000.

ORA filed testimony in this proceeding which states that performance awards for utility programs are no longer necessary to promote the Commission's policy goals for three reasons:

1. Utility distribution companies (UDCs) have an opportunity to increase earnings for their parent company by having their unregulated subsidiaries bid to participate in the standard performance contract program. Indeed, subsidiaries were successful in securing roughly $5.5 million in program commitments in PY 1998. ORA contends these earnings opportunities should be considered in establishing the performance awards cap for year 2000/2001.

2. UDCs are already receiving value and the potential for future earnings from customers because they are allowed to use the parent company logo on program material to reinforce customer perceptions of the UDC as a neutral or positive force in making energy-related decisions.

3. Profits earned through superior performance no longer motivate UDC program administrator personnel because the parent company may move these profits to other portions of the business rather than reinforce the performance of the UDC administrators.

C. RATIONALE FOR FOCUSING ON PERFORMANCE AWARDS TO HELP ACHIEVE POLICY GOALS

The program performance incentive caps set in this proceeding will have an important effect on the likelihood that the program administrators will actually achieve the CPUC's policy goals of transforming markets and fostering increased privatization in the energy efficiency services industry (as set by the Commission in Decision (D.) 97-02-047). We urge the Commission to adopt the more moderate performance incentive caps proposed by the CEC to bridge the gap between the status quo earnings cap of 11 percent of expenditures advocated by the utilities and the "no earnings" options advocated by ORA. We specifically recommend that earnings levels be based on (1) the expected difficulty in achieving program milestones, (2) their link to Commission policy goals, and (3) the level of risk each utility is willing to take by working to achieve milestones that are predicated on the market performance of each program.

D. PREVIEW OF THE CEC'S RECOMMENDED PERFORMANCE LEVELS

The CEC's analysis of existing programs suggests that continued use of a "payment for performance" system makes sense, but that the overall level of incentives or the cap should be reduced given the disproportionate reliance of current administrators on milestones related to preparing program materials on time or signing up a minimum number of customers. To illustrate this point, we estimate that over 85 percent of the milestones proposed for PG&E's programs relate to completing program activities on time and signing up customers, 5 percent relate to simply completing market research, and only 10 percent relate to achieving measurable changes in market behavior at the sales, design or knowledge level. The Energy Commission urges the CPUC to make clear that the majority of milestones set during the year 2000 program planning process should focus on changes in market structure and measurable outcomes (such as sales or shipments), and should move away from awarding program administrators for simply developing programs or processing rebate checks.

The Energy Commission proposes a sliding scale earnings cap that ranges from 7 to 11 percent depending on the amount of earnings proposed for each of the four major types of milestones (i.e. roll out, activity based, market research and proven market effects). Energy Commission proposals would set the cap at 7 percent of expenditures if level of earnings proposed are predominately in the first two categories because recent experience indicates there is very little risk in achieving milestones related to rolling out program materials on time or achieving minimum levels of customer participation in financial incentive programs.

At the other end of the spectrum, the earnings cap would be set at 11 percent of program expenditures if utilities were willing to accept milestones based on the developing accurate information about the market share of efficient products and services, and then measuring program success based on increases in these market metrics. The higher earnings level associated with the use of market effects milestones or other indicators of market change is justified because it will motivate program administrators to leverage the profit motives of private market actors to reach these market targets, rather than relying on utility program staff

to run status quo programs that rarely reach a significant portion of the market. Increasing the reliance on market actors to increase the sales of efficient products or services is a riskier strategy because the utility cannot control the outcomes. However rewarding this type of strategy is in fact entirely consistent with the policy direction the CPUC has officially sanctioned with its call for increased private delivery of these goods and services. The Commission should adopt a mechanism that reinforces its own privatization goals directly, rather than hoping the effects of utility rebate programs will spillover to affect future activity or marketing of energy efficiency by private market actors.

The testimony which follows provide more details on the types of market indicators that have been proposed and could be adopted, and how the CPUC should differentiate between program based and market based milestones.

E. THE CEC'S APPROACH IN DETERMINING THE APPROPRIATE LEVEL OF PERFORMANCE AWARDS FOR UTILITY PROGRAM ADMINISTRATORS

The CEC used a three step approach to develop its recommended performance awards and incentive caps, as follows:

1. Identify the policy goals to be achieved by the earnings mechanism and the CPUC's direction with respect to the types of performance awards that should be included in the overall mechanism.

2. Identify the relevant criteria that should be used in developing a performance recommendation.

3. Review the performance filings for 1998 programs to determine the extent to which these type of performance milestones achieved the CPUC's policy goals.

Further information regarding each of these analytic steps is provided below.

1. Identification of Policy Goals and Related Performance Award Mechanisms

The CPUC adopted policy rules governing the goals and mission of publicly funded energy efficiency programs in September of 1997. The relevant goals include:

The mission of PGC funded programs is to transform markets and ultimately privatize the provision of cost effective energy efficient products and services so that customers voluntarily seek and obtain these products and services in the private, competitive market. . . Success in transforming markets means reducing or eliminating barriers in ways that allow the private competitive market to supply and for customers to obtain all cost effective products and services in a self sustaining fashion, that is without a continuing need for PGC funded programs. (Adopted Policy Rules for Energy Efficiency Activities; Rule II-4; last reprinted in D.99-08-021: Attachment 2.)

To achieve this goal utility administrators must be encouraged to change the program designs and approaches they have used in the past to stimulate the purchase or design of energy efficient products. It is no longer sufficient to reward utilities for simply convincing customers to conserve or install measures on their premises through an audit or cash subsidy. Rather, the goal is to intervene in markets in such a way that OTHER private actors (not utility staff), seek to sell more energy efficient products and services to willing customers without the use of permanent public subsidies.

The CPUC has determined that achieving this goal will require more of a focus on markets and defining indicators of success that relate to market actors selling these products and consumers seeking out these products. While utility administrators have made limited strides toward achieving these objectives over the last two years, they still tend to spend program funds on many of the traditional program designs, including the delivery of direct audit services and cash rebates to customers. Utilities that have experimented with more market based approaches should be rewarded, at least at the margin, through revisions to the earnings mechanism that favor innovation over the status quo.

The CEC recommends that the CPUC attempt to focus administrators on achieving changes in both the market structure and in sales of energy efficient products and services by adopting of an earnings mechanism which favors programs that cause discrete and measurable changes in the structure and purchasing patterns of specific energy markets. However, before this mechanism is unveiled it is prudent to focus on what criteria should be considered in developing the overall level of earnings that administrator may qualify to earn based on superior performance.

2. Criteria for Developing Incentive Levels and Caps on Performance Incentives

The following criteria should be considered in developing the overall target for program specific performance awards and any necessary caps to reduce gaming of the awards system: (a) the type of milestone (i.e. program activity, roll out activity, market characterization activity, market effects activity); (b) previous experience with program based milestones; (c) balance of risk and reward (i.e. How difficult will it be for the administrator to achieve the proposed milestone and what level of funds, if any, is at risk for the administrator if the milestone is not achieved?); (d) value created for future programs by achieving the milestone. After reviewing these initial four criteria, it is also important to consider the larger earnings environment faced by the regulated UDC program administrators including: (e) opportunities to increase earnings in other parts of the firm as a result of administering the program; (f) the relative magnitude of total earnings claims and the administrative costs to review them as compared to the estimated actual benefits to ratepayers; and (g) any collateral benefits to UDC program administrators not considered in this framework

Each of these criteria is considered in the analysis below.

3. Review of Recent Experience with Milestone-Based Incentive Mechanisms

This subsection of the CEC's testimony evaluates the types of milestones proposed in PG&E's May 1, 1999 AEAP Application, and PG&E's performance in meeting those milestones in the recent past. We chose to focus on PG&E because its earning mechanism includes an ambitious and extensive set of milestones for 1998 programs which represent a clear break away from the resource value paradigm of the early 1990s. Conclusions drawn about the difficulty in reaching these milestones for PG&E should be transferable to utilities running similar programs. We will analyze the relative level of difficulty experienced by PG&E in reaching each type of milestone and the value of these milestones for future programs before making recommendations on the future types of milestones and overall incentive levels.

(a) ***Overview of PG&E's 1998 Milestone Proposal***

For 1998 PG&E proposed to try to achieve over 105 milestones for 37 different program elements. Dollar awards for each program varied by size of program and perceived difficulty in achieving the milestones. The range of award total varied from $2.6 million for the non-residential program down to $7,250 for the hotel and motel program element. Total awards were capped at 12.5 percent of projected program expenditures or $10.85 million.

The type of milestones proposed by PG&E can be split into four categories: (1) Roll Out Milestones (i.e. payment geared to successfully rolling out program materials or other activities within 30 to 90 days of the Commission decision); (2) Program Activity Milestones (i.e. payment geared to achieving minimum levels of program participation by key market actors during the program year); (3) Market Characterization Studies (i.e. payment geared to the successful completion of a market research study identifying key actors and market channels pivotal to program success, and proposing indicators to track progress); and (4) Market Effects Milestones (i.e. payment based on demonstrating changes in knowledge or performance or activity levels of key market actors, net resource benefits achieved by third party market actors, or actual sales volumes of efficient products or services in specific markets).

Table 1, below, shows an analysis of the number of milestones and potential cash award for each category. (Please note: In some cases the milestones included both roll out milestones and program activities, which is why a fifth row has been added).

Table 1
Summary of PG&E's Proposed Milestones for 1998 programs by Milestone type

Milestone Type	Potential Earnings	Per cent of total
Program Activities Milestones	$5,756,000	48.38%
Roll Out Milestones	$3,073,500	27.14%
Roll Out/Program Combination	$525,000	4.41%
Market Character Milestones	$405,000	3.4%
Market Effects Milestones	$986,000	16.66%
Sum of all awards	$11,896,500	
Cap based on Authorized Budgets	$10,887,500	
Actual Claim	$10,445,000	
Actual as % of Cap	95.94%	

(1) *Discussion of "Program Activity" Milestones*

Milestone Description - The vast majority of milestones proposed by PG&E and adopted by the Commission for 1998 fall into the "Program Activity" or "Program Rollout" Milestones. Examples of program activity milestones include providing efficiency training for at least 100 contractors, signing up at least 50 customers for design or training seminars, performing audits for 5000 customers, or completing at least 10 case studies of the performance of a technology in a specific market, etc. These are not usually tied to program rollout dates but instead refer to achieving a specific set of program activities during the program year. Successful completion of most, if not all, of these program activity milestones are within the control of the program administrator, and assume minimum competence levels and access to the key market actors. Thus it is not surprising that the utility would propose that most of its performance award be included in this milestone category.

Past Results - PG&E's actual claim for 1998 program activity milestones supports the theory that achieving this type of milestone is not a high risk proposition. In its May 1 Application, PG&E claims that its 1998 programs achieved 100 percent of the 26 program activity milestones. Appendix A has the complete list of PG&E's milestones for this category and our proposed categorization of the remaining milestones into the other three milestone categories.

Risk - PG&E is guaranteed cost recovery for all of the costs of implementing these programs and meeting these program activity milestones. Therefore, the only risk to the administrator is in terms of foregone earnings for its shareholders from these milestones. Given that PG&E had very little difficulty in meeting these milestones for the vast majority of these program based milestones, we conclude there was very little risk associated with completing these types

of milestones. This is primarily because of the huge information asymmetry between program managers who propose the milestones and regulators who review and approve them. Program managers simply know much more about how difficult it will be to induce customer participation for a particular technology than any of the regulatory staff. In theory, it would be possible to establish tough activity milestone levels, but in fact, program managers are likely to continue to propose indicators that may seem difficult to achieve before the fact but are fairly easy to achieve in reality.

We have assumed that most of PG&E's activity claims are likely to be verified by ORA in Phase 2 of this proceeding because this type of claim usually involves verifications of customer or meeting count goals, which are not often in dispute. However, this forecast is by no means certain because we have not reviewed each PG&E claim in detail. In addition, we expect that the litigious nature of these proceedings are more likely to produce decreases in earnings rather than increases. However, the regulatory risks related to recovery of these claims is likely to be evenly distributed across all claim types and not result in a pattern of reductions that fall disproportionately on one milestone category or another. Thus, we are confident that our conclusion that cash awards associated with program activity milestones were less risky for PG&E to achieve in 1998 is likely to be correct.

Value to Future Programs - It is difficult to assess whether the completion of some or all of these program activity milestones for 20 or more program elements will have value to future programs. In most cases simply requiring the utilities to document the names and addresses of customers and trade allies who participated in the programs, and keeping this linked to billing files, may lead to a considerable improvement over past program record keeping and help in future program targeting. In other cases, such as milestones requiring the documentation of program announcement and or workshop agendas or may have little if any effect of value to future programs. Review of all of these milestones (see Appendix A) suggests it is difficult to conclude that the value to future programs warrants additional earnings potential for this type of milestone.

Summary - Program activity awards do serve some positive functions but are not exemplary of superior administrator performance. Given this reality, a performance cap equivalent to 5 percent of program expenditures that has been allowed by the CPUC for most forms of audit programs is probably warranted.

(2) Discussion of "Program Rollout" Milestones

Milestone Description - Examples of "program rollout" milestones include setting fixed dollar award amounts for rolling out a new program within 60 days of the Commission's authorization decision, inspecting installations of energy efficiency measures within 50 days of an application, and a variety of other time limited program activities. In some cases, award amounts are scaled so that utilities receive higher earnings levels for rolling a program out or making payments to contractors earlier than the stated goal. For example, in MS #2 for the Non-residential SPC programs, PG&E could earn a higher award amount if they make payments to ESCO within 15 days of an inspection than if the average time to make payments

falls between 16 and 30 days. PG&E proposed more of this type of milestone for its 1998 program than any other milestone type, 51 out of a total of 105 milestones.

Past Results - PG&E's May 1 Application claims that in 1998 it achieved 50 out of the 51 possible rollout milestones in this category, or 97 percent of the potential award amount of $3.228 million dollars. The only milestone missed was associated with a program that PG&E chose not to run in 1998 due to the potential that shareholders might be liable for the loan losses from the program. It appears that program administrators are relatively skilled at rolling out programs within a few weeks of a Commission decision and meeting any or all program design and announcement deadlines when shareholder earnings are at risk.

Risk - As noted before, we see little or no performance risk to program administrators in rolling out programs within 30 to 90 days of a CPUC decision, given that administrators have often had up to 4 months between submitting their initial plans and the final Commission decision. There may in fact be counterproductive effects of this mechanism in that it encourages rushing program designs out the door to earn the dollars even if the utility has not had time to get a sense of how market actors will respond to the program.

Value to Future Programs - We see little if any value to future programs associated with setting program roll out dates and rewarding utilities for expedited release of program materials as opposed to achieving real changes in the market for energy efficiency products or services. The main value is that rollout milestones may act as a check against administrators who for any reason are reluctant to spend program funds for fear that expenditures to save energy may adversely effect other portions of their parent company

Summary - Roll out milestones for 1998 appeared to be relatively easy to achieve based on utility earnings applications, but these milestones are of little long term value to ratepayers. Earnings levels for these types of milestones should be reduced to the level reserved for routine or competent program management. A cap on earnings equivalent to 5% of program expenditures should be sufficient to continue to reward competent administration of programs while earnings above this level should be reserved for demonstrations of superior performance in the broader market place.

(3) Discussion of "Roll Out and Program Activity" Milestones In Combination

Milestone Description - For 1998, PG&E conducted a combination of program rollout milestone dates and annual program activity milestones for two programs, emerging technologies and natural cooling programs.

Past Results - In both cases, PG&E claims to have met all of the performance milestones for these two programs including completion of a natural cooling project plan, demonstrations of the new technology, and a final report.

Summary - We can find no reason why setting a mix of these type of milestones yield different levels of risk or value to future programs than the previous discussions of these category types separately. Thus we proceed to the last two categories that are developed to test

for changes in the level of knowledge of market participants and market changes related to the design and sale of more efficient equipment.

(4) Discussion of "Market Characterization" Milestones

Milestone Description - Examples of "market characterization" milestones include conducting baseline studies of commercial refrigeration design practices or daylighting practices, and conducting a feasibility study of emerging technologies. In 1998, utilities are entitled to earnings awards upon successful completion of these studies and verification that the studies included the relevant information for program planning and evaluation purposes.

Past Results - PG&E's 1998 mechanism includes 8 milestones related to the completion of baseline market studies or market assessments as necessary pre-conditions prior to launching a new program. PG&E earnings claims suggest that they were successful in completing all of these studies before the deadlines set in the earnings mechanism. PG&E seeks earnings of $405,000 for completing of these studies, 100 percent of the total earnings awards possible. PG&E asserts that completion of the study is grounds for the full performance award, regardless of whether the market characterization actually identified any useful indicators for use in future program tracking or insights into how to design a better program strategy.

Risk - The risks associated with completing these studies on time primarily relate to PG&E's ability to quickly select and hire firms with the requisite expertise to get the job done. If these types of milestones are to be used in the future, we suggest that administrators be held to a higher performance standard where they must demonstrate that the results of the market characterization were used and useful: to either improve future program performance or improve proposed program designs and or tracking mechanisms.

Value to Future Programs - It is likely that at least some of these market characterization milestones may be useful to future program administrators but it is unclear how this effect should be converted to earning levels. The level of awards associated with these studies (i.e. $405,000) is certainly only a small fraction of their projected costs (roughly $5 million), less than 4 percent of the total awards possible, and thus may be reasonable. However, a counter argument could be constructed that no market characterization milestones are really necessary if they are seen as an administrator investment in developing better programs and higher earnings rewards in the future from market effects performance awards. On balance, we support the use of a small level of performance milestones and earnings in this area, perhaps 5 to 10% of total awards, for truly new markets. However, we also recommend that performance awards milestones for completing baseline studies in mature energy markets be limited in the future.

(5) Discussion of "Market Effects" Milestones

Milestone Description - Examples of "market effects" milestones include reward of a fixed amount of money for demonstrating any of the following:

- An increase in sales or shipments of energy efficient appliances at the market level
- An increase in the number of trained trade allies as demonstrated by surveys of knowledge or practices after the program
- An increase in the fraction of wholesalers or retailers that stock efficient products.
- An increase in the net resource benefits created by a program using third party delivery agents (e.g., the residential and non residential standard performance contract milestones)
- An increases in customer knowledge and/or demand for efficient products or services at the market level (not just participants)

[Note: We support the classification of awards related to net benefits achieved by the program in the market effects category only if private market actors are responsible for contacting the customers and making the sale of efficient goods and services. We do not support the use of net resource benefits calculations as a market effects or change milestone if utility personnel are the delivery agents in programs. This is the case in most rebate programs. To illustrate this principle we classified PG&E milestone #5 related to net resource benefits achieved by the non residential SPC program as a market effects milestone but moved a similar award related to the net resource benefits for the Express Efficiency Program to the Program Activity category. This is because utility personnel handing out rebate checks does not directly achieve the CPUC's goal of creating a vibrant private market of where vendors supply and customers voluntarily seek more efficient products without subsidy.]

Past Results - Of the 15 market effects milestones proposed by PG&E in 1998, PG&E claims to have achieved maximum earnings on 10 of them, partial earnings on three milestones, and no earnings on two program associated with the financing program pulled by PG&E before it was ever launched. PG&E claimed to achieve roughly $1.43 million out of potential earnings of $1.98 million dollars in these categories, thus claiming less than 75 percent of potential earnings in this category.

Risk - Market effects milestone are the only type of milestone where PG&E did not achieve over 90 percent of potential earnings, suggesting the risk of achieving these milestones was in fact higher than others. In addition, PG&E is likely to actually earn far less than their initial claim due to uncertainties about how some of the net benefit claims for the residential and non residential SPC program were calculated, and for other milestones, how sales increases attributable to programs were measured. There is a good reason for this increased risk, since achieving changes in the market place is far more difficult and risky than simply signing up customers for audits and rebates. The Commission should reward utilities that strive to achieve market effects milestones that carry greater risk and by definition greater rewards because they encourage programs that seek to influence the actions of all market actors and not just those who can be reached by utility administrative staff.

Value to Future Programs - Achieving changes in the market for energy efficiency products and services has positive effects for future programs because these changes create positive market momentum for additional changes in future years. For example, use of performance rewards or indicators related to achieving increased market share for energy efficient products should encourage the entrance of more private market entrants to compete for customers using energy efficiency as at least one of their product attributes. Similarly, milestones aimed at tracking stocking practices or simply the quality or number of suppliers are likely to have positive spillover effects.

Summary - Review of the limited experience with 1998 milestone claims confirms that it is more difficult to reach market effects milestones because they are usually based on the actions of a large number of market players, not just program participants. Program administrators should be encouraged to take these higher risks by keeping the earnings cap level related to these types of milestones at the same level adopted by the CPUC in 1998 for PG&E (i.e. 12.5 percent), but not as high as the levels set for SDG&E and others at 14 percent.

(6) Discussion of "Aggressive Implementation" Milestones

In 1998, the UDC's proposed milestones and earnings amounts for 1999 programs based on their ability to spend all of the authorized dollars in specific program area budgets. The CEC does not support the use of milestones that provide profit incentives simply based on spending ratepayer dollars. We suggest that a far better way to proceed is to translate the proposed qualifying levels for performance awards into specific milestones related to program activity or specific market effects that are expected to result from program expenditures.

(b) Milestone Experience Summary

The CEC's review of the milestone mechanisms for PG&E has found that ratepayers are likely to receive more benefits and more "bang for the buck" when the milestones adopted by the CPUC relate to market effects activities. We also found that program administrators tend to propose milestones related to program activities or delivery and roll out dates because of a sense that achieving these milestones are within the administrator's direct span of control. Based on these findings, we propose a new earning cap method that is sensitive to these differences in performance award types.

F. The CEC's Proposed Earnings Cap Mechanisms

To encourage the utilities to work more closely with key market actors in pursuit of the CPUC's market transformation and privatization policy goals, the CEC recommends that the Commission adopt the following earnings cap mechanisms:

1. Utilities should be required to propose at least two of the four milestone types for each of their 14 program areas. These milestones should be directly related to the market objectives

set for each program. Their filings should include a clear identification of what type of milestone is being proposed for each program or program element:

- Category A: Program rollout (referred to by utilities as base award),
- Category B: Program activity based,
- Category C: Market baseline or characterization for new program development, or
- Category D: Market effects or market based milestones.

The definition for each milestone earlier in this testimony should serve as the basis for this classification effort. (see definitions in first paragraph on page 10).

2. Utilities should be free to propose any mix of award milestones for year 2000/2001 subject to the following constraints:

- At least 20 percent of the total performance awards sought by the administrators should be a market effects or market based milestone. (Category D)
- At least 20 percent of the total performance awards sought by administrators should be either roll out milestones or program activity based or a combination of the two.

These minimum limits are recommended to ensure program stability, a balanced approach and limited gaming between milestone types. We would not support a portfolio of milestones that was exclusively related to achieving market effects milestones or one that focussed simply on program activities or rollout out awards. The objective is to encourage to propose a blend of milestones in all four categories that rewards administrators for both the achievement of program activity goals and the broader market goals endorsed by the Commission. The Commission may also want to consider capping the amount of awards that could be received from the completion of market characterization studies.

3. Total earnings caps for each utility portfolio of programs should be set using the following formula:

Total awards proposed for categories A+B (in $) * .05 + Total Awards proposed for categories C&D (in $) * .125 = Total performance awards cap for all programs in $

This earnings cap should be applied for all programs for each administrator, not at the program areas or individual programs. This is to encourage a portfolio approach to managing risks across market areas. In future proceedings the Commission may want to consider the impact of setting these caps at the program area level.

The CPUC should consider whether or not to allow the sum of all potential program milestones for any administrator to exceed the earnings cap set by this formula as part of its review of the more detailed program plans in the 2000 planning process. Table 2, below, illustrates the practical effect of this earnings cap mechanism by looking at the earnings caps as a function of the total awards proposed for each of the four category types.

Table 2
Proposed Earnings as Function of Milestone Type and Award Level

Milestone Type	Program Rollout or Program Activity: A and B (% of total potential earnings in these categories)	Market Effects/ Market Baseline: C and D (% of total potential earnings in these categories)	Proposed Earning Cap* as a Function of Total Authorized Program Budget
Current System (PG&E)	80	20	11 %
Recommended Reduction in cap if no Change in Proportion of Dollars in Milestone Types	80	20	7 %
Near Term Ideal Milestone Mix	50	50	9 %
Long Term Ideal Milestone Mix	20	80	11 %

Earnings cap = % of $ awards in Categories A+B Earning rate (ab) +
% of $ awards in Categories C or D* earnings rate (cd)

Where earnings rate ab=5.0 % for categories A and B and
cd=12.5 % for categories C and D

Row 1 illustrates the current situation for PG&E in 1998 where the utility has proposed total awards that are equivalent to roughly 80 percent of the total in categories A &B and 20 percent in C&D. If PG&E achieves all of these milestones, its total earnings cap is set at 11 percent of total earnings.

Row 2 illustrates the expected fall in the earnings cap to 7 percent of authorized expenditures if utilities continue to propose milestones in roughly the same proportion (80/20), as PG&E did in 1998. In effect the mechanism is awarding milestones in categories A and B at earnings equivalent to 5 percent of expenditures and rewarding utilities at a rate of 12.5 percent for the more difficult to achieve and more valuable market effects milestones.

Row 3 illustrates what would happen if utilities move in the near term to propose a more balanced set of milestones with 50 percent of the milestones distributed between program based (A&B) and market based (C and D). In this case the earnings cap would rise to 9 percent of authorized budgets, a real drop of 2 percent relative to 1999.

Row 4 illustrates what would happen if utilities moved to aggressively set market based milestones for most of their programs so that 80 percent of the potential earnings hinged on achievement of market effects milestones. In this case the earnings cap rises to 11 percent of program budgets, roughly the current cap level. Thus, if utilities want to continue to potentially be rewarded for achieving milestones at the current earnings rate, they will have to accept the risk implicit in developing market based milestones that place a premium on the administrators ability to work with key market actors to leverage sustainable changes in the energy services market.

G. Potential Cap Reductions Due to Alternative Earnings Opportunities

1. Utility Affiliate Earnings

In its testimony the ORA has raised some important issues related to the possibility that the current level of earnings for utility program performance should be reduced or eliminated because the utilities' subsidiaries have opportunities to earn additional profits from energy efficiency programs.

ORA found that utility subsidiaries had signed contracts that entitled them to up to $5.5 million in residential and non residential standard performance contracts (SPC) in 1998, approximately 14 percent of the funds available to all actors. It is important to note that the Commission's policy rules limit utility subsidiaries to signing contracts for no more than 15 percent of the total funds made available to private firms in these programs. The interesting question is what additional profit might these programs generate for utility affiliates if they reach this upper bound for the two standard performance contract programs.

For 1998, profits can be estimated by assuming that affiliates can make profits equivalent to 10 percent of gross receipts from customers and the SPC program funds can be used to leverage a customer contribution of two dollars for every dollar of program funds. Based on these assumptions, profits could reach $1.1 million for the three utility affiliates who managed to secure funds in 1998. This potential for additional earnings is less than 3 percent of the total awards claim of $27 million for 1998 programs.

This opportunity might merit a small adjustment in the awards rate or cap but certainly not elimination of the total potential to receive any performance award. If the current affiliate rules truly create a significant earnings opportunity for the parent company, a better solution would be to further limit the ability of utility affiliates to benefit from PGC funds by changing the rules, rather than penalizing another portion of the company for the affiliate decisions that may be beyond the UDC's control.

2. Use of Corporate Brand Names to Position Administrators as Energy Service Providers of Choice

ORA's testimony correctly points out that the program administrators are currently allowed to display their brand name as part of program promotional materials. This undoubtedly will translate into some value for the UDCs in the upcoming market for competitive services in the form of increased customer retention rates. However, this advantage has existed for many years and can't really be mitigated given the affiliate rules adopted by the Commission without requiring competitive bidding for program administrator positions. Since the Commission was unable to achieve this goal of hiring new administrators, it is impossible to unscramble broken eggs by trying to penalize incumbent program administrators for some unquantifiable earnings increment attributable to being program administrators. If the Commission finds this is a significant problem, the remedy is to ban the use of the brand name in program offerings not through some earnings penalty after the fact.

There are small earnings opportunities created by the current affiliate rules that do not expressly prohibit UDC's from signing contracts with unregulated affiliates and using the corporate logo on program materials. If the Commission finds these are problems, the appropriate remedy is to change the policy rules, not to adjust the level of earnings used to reward superior program performance.

3. Benefits Created by Programs vs. Costs of Operating and Providing Performance Incentives

It is important to bound the overall level of performance claims proposed by program administrators compare to dollar magnitude of overall benefits and costs from these programs. PG&E's annual report estimates that program expenditures of $80 million for all energy efficiency programs will produce $160 million dollars in net societal savings over the life of measures installed as a result of these programs. (Page 1-7) Their proposed earnings claim award of $10.45 million is a little under 12 percent of program costs but more importantly, is considerably less than 5 percent of the net benefits produced for rate payers. It is appropriate to add the annual costs of reviewing PG&E's claims at the Commission, which we estimate at $90,000 (10 professionals for 6 weeks at a rate of $1500 per week) to the cost of potential earnings to capture the full cost of this performance system to ratepayers. Summing these costs gives a total cost of $10.6 million to operate the performance award system for the PG&E administrator, roughly 6 percent of projected net benefits.

Compare this to the typical level of performance incentives used by private firms to reward productivity in the work place. Compensation packages based on performance can range from 2 percent to 5 percent of gross revenues, and from 5 percent to 15 percent of profits, the analog to net benefits for ratepayer. Thus the performance improvements generated by this 6 percent investment are likely to pay hefty dividends to ratepayers if the programs succeed in achieving the sustainable changes outlined in the Commissions policy goals.

H. Summary of the CEC's Recommendations Regarding Earnings Levels

For all of the aforementioned reasons, the Energy Commission recommends that the CPUC adopt a flexible performance awards system that will encourage program administrators to achieve the CPUC's policy goals while simultaneously reducing ratepayer payments for easy to achieve program roll out or program participation goals.

APPENDIX A

PG&E Earning Verification Studies

Program name/ Milestone #	*Code#*	Date Received	Potential Earnings	Actual Earnings Claim	Milestone contents
	A= Program Activity				
Res Energy Education- MS 1	A	3/29/99	177,000.00	177,000.00	Customer call database and promotional packets
Res Single family audits-MS1	A	3/29/99	165,000.00	165,000.00	Transition strategy and program description and documentation of # of res audits delivered
Res multifamily audits -Ms1	A	3/29/99	42,000.00	42,000.00	Database of 30,000 MFS audits delivered
Non res Energy Management Services- MS 1	A	3/29/99	281,000.00	281,000.00	List of customer sites visited and recommendations
Comfort Home-MS 1	A	4/2/98	255,000.00	255,000.00	summary of brochures & applications
Comfort Home-MS 2	A	3/29/99	482,000.00	482,000.00	database of participating builders
Comfort Home-MS 3	A	11/2/98??	255,000.00	255,000.00	Survey of participating builders
Express efficiency/#1	A	4/2/98	550,000.00	550,000.00	records or brochures applications
Express efficiency/#2	A	3/29/99	1,986,000.00	1,986,000.00	forecast of 15% of net program benefits based on rebated equipment
Res SPC-MS1a,1b,1c,1d,1e	A	4/2/98	405,000.00	405,000.00	procedure manual, database, apps
Res SPC #2	A	4/2/98	188,000.00	188,000.00	installation reports
Res SPC #3	A	4/2/98	125,000.00	125,000.00	list of invoices with total savings and incentives claimed
Design Assistance/ ms1	A	4/2/98	23,000.00	23,000.00	program announcement

Program name/ Milestone #	*Code#*	Date Received	Potential Earnings	Actual Earnings Claim	Milestone contents
Design Assistance/ ms2	A	2/23/99	70,000.00	70,000.00	agendas
Design Assistance/ ms3	A	not rec.	155,000.00	155,000.00	11 case studies
Design Assistance/ ms 4	A	2/23/99	10,000.00	10,000.00	non res new con training manual
Super cool super clean/Ms1	A	4/2/98	60,000.00	60,000.00	applications and brochure
Super cool super clean- Ms 2	A	3/29/99	318,000.00	318,000.00	database of participating builders
Cheers- MS1	A		8,000.00	8,000.00	Copy or MOU between Cheers and partner
Food Service Tech Center- MS 1	A		77,000.00	77,000.00	Summary report with list of participating clients
Food Service Tech Center- MS 2	A		85,000.00	85,000.00	Documentation of test methods used
Food Service Tech Center- MS 3	A		39,000.00	39,000.00	10 post seminar reports on test results?
	C=Market Characterization				
Food Service Tech Center- MS 4	C		36,000.00	36,000.00	10 test reports for new products
PGE Energy Center	C	1/20/99	62,000.00	62,000.00	Database of monthly visitor activity and course logs
PGE Energy Center	C	1/20/99	75,000.00	75,000.00	List of courses offered
PGE Energy Center	C	1/20/99	63,000.00	63,000.00	Engineering community database
PGE Energy Center ms4	C	2/23/99	70,000.00	70,000.00	Documentation of tool library users and 10 case studies
Smarter Energy MS 1	C	4/14/98	36,000.00	36,000.00	website documentation
Smarter energy ms 2	C	1/20/99	37,000.00	37,000.00	# of vendors who signed up to use site
Energy info centers integration project-MS 2	C	1/20/99	26,000.00	26,000.00	Assessment of Market for Energy Centers
	M=Market Effects				
Smarter energy ms 3	M	12/21/99	30,000.00	30,000.00	Demonstrate # of web site hits
Lighting Controls MS 2	M	2/23/99	33,000.00	33,000.00	30% increase in awareness of new tools and database
Stockton Training MS2	M	1/20/99	53,000.00	53,000.00	pre and post testing results of course understanding
Stockton Training MS3	M	2/23/99	35,000.00	35,000.00	Results of training
PG&E comfort link MS 2	M	Not filed	70,000.00	0.00	no program

Program name/ Milestone #	*Code#*	Date Received	Potential Earnings	Actual Earnings Claim	Milestone contents
PG&E comfort link MS 3	M	Not filed	105,000.00	0.00	no program
Super cool-super clean-MS3	M		60,000.00	60,000.00	survey of participants to show they link rebate to higher efficiency model
res energy efficiency lighting fixtures/ ms 2	M	2/23/99	280,000.00	178,000.00	Sales of high power factor torchierres
res energy efficiency lighting fixtures/ ms 3	M	9/11/98	100,000.00	100,000.00	demonstrate that at least 20% of retail outlets stock energy star fixtures
Energy star labeling/ms 2	M	11/9/98	33,000.00	33,000.00	PGE Energy star report
Geo exchange program demo ms 3	M	1/20/99	45,000.00	45,000.00	Survey of training effectiveness with 70% of participants.
Geo exchange program demo ms 2	M	1/20/99	56,000.00	56,000.00	sliding scale based on # of Market Participant agreements
Res SPC #4	M		345,000.00	207,000.00	Program achieved 21% of forecasted UC net benefits
Non Res std performance contract MS 5	M	3/29/99	649,000.00	517,000.00	Forecast of net UC benefits from program based on preliminary applications, not final installations
Complete Ten market characterization studies	M	5/31/99	100,000.00	100,000.00	Copies of each study
	Code R=Rollout Milestone				
Geo exchange program demo ms 1	R	1/20/99	33,000.00	33,000.00	Implementation plan for installations
Geo exchange program demo ms 2a	R	1/20/99	15,000.00	15,000.00	Install systems at over 120,000 sq. ft of MF bldg.
bldg. commission and performance tools Ms1	R	2/23/99	46,000.00	46,000.00	copy of guide
bldg. commission and performance tools ms 2	R	2/23/99	83,000.00	83,000.00	copy of 12 case studies
bldg. commission and performance tools ms 3	R	2/23/99	97,000.00	97,000.00	copy of 6 with 10% reduction in usage
Commercial refrigeration simulation tools MS 1	R		30,000.00	30,000.00	copy of software and baseline test
Commercial refrigeration simulation tools MS 2	R	11/19/98	45,000.00	45,000.00	baseline study documenting current practices

Program name/ Milestone #	*Code#*	Date Received	Potential Earnings	Actual Earnings Claim	Milestone contents
Commercial refrigeration simulation tools MS 2a	R	2/23/99	18,000.00	18,000.00	seminar materials
Commercial refrigeration simulation tools MS 3	R	2/23/99	45,000.00	45,000.00	AT LEAST Market leader using software
Cool tools/ms 1	R	4/2/98	15,000.00	15,000.00	cd rom distributed for review
Cool tools MS 2	R	11/9/98	15,000.00	15,000.00	Baseline commercial chilled water practices
Cool tools/ms 3	R	4/2/98	45,000.00	45,000.00	list of 50 design professionals in beta test
Cool tools/ms 4	R		80,000.00	80,000.00	75 registered users of software
Daylighting MS1	R	1/20/99	16,000.00	16,000.00	copy of software
Daylighting MS2	R	11/9/98	16,000.00	16,000.00	Daylighting baseline design practices
Daylighting MS3	R	1/20/99	73,000.00	73,000.00	10 case studies
Hotel &motel ms 1	R	1/28/99	7,250.00	7,250.00	Program Summary report
Lighting Controls MS 1	R		22,000.00	22,000.00	Testing protocol
Lighting Controls MS 1a	R	2/23/99	17,000.00	17,000.00	Users guide to protocol
res energy efficient lighting fixtures/ ms 1	R	4/2/98	100,000.00	100,000.00	copy of program work plan by a fixed date
res energy efficient window/ms1	R	4/2/98	26,000.00	26,000.00	provide program fact sheets, applications
Res energy efficient windows ms2	R	1/20/99	39,000.00	39,000.00	provide training course and list of attendees
res energy efficient window/ms 3	R	11/9/98	4,000.00	4,000.00	copyright or legal document showing transfer of guidelines
Energy Star labeling- MS 1	R		29,000.00	29,000.00	Develop and implement an ES labeling program
LED Ms 1	R		8,000.00	8,000.00	Program Summary
LEDMS 2	R		2,250.00	2,250.00	PRESENTATION TO TRFF ENGINEERS
Lighting exchange ms1	R	1/20/99	13,000.00	13,000.00	copy of web site
Lighting exchange ms2	R	1/20/99	10,000.00	10,000.00	detailed plan
Lighting exchange ms3	R		34,000.00	34,000.00	Survey of users knowledge increase
Lighting exchange ms 4	R	1/20/99	20,000.00	20,000.00	plan for developing HVAC exchange
Non res std performance contract 1a,1b,1c,1d,1e	R	4/2/98	736,000.00	736,000.00	procedure manual, database
Non res std performance contract MS 1f, g, h	R	11/19/98	15,000.00	15,000.00	Workshop reports for small business and M&V
Non res std performance contract MS2	R	3/29/99	402,000.00	402,000.00	conduct pre installation inspections within specified # of days

Program name/ Milestone #	Code#	Date Received	Potential Earnings	Actual Earnings Claim	Milestone contents
Non res std performance contract MS3	R	na	402,000.00	402,000.00	copy of installation report and inspections
Non res std performance contract MS4	R	na	271,000.00	271,000.00	List of payment dates to participating contractors
PG&E comfort link MS 1	R	Not filed	110,000.00	0.00	no program
Power pact	R	1/20/99	22,000.00	22,000.00	
Power pact	R	1/20/99	41,000.00	41,000.00	
Premium eff relocatable classes- MS 1	R	1/20/99	14,000.00	14,000.00	
Premium eff relocatable classes- MS 2	R		20,000.00	20,000.00	
Premium eff relocatable classes- MS 3	R		9,000.00	9,000.00	
Stockton Training MS1	R	1/20/99	51,000.00	51,000.00	course agenda and list of attendees, 30 courses over 12 months
Emerging technologies MS1	R	1/20/99	15,000.00	15,000.00	cost effectiveness for 3 technologies
Emerging technologies MS2	R	2/23/99	23,000.00	23,000.00	Implement plan for horiz axis clothes washers
Emerging technologies MS 3	R		9,000.00	9,000.00	Verification and sealing program plan for ducts
Emerging technologies MS4	R	1/20/99	20,000.00	20,000.00	demonstration of state of art for 3 new technologies
Energy Information Center Integration- Ms1	R		18,000.00	18,000.00	copy of analysis and implementation plan
Energy Stds MS1	R	6/10/98	5,000.00	5,000.00	letter to CEC chair
Energy standards 2	R	7/30/98	5,000.00	5,000.00	Contract work authorizations
Energy standards 3	R	9/30/98	15,000.00	15,000.00	memo from PGE
Energy standards/ms4	R	1/20/99	10,000.00	10,000.00	technical analysis of seasonality of tou rates
	Code RA= roll out and milestone				
Natural cooling # 1	RA	2/23/99	37,000.00	37,000.00	Project plan and guidelines
Natural cooling # 2	RA	2/23/99	56,000.00	56,000.00	Complete 5 demonstrations on NC
Natural cooling # 3	RA	2/23/99	12,000.00	12,000.00	Final report
Third party proposal/Ms1	RA	4/2/98	150,000.00	150,000.00	summary of bids and awards
Third party programs ms 2	RA	11/19/98	270,000.00	270,000.00	Signed Contracts

California Energy Commission
Statement of Qualifications

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Current Position: Supervisor II
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Professional Background:
Most recently joined the Energy Commission in my current position in July, 1998. Held a similar position with the Energy Commission from 1988 through 1993. Before the current position, over 10 years experience as a consultant in the areas evaluation research and Integrated Resource Planning developing energy forecasts, performing utility customer surveys, evaluating generation and demand side resources, and balancing supply and demand energy needs.

Education: M.S. Public Administration, University of Missouri, 1977
B.S. Political Science, University of Oregon, 1975
Three years course work in Civil & Mechanical Engineering, Oregon State University

California Energy Commission
Statement of Qualifications

Michael Messenger

1. Mr. Messenger is the Chief market analyst at the California Energy Commission responsible for the evaluation of the energy efficiency services market, including the load and market impacts (energy and peak) of state and utility energy efficiency programs. Mr. Messenger has served as the California Energy Commission's representative on the California Board for Energy Efficiency to provide recommendations on the development of a new generation of energy efficiency programs designed to save energy through the transformation of energy markets in a sustainable manner. He serves on the Market Effects and Evaluation committee of the CBEE board and on the California Measurement Advisory Committee (CADMAC). He has testified at the CPUC in many cases related to the design and evaluation of energy efficiency programs over the last ten years and served as the moderator of the Energy Efficiency Services Working Group. Mr. Messenger received his Bachelor of Science degree from Princeton University in 1978 and his Masters of Science in Energy Resources from the University of California at Berkeley in 1981.

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