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Decision 92-10-020 October 6, 1992

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ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's own motion to establish rules and procedures governing utility demand-side management.

R.91-08-003
(Filed August 7, 1991)

Order Instituting Investigation on the Commission's own motion to establish procedures governing demand-side management and the competitive procurement thereof.

I.91-08-002
(Filed August 7, 1991)

**INTERIM OPINION
ON DSM TERMS AND DEFINITIONS, RULES FOR
FUEL SUBSTITUTION AND NEW CONSTRUCTION PROGRAMS**

1. Summary

By today's order, we adopt revisions to our proposed demand-side management (DSM) terms and definitions and establish rules for evaluating fuel substitution programs and new construction programs. Our adopted rules and definitions, as modified by this order, are presented in Attachment 3.

2. Procedural Background

In Decision (D.) 92-02-075, we issued rules governing the evaluation, funding and implementation of DSM programs and associated shareholder incentives. In that order, we directed parties to further discuss recommendations for modifying DSM terms and definitions, including:

- o Recommended criteria for categorizing fuel substitution programs as energy efficiency programs, including recommended sources of assumptions for testing their cost-effectiveness.

- o Further refinements/enhancements to Measurement¹ and Evaluation (M&E) definitions and program sub-categories, including DRA's recommendation to shift utility end-use Research, Development and Demonstration (RD&D) activities to the DSM side of the companies.
- o Recommended definitions and/or criteria to distinguish load management programs which promote energy efficiency from load building or load retention programs.
- o Identification of specific energy efficiency programs that should be considered alternatives to supply-side resources.

The Commission Advisory and Compliance Division (CACD) conducted workshops on these issues on April 20-23, 1992. Representatives of the following organizations attended the workshops: San Diego Gas & Electric Company (SDG&E), Southwest Gas, Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SoCal), Southern California Edison Company (SCE), Sierra Pacific Power Company, the Division of Ratepayer Advocates (DRA), the California Energy Commission (CEC), Natural Resources Defense Council (NRDC), Toward Utility Rate Normalization (TURN), California-Nevada Community Action Association, California Institute of Energy Efficiency (CIEE), Tecochill/Tecogen, Inc., California Manufacturers Association, Proven Alternatives, Technical Analysis Corporation, School Project for Utility Rate Reduction, Audit Pro and Transphase Systems, Inc. (Transphase).

CACD prepared a draft workshop report and circulated it to all workshop participants for comment. Comments were received from PG&E, SDG&E, SCE, SoCal, DRA, CEC and NRDC. The final

¹ As discussed in the prehearing conference held on April 3, 1992, the definitions related to end-use load impacts have been moved to the Measurement and Evaluation workshops.

workshop report was filed on June 22, 1992, and mailed to all parties on the service list to this proceeding. The workshop report presents the positions of workshop participants on all issues and describes consensus and nonconsensus positions on specific language revisions.

Per our directives in D.92-02-075, the assigned Administrative Law Judge (ALJ) requested further comments on CACD's workshop report from all parties to this proceeding.² Additional comments were timely filed by SCE, SoCal, SDG&E, PG&E and NRDC.³ Reply comments were filed by SCE and SoCal.

3. Discussion

Before addressing specific DSM terms and definitions, we first want to congratulate all the workshop participants and CACD for resolving most of the definitional issues via a nonadversarial workshop process. Most of the language modifications to DSM terms and definitions that we adopt today reflect consensus positions of workshop participants. The workshop process also served an important role in identifying remaining areas of disagreement, and CACD did an excellent job of describing the options for our consideration in its workshop report.

The workshop report, along with parties' comments, describes in detail the areas of consensus and nonconsensus. As a result of the workshops, several changes were proposed to Appendix B of the August 7, 1991 Order Instituting Rulemaking and Investigation, as well as to the DSM rules adopted in D.92-02-075.

² See D.92-02-075, mimeo., p. 65; ALJ Ruling dated July 17, 1992.

³ DRA's additional comments were filed in an untimely manner, and were not considered in our final deliberations over DSM terms and definitions. We note, however, that DRA's position on specific issues was described in CACD's workshop report, and in DRA's comments on the draft report (see Attachments 1 and 2).

Workshop participants also agreed that it would be useful to incorporate the adopted DSM terms and definitions into the Reporting Requirements Manual (RRM).⁴ Rather than repeat all of the proposals in today's order, we have appended summaries of the consensus and nonconsensus positions in Attachments 1 and 2. Attachment 1 presents consensus and nonconsensus language proposals for DSM terms and definitions. Attachment 2 summarizes proposals relating to the cost-effectiveness indicators for fuel substitution and new construction programs, and DRA's proposal on RD&D issues.

3.1 Consensus Issues

As described in Attachment 1, workshop participants reached general agreement on most DSM terms and definitions, including lost opportunities, cream skimming, resource value, uneconomic bypass, conservation and energy efficiency, information programs, energy management services, weatherization retrofit incentives, appliance efficiency incentives, direct assistance, load management, load retention, load building, air conditioner cycling programs, thermal energy storage, time-use programs, and most program element definitions.

We have reviewed the consensus proposals for these terms and definitions, and find them to be consistent with the policy guidelines established in D.92-02-075. We therefore adopt the proposed consensus language, with minor modifications. (See Attachment 3.)

Specifically, we delete reference to particular programs that may be subject to cream skimming. We agree with Transphase

⁴ The RRM was developed in response to our directive to Commission staff in the December 1986 PG&E general rate case decision (23 CPUC2d 149, 216). In that decision, we expressed the need for reporting requirements on DSM programs which were founded on a common set of definitions. The RRM has been prepared by CACD and DRA in conjunction with the major California utilities and staff from the CEC.

and PG&E that cream skimming can occur (or not occur) in any program, and the definition should therefore be left as general as possible.⁵ We also delete the reference to "most or many" hours of operation in the definition of conservation programs. We agree with NRDC that the number of hours over which a consumption reduction occurs should not be decisive in determining whether a program counts as conservation. We agree with workshop participants that the definition of energy efficiency should not be modified further until the protocols for ex post measurement of savings are more clearly established.

We also agree with NRDC and Transphase that the definition of load management programs should clearly distinguish those programs from load building, and add appropriate language. In response to SoCal's comments, we modify the definition of Residential Weatherization Retrofit Programs so that it does not preclude nonbuilding-shell improvements that are implemented at a different time from building-shell improvements. We also agree with SoCal that fuel substitution programs should not be included under energy efficiency incentives programs, and modify the consensus language accordingly.

However, we do not modify the definitions of load retention and load building to explicitly exclude fuel substitution programs, as SoCal requests. Rule 13 makes it clear that we discourage utilities from pursuing fuel substitution programs with a predominantly load building or load retention character. In addition to demonstrating that these programs pass the

5 We do not adopt the consensus recommendation to require utilities to include strategies designed to avoid cream skimming in their requests for shareholder incentives or program funding. In D.92-02-075, we specifically dropped similar language from Rule 3, and refocused the reporting requirements on strategies to capture lost opportunities. (See Rule 2.)

environmental and source-fuel tests described below, utilities carry the burden of proof to demonstrate that the benefits of the programs justify relaxing our focus on energy efficiency programs (i.e., relaxing the Total Resource Cost (TRC) test of cost-effectiveness requirement). We prefer that any program with load building or load retention purposes, including ones with fuel substitution characteristics, be included and evaluated under load building or load retention program categories.

3.2 Nonconsensus Issues

In their comments and the workshop, parties identified several areas of nonconsensus, including definitions and cost-effectiveness criteria for fuel substitution, the role of utility vehicle-related activities in DSM definitions, cost-effectiveness criteria for load building and load retention programs, the addition of certain DSM program terms and DRA's proposed rules for RD&D. (See Attachments 1 and 2.) We discuss each of the nonconsensus issues in Sections 3.2.1 to 3.2.5 below.

3.2.1 Fuel Substitution

Parties differ on whether the definition of fuel substitution should be applicable to fuels other than utility-delivered electricity and gas. We agree with DRA that expanding the definition of fuel substitution to encompass wood, methane, propane, butane, liquid natural gas, etc. would lead to significant difficulty in evaluating utility-proposed fuel substitution programs, given current analytical constraints. At the same time, we agree with CEC and others that our goal should be to broaden the definition to encompass all fuels, as analytical constraints become less restrictive. Option 3 presented in Attachment 1 represents a reasonable accommodation of all parties' concerns, and we adopt it for our definition of fuel substitution.

All parties agree that fuel substitution programs should be held to a different evaluation standard than other DSM programs, because of the potential for fuel switching to result in

environmental degradation or increased source-fuel consumption. Accordingly, all parties agree to a three-prong test that evaluates the net impacts of each fuel substitution program on: (1) the environment, (2) source-fuel consumption (in British Thermal Units or BTUs) and (3) total resource costs.

Some parties argue that there should be threshold or up-front standards for the environmental and source-fuel tests. Others argue that proponents should disclose the results of these tests and bear the burden of proof justifying funding for any program that degrades the environment or increases consumption of source-fuel. Some parties recommend that fuel substitution programs be required to pass the TRC test with a ratio of 1.20 or greater.⁶ Others argue that a standard of 1.0 should be used. Parties also disagree over whether the three-prong test should be relaxed in evaluating fuel substitution applications in new construction programs. (See Attachment 2.)

In Rule 13 of D.92-02-075, we clearly stated that a simple screening of fuel substitution programs based on the TRC is not sufficient. Rule 13 states that fuel substitution programs "should reduce the need for supply without degrading environmental quality." Therefore, proposals to establish a "disclosure/burden of proof" standard for fuel substitution programs that degrade the environment violate our established policies. In calling for workshops on definitional issues, we cautioned parties that these workshops should not become a forum for relitigating the basic principles we established in D.92-02-075. (Id., mimeo., p. 28.) The principle established in D.92-02-075 to promote fuel switching

⁶ The TRC test measures the net impact of a DSM program as a resource option, based on the total costs of the resource. The results of the TRC test can be expressed either as a benefit-cost ratio or in terms of net benefits.

only if it has a neutral or beneficial effect on the environment is sound public policy, and should be upheld.

The goals of this Commission, utilities and customers are also not served by implementing fuel substitution programs that increase source-BTU consumption of nonrenewable resources. Even without environmental degradation, it does not serve the public interest to promote fuel switching that decreases the efficiency with which California utilizes depletable resources. We therefore adopt SCE's proposal to establish up-front standards for cost-effective, source-fuel efficient, environmentally sensitive fuel substitution programs. We agree with SCE and others that consistent standards should apply to all fuel substitution programs, whether intended for retrofit or for new construction applications.

We reject proposals to require that fuel substitution programs have a TRC ratio at or above 1.20. The additional environmental and source-BTU tests will enable us to make informed decisions as to whether a proposed fuel substitution program should be funded by ratepayers, without adding a higher TRC hurdle. Moreover, DRA's concerns about gas marginal costs are being addressed in our gas long-run marginal cost proceeding, Investigation (I.) 86-06-005.

Accordingly, we add the following language to Rule 13 of D.92-02-075:

"Fuel-substitution programs, whether applied to retrofit or new construction applications, must pass the following three-prong test to be considered further for funding:

- (1) The program must not increase source-BTU consumption. Proponents of fuel substitution programs should calculate the source-BTU impacts using the current CEC-established heat rate.

- (2) The program must have a TRC benefit-cost ratio of 1.0 or greater. The TRC test used for this purpose should be developed in a manner consistent with Rules 7-10.
- (3) The program must not adversely impact the environment. To quantify this impact, respondents should compare the environmental costs with and without the program, using the most recently adopted values for residual emissions in the Update."

We note, however, that workshop participants did not explicitly address the issue of what baseline technology to use in making these comparisons among fuel options. A similar issue has been raised in other phases of this proceeding. For example, in D.92-03-038, we required that the baseline reference for calculating energy savings under PG&E's pilot bidding program be the minimum standards equipment, not existing equipment. (D.92-03-038, mimeo, p. 54.) Our inclination is to adopt similar requirements for fuel substitution programs. However, before adding final language to Rule 13 defining the baseline reference, we would like to receive further comments on this issue from interested parties. Specifically, parties should comment on what the baseline reference for fuel substitution programs should be (e.g., existing equipment, minimum standards equipment, most efficient available technology) and what sources of data are available to implement their proposal. Parties should include in their comments specific language clarifying Rule 13 (as modified by today's order) with regard to the baseline reference.

Comments should be filed at the Commission's Docket Office and served on the appearances and state service list in these proceedings within 20 days from the effective date of this order. Reply comments should be similarly filed and served within 30 days from the effective date of this order. After receiving and

reviewing these comments, we will provide additional guidance on the appropriate baseline reference for fuel substitution programs.

3.2.2 Alternative Fuel Vehicles

Several parties suggest modifications or additions to DSM terms and definitions that would address vehicle-related activities of the utilities. We agree with SoCal, SDG&E and others that the appropriate forum for defining the scope of utility involvement in these activities is our low-emissions vehicle proceeding, I.91-10-029/Rulemaking (R.) 91-10-028. If we determine in that proceeding that vehicle programs should be connected to DSM programs, we can adjust DSM terms and definitions at that time. Until then, our adopted DSM Rules and definitions will apply to stationary energy-using equipment.

3.2.3 New Construction Programs

Two different approaches to considering new construction programs were presented at the workshops. One was to treat new construction as a market sector (rather than a program), with corresponding resource, equity, service, commercialization and demonstration programs within that sector. Under this approach, each program in the new construction sector would be evaluated separately, using the criteria appropriate for the program type (e.g., using the TRC test for all resource programs). The second approach would treat new construction programs as activities designed primarily to support higher efficiency standards. Under this approach, strict adherence to the TRC test would not be required for any individual component of the residential and nonresidential new construction programs.

We believe that new construction programs have a dual purpose: delivery of resource value and support for new energy efficiency standards. The cost-effectiveness criterion stipulated to by DRA and PG&E reflects this dual purpose. (See Attachment 2.) Under their proposal, the nonresidential and residential new

construction programs would each have to pass the TRC test as a minimum threshold. This ensures that ratepayers' investments in promoting higher efficiency standards will still yield a return in the form of reduced resource costs for the programs overall. However, this requirement does not focus on maximizing the level of net resource benefits in making funding decisions, nor does it require that program elements or measures within the residential and nonresidential programs pass the TRC test. In this way, DRA's and PG&E's proposed criterion appropriately balances the dual objective of achieving both the resource benefits and the potential benefits of future higher energy efficiency standards, that should be inherent in well-designed new construction programs.⁷ We agree with PG&E that new construction programs should also be designed to minimize lost energy efficiency opportunities.

Accordingly, we add the following language to Rule 11:

"New Construction Programs should be designed, funded and implemented in a manner which effectively promotes the development of future, higher efficiency standards by the CEC, as well as the objectives of Public Utilities Code § 701.1. In conjunction with the CEC standards, utility New Construction Programs should provide resource benefits in the form of reduced demand to be met by the utility electric and gas systems. Utility New Construction programs should also be designed to minimize lost energy efficiency opportunities.

⁷ We recognize that fuel substitution programs that fail the TRC test may be effective in promoting new CEC standards. However, relaxing the TRC test could also introduce perverse incentives for the utilities to promote noncost-effective fuel substitution in the new construction sector, since by doing so they may be able to increase their future market share. Therefore, we will still require that fuel substitution program elements or measures within new construction programs pass the three-prong test described in Section 3.2.1.

"For each New Construction Program (residential and nonresidential), the TRC test should be the primary indicator of cost-effectiveness for the program as a whole. Each program as a whole must pass the TRC test; individual measures or program elements promoted by each program need not indicate TRC cost-effectiveness. However, fuel substitution activities in the new construction sector must be evaluated using the criteria established in Rule 13. The utilities' cost-effectiveness analyses should be accompanied by source-BTU and other information that will be useful for CEC standard-setting."

3.2.4 Additional RD&D Rules

In its comments to the Order Instituting Rulemaking, DRA proposed that the funding and reporting of utility end-use RD&D be transferred to DSM budgets and reporting requirements. During the workshops, DRA modified its proposal: Instead of developing funding linkages between end-use RD&D and DSM budgets, DRA now proposes that rules be adopted to establish such coordination. (See Attachment 2.)

We agree with SCE, SoCal, PG&E and NRDC that this proceeding is not the appropriate forum for defining RD&D objectives and priorities for the utilities, or for defining the purpose and activities of the CIEE. DRA's proposed Rules 30-32 attempt to do just that, and are therefore rejected without prejudice. The types of RD&D policy and definitional issues that DRA raises should be addressed in our generic RD&D rulemaking proceeding (R.87-10-013). We do expect, however, that end-use RD&D utility staffs and the M&E staffs will coordinate closely, in order to ensure that RD&D products are adapted as well as possible to M&E requirements.

3.2.5 Other Nonconsensus Issues

At the workshops and in their comments, parties proposed additional terms and definitions for resource, equity, service, demonstration, commercialization and M&E programs. We see no

reason to add separate definitions for resource, equity and service programs, as PG&E suggests, since current program definitions already encompass these types of programs. As discussed above, policy and definitional issues related to RD&D (including commercialization phases) should be addressed in our RD&D rulemaking, not in this proceeding. Therefore, we will not add SoCal's proposed "Market Entry Support Program" definition, or PG&E's proposed "Commercialization" and "Demonstration" program definitions at this time.

With regard to M&E programs, we agree with NRDC that any additions or modifications to our proposed definitions should be deferred until after the M&E workshop process is completed. Similarly, final adoption of definitions for "useful life" and "load impact adjustments" should also be deferred pending conclusion of the M&E workshops.

3.3 Economic Development Programs

Several parties noted that the current definition of load retention does not encompass the types of "economic development" activities referred to in Public Utilities Code § 740.4, e.g., DSM incentives designed to retain businesses that would otherwise leave a utility service territory or California because of the cost of environmental regulations. In D.92-02-075, we stated that more specific guidelines for evaluating and funding both load building and economic development activities would be developed in a later phase of this proceeding. We recognize that there are many ongoing activities in this multi-phase proceeding that demand parties' and Commission staff's time and resources. Therefore, we will leave it to the discretion of the assigned ALJ to develop a workable schedule for addressing these issues in a later phase of this proceeding.

Findings of Fact

1. Pursuant to Ordering Paragraph 7 of D.92-02-075, CACD has conducted workshops on DSM cost-effectiveness issues, terms and definitions.

2. At the workshops, parties developed consensus language modifications and additions to our proposed DSM terms and definitions.

3. The consensus language modifications to our proposed DSM terms and definitions are consistent with the policy guidelines established in D.92-02-075.

4. Fuel switching can result in environmental degradation or increased source-fuel consumption.

5. Rule 13 of D.92-02-075 clearly states that fuel substitution programs should reduce the need for supply without degrading environmental quality.

6. Even without environmental degradation, it does not serve the public interest to promote fuel switching that decreases the efficiency with which California utilizes depletable resources.

7. The three-prong test for fuel substitution programs will enable us to make informed decisions about program funding, without adding a higher TRC hurdle.

8. I.91-10-029/R.91-10-028 is the appropriate forum for defining the scope of utility involvement in vehicle-related activities.

9. Requiring overall program, but not measure-specific, TRC cost-effectiveness for new construction programs appropriately balances the dual objective of achieving both the resource benefits and benefits of future higher energy efficiency standards, inherent in well-designed new construction programs.

10. Relaxing the TRC test for fuel substitution activities within the new construction sector could create perverse incentives for the utilities to promote noncost-effective fuel substitution in that sector.

11. R.87-10-013 is the appropriate forum for addressing the policy and definitional issues related to utility-sponsored RD&D, including commercialization activities.

Conclusions of Law

1. The consensus proposals for DSM terms and definitions should be adopted, with the minor modifications described in this order.

2. The "disclosure/burden-of-proof" approach to evaluating the environmental impact of fuel substitution programs is inconsistent with our established policies.

3. It is reasonable to establish threshold standards for fuel substitution programs.

4. Consistent standards should apply to fuel substitution programs intended for either retrofit or new construction applications.

5. Rule 13 should be modified to require that fuel substitution programs pass the following three-prong test to be considered further for funding:

- (1) The program must not increase source-BTU consumption;
- (2) The program must have a TRC benefit-cost ratio of 1.0 or greater; and
- (3) The program must not adversely impact the environment.

6. Rule 13 should be clarified to require that even fuel substitution programs with a predominantly load building or load retention character must pass the environmental and source-BTU tests. Utilities should carry the burden of proof to demonstrate that the benefits of the programs justify relaxing our focus on energy efficiency (i.e., relaxing the TRC requirement).

7. Our adopted DSM Rules and definitions should apply only to stationary energy-using equipment at this time.

8. Rule 11 of D.92-02-075 should be modified to require that new construction programs pass the TRC test for both the residential and nonresidential program as a whole. Strict TRC adherence should not be required for individual measures or program elements, except for fuel substitution activities.

9. DRA's proposed Rules 30-32 should be rejected, without prejudice.

10. End-use RD&D utility staffs and the M&E staffs should coordinate closely, in order to ensure that RD&D products are adapted as well as possible to M&E requirements.

11. Any additions or modifications to M&E-related terms and definitions should be deferred until after the M&E workshop process in this proceeding.

12. The definition of energy efficiency should not be modified further until the protocols for ex post measurement of savings are more clearly established.

13. In order to provide direction on utility program funding in a timely manner, this order should be effective today.

INTERIM ORDER

IT IS ORDERED that:

1. The demand-side management (DSM) rules, program terms and definitions in Attachment 1 of Decision (D.) 92-02-075, as corrected by D.92-03-007, are modified as indicated in Attachment 3 to this order. Until further notice of this Commission, the DSM rules, terms and definitions presented in Attachment 3 shall be used by respondents in the development and implementation of their DSM programs.

2. Within 20 days from the effective date of this order, respondents and interested parties shall file comments on the issue of a baseline reference for fuel substitution programs, as described in this order. Within 30 days from the effective date of

this order, respondents and interested parties shall file reply comments. Comments shall be filed at the Commission's Docket Office and served on all appearances and the state service list in these proceedings.

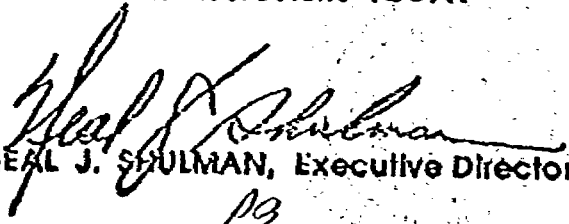
3. Within 120 days from the effective date of this order, the Commission Advisory and Compliance Division (CACD) shall issue an addendum to the Demand-Side Management Reporting Requirements Manual (RRM), replacing Appendix A of the RRM with the DSM terms and definitions adopted in today's order. CACD shall serve copies of the revised RRM on all parties and the state service list in these proceedings.

This order is effective today.

Dated October 6, 1992, at San Francisco, California.

DANIEL Wm. FESSLER
President
JOHN B. OHANIAN
PATRICIA M. ECKERT
NORMAN D. SHUMWAY
Commissioners

I CERTIFY THAT THIS DECISION
WAS APPROVED BY THE ABOVE
COMMISSIONERS TODAY


NEAL J. SHULMAN, Executive Director
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WORKSHOP CONSENSUS/NONCONSENSUS LANGUAGE
FOR DSM PROGRAM TERMS AND DEFINITIONS

Lost Opportunities

Workshop consensus:

Efficiency measures which offer long-lived, cost-effective savings that are fleeting in nature. A lost opportunity occurs when a customer does not install an energy efficiency measure that is cost-effective at the time, but whose installation is unlikely to be cost-effective later. (If these measures are not exploited promptly, the opportunities are lost irretrievably or rendered much more costly to achieve.)

Cream Skimming

Workshop general agreement:

[Designing and implementing only the lowest cost energy efficiency programs and load management programs which promote energy efficiency while leaving behind other cost-effective opportunities for energy efficiency.] Cream skimming results in the pursuit of a limited set of the most cost-effective measures, leaving behind other cost-effective opportunities. Cream skimming becomes a problem when lost opportunities are created in the process. Programs that may be subject to cream skimming include:

Direct Assistance
Retrofit Energy Efficiency Incentives
New Construction
Fuel Substitution
Load Management (Thermal Energy Storage)

1 Underlining indicates proposed additions and brackets ([]) indicate proposed deletions to the DSM Terms and Definitions adopted in D.92-02-075 (issued under separate order in D.92-03-007).

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In addition, participants recommended that a sentence, providing operational guidance, be added to Rule 3 adopted in D.92-02-075. Should the Commission decide that it is not appropriate to modify Rule 3, the following language should be added to the definition:

"To reduce the potential for cream skimming, any request for shareholder incentive mechanism and/or DSM program funding should include strategies explicitly designed to avoid such activities."

Resource Value

Workshop general agreement:

[A measure of the extent to which energy efficiency and load management programs reliably reduce utilities' fuel and/or capacity needs.] An estimate of the reliable energy (e.g., kWh, therms) and capacity (e.g., kW, Mcfd) reductions resulting from a DSM program. The calculation of resource value should be consistent with the avoided costs of electric service adopted in the Biennial Resource Procurement Update and, when, completed, the avoided costs of natural gas service adopted in Investigation 86-06-005.

Uneconomic Bypass

Workshop consensus to add term:

Customer power generation or supply at a cost less than utility retail tariffs, but above utility marginal cost to serve. Electric bypass deferrals may or may not include a corresponding opportunity cost due to the potential loss in natural gas sales. An opportunity cost is realized if the customer would have installed natural gas-fired generation equipment to produce electricity for the customer's use.

Workshops non-consensus regarding the addition of the following terms:

Resource Programs: Resource programs are DSM programs which result in a decrease in the use of capacity and/or at least one fuel (measured on a source BTU basis) and which are cost-effective (i.e., have a TRC benefit cost ratio greater than one).

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Demonstration Programs: Programs allow for the testing of DSM concepts or technologies which have the potential for becoming equity or resource programs once proven. Programs will exit the demonstration program category when it can be shown they meet the criteria for another program category.

Commercialization Programs: Programs are designed to acquaint the market with promising technologies, test savings, increase product availability and reduce prices. The goal is that a high percentage of these products will become cost effective and can then be incorporated into future resource programs and new energy efficiency standards.

Equity Programs: Programs to ensure that those customers, especially lower-income customers, who are unable to take advantage of standard rebate programs, still have some energy efficiency programs available to them.

Service Programs: Programs that provide service and information in a customer-specific way and cannot be classified as Resource Programs because they are either not cost-effective or the results are difficult to quantify. These include energy information, energy audits, and other energy services provided primarily because they are viewed as an important customer service.

I. CONSERVATION AND ENERGY EFFICIENCY PROGRAMS

Conservation programs are defined as programs which have the effect of reducing consumption of at least one fuel during most or many hours of operation of the equipment or building affected by the measure. Energy efficiency programs are defined as programs which reduce energy use for a comparable level of service.

Note: Workshop consensus item: Parties agreed that the definition of energy efficiency should not be changed until the protocols for ex post measurement are more clearly established. These may impact the definition of energy efficiency. Nonconsensus: when modifications are considered, define conservation and energy efficiency separately and clarify whether energy efficiency is a subset of conservation or vice versa.

RESIDENTIAL CONSERVATION AND ENERGY EFFICIENCY

Workshop participants agreed to retain current DSM definitions for the following programs: residential information, energy management

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services, appliance efficiency incentives, direct assistance, master meter, and other.

Residential Weatherization Retrofit Incentives: Workshop consensus:

Programs which provide financial incentives (rebates, low-interest loans) to install weatherization measures in existing buildings. [The incentives are solicited by the customer and based on the customer's billing history and/or customer-specific information regarding appliance and building characteristics.] Incentives are predominantly weatherization measures that affect the building shell. Incentive payments for other measures (nonbuilding shell) are included if provided in connection with building shell materials.

Residential New Construction: Workshop non-consensus:

Programs which provide financial incentives or significant technical assistance to builders of new residential structures, with the primary purpose of exceeding existing energy efficiency Title 24 standards. Program activities include fuel substitution activities when promoted as an integrated package of measures which promote electric and gas energy efficiency. If the building type is not subject to Title 24 standards, New Construction programs should offer financial incentives or technical assistance to exceed energy efficiency over currently acceptable standard practice for these facilities. New Construction programs include education and support activities for designers, architects, building officials, and other parties who may influence the supply of and demand for buildings that are more efficient than Title 24 requires (or current practice if Title 24 does not apply). [The incentives are intended to lead to the installation of more energy efficient materials or appliances than would have been installed in the absence of the program.]

NONRESIDENTIAL CONSERVATION AND ENERGY EFFICIENCY

Workshop participants agreed to retain current DSM definitions for the following programs: nonresidential information programs, commercial, industrial, agricultural energy management services, streetlighting conversion, conservation voltage reduction, and other.

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Commercial Energy Efficiency Incentives: Workshop consensus:

Programs which provide incentives to customers in existing commercial buildings. The incentives are intended to lead to the installation of [a] more efficient device(s) or system(s) than would have been installed in the absence of the program.

Industrial Energy Efficiency Incentives: Workshop consensus:

Programs which provide incentives to customers in existing industrial facilities. The incentives are intended to lead to the installation of [a] more efficient device(s) or system(s) than would have been installed in the absence of the program.

Agricultural Energy Efficiency Incentives: Workshop consensus:

Programs which provide incentives to customers in existing agricultural facilities. The incentives are intended to lead to the installation of [a] more efficient device(s) or system(s) than would have been installed in the absence of the program.

Nonresidential New Construction: Workshop non-consensus:

Programs which provide financial incentives or significant technical assistance to builders of new nonresidential structures, with the primary purpose of exceeding existing energy efficiency Title 24 standards. Program activities include fuel substitution activities when promoted as an integrated package of measures which promote electric and gas energy efficiency. If the building type is not subject to Title 24 standards, New Construction programs should offer financial incentives or technical assistance to exceed energy efficiency over currently acceptable standard practice for these facilities. New Construction programs include education and support activities for designers, architects, building officials, and other parties who may influence the supply of and demand for buildings that are more efficient than Title 24 requires (or current practice if Title 24 does not apply). (The incentives are intended to lead to the construction and operation of equipment which is more efficient than would have occurred in the absence of the program.)

II. LOAD MANAGEMENT

Workshop participants generally agreed to retain current definitions for load management programs.

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III. FUEL SUBSTITUTION

Workshop non-consensus:

1. Fuel substitution programs are defined as programs which are intended to substitute (replace) energy using equipment of one fuel with a different fuel. The programs are intended to influence the customer's choice between utility-delivered electric or natural gas for stationary equipment at an existing customer premise, with the effect of increasing sales/consumption from one fuel and decreasing sales/consumption from the competing fuel. The reference point for classifying a program as a fuel substitution program is the effect on fuel choice of the customer, not the effects on utility generation.

2. The fuel substitution definition should be broadened to include all fuels, and the definition should acknowledge the analytical constraints involved in quantifying the cost-effectiveness of the program. The burden of proof in demonstrating that these programs are cost-effective should be on the proponent. Two types of fuel substitution are to be defined: 1) between utility-delivered fuels (stationary) and 2) between utility-delivered fuels and other private delivery fuels (both stationary and mobile).

3. Fuel substitution is defined as programs which are intended to substitute energy using equipment of one energy source with a competing energy source. This definition would be used with the footnoted stipulation that "energy source" refers only to utility supplied electricity and natural gas. As the analytical constraints become less restrictive for alternate fuels, this stipulation could be broadened accordingly.

Electric Fuel Substitution: Programs which promote the customer's choice of electric service for an appliance, group of appliances, or building rather than the choice of service from a different fuel. These programs increase customers' electric usage and decrease usage of utility-supplied natural gas. Electric fuel substitution includes Bypass Deferral Special Contracts which cause the deferral or avoidance of the installation of gas-fired equipment which would have been used to produce electricity for the customer's use, and are negotiated and established pursuant to CPUC procedures. Contract provisions may include a discounted rate, conservation and/or load management incentives, or a combination of rate and conservation/load management incentives.

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Workshop non-consensus: Electric Fuel Substitution: Programs which promote the customer's choice of utility-delivered electric service for stationary energy using equipment rather than utility-delivered natural gas. These programs increase customer electric usage and decrease usage from utility-supplied natural gas.

Gas Fuel Substitution: Programs which promote the customer's choice of natural gas service for an appliance, group of appliances, or building rather than the choice of service from a different energy source. These programs increase customer usage of natural gas and decrease usage of an alternative fuel.

Workshop non-consensus: Gas Fuel Substitution: Programs which promote the customer's choice of utility-delivered natural gas service for stationary energy using equipment rather than utility-delivered electricity. These programs increase customer natural gas usage and decrease usage from utility-supplied electricity.

IV. LOAD RETENTION AND LOAD BUILDING

Workshop consensus: Load Retention and Load Building should be defined separately:

[Load Retention and Load Building programs are defined as programs which have the effect of increasing the annual sales/consumption of one fuel without affecting the customer's use of other fuels.]

Load retention consists of programs which provide an incentive or substantial technical assistance and which defer or change a customer decision to terminate or reduce utility service. In addition to retaining utility-supplied gas and electric loads, the program may cause a change in the mix of electric and gas loads. Load retention activities which are directed primarily towards electric loads are classified as "Electric Load Retention" programs. Load retention activities which are directed primarily towards natural gas loads are classified as "Gas Load Retention" programs. (In its comments, DRA stated that "utility-delivered" should replace "utility-supplied.")

Load building programs are defined as programs which have the effect of increasing the annual sales/consumption of one or both utility-supplied fuels without decreasing the consumption of either fuel. Load building activities which are directed primarily toward electric load are classified as "Electric Load Building" programs. Load building activities which are directed primarily toward natural gas loads are classified as "Gas Load Building" programs.

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(In its comments, DRA stated that "utility-delivered" should replace "utility-supplied."

Non-consensus item: In its comments to the draft report, DRA proposed this modification to the RRM definition: Load Retention and Load Building programs are defined as programs which have the effect of increasing the annual sales/consumption of utility - delivered electricity and/or natural gas with minimal or no reductions in the use of either electricity or natural gas. Programs, and associated increases in loads, are directed toward stationary energy using equipment.

Non-consensus item: In its comments to the draft report, DRA proposed the addition of a new and separate DSM program category to address Alternative Fuel Vehicle (AFV) activities of the utilities.

Alternative Fuel Vehicle Programs: Utility-sponsored activities which provide financial incentives or substantial technical assistance for the promotion of electric or natural-gas vehicles. Activities which entail the assessment of markets and system impacts of alternative fuel vehicles are also included.

Workshop consensus: Delete the separate definitions for electric load retention, electric load building, natural gas load retention and natural gas load building.

V. MEASUREMENT AND EVALUATION PROGRAMS

Workshop non-consensus: The following categories were proposed to be added or modified:

I. General Measurement: General measurement consists of those supporting data collection activities that are of common interest across all demand analysis activities within the utility, including demand forecasting, program evaluation, measure evaluation, and other ongoing efforts.

IA. Load Metering: consists of a series of studies that collect, analyze, store and distribute actual consumption data for customer classes and end-uses through physical measurement and correlation with short units of time. These data support rate setting, system load impact analyses, peak demand forecasting, and other analytic activities requiring knowledge of the time variation of customer loads.

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IB. Saturation Surveys: Activities related to the planning, collection, storage, analysis and distribution of information about specific customers done as part of an effort to understand building characteristics, appliance holdings, DSM measures installed, customer behavior, and general customer energy usage of broad classes of customers.

IC. Other Measurement: consists of those support activities including SIC coding of customers, collection of weather station data, and other evaluation support activities.

II. Program Evaluation and Development: consists of those activities necessary to understand the impacts of programs to design new or revised delivery mechanisms, and the reporting of results pursuant to the Reporting Requirements Manual and other requirements.

IIA. Program Evaluation: The set of activities needed to determine accurate estimates of energy and peak savings for individual operating programs. This would include efforts to assess the persistence of measure performance and savings over time as well as the impact of programs on the incremental cost of measures over time. It also includes efforts to assess the net energy impacts of any particular program.

IIB. Program Development: consists of those exploratory efforts to develop improved program designs, including new delivery mechanisms, process evaluations, and what the Collaborative described as formative studies.

IIC. Program Reporting: consists of those activities needed to collect descriptive information related to the achievements and scope of all operating DSM programs, irrespective of type.

III. Technology Assessment: consists of those activities collectively designed to evaluate the performance of stationary technologies in the field and to determine the impacts of increases in market share for each technology on the utility system or other broad planning criteria.

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IIIA. Technology Evaluations: activities which install, measure, record, and evaluate the performance of equipment within the facilities of customers. All elements of engineering performance and customer satisfaction with the equipment, including comparisons with other equipment options, are legitimate activities. Both new and existing measures are eligible. Load metering of the specific load profile of each technology is also included here.

IIIB. Market Research: activities which are needed to quantify or assess the potential for deployment of a particular measure of technology into the customer base of the utility or the energy consumers of the utility's franchise service area.

IIIC. Program Support: activities which are needed to provide centralized engineering support to multiple programs in the field, or to provide coordination with non-utility programs.

IIID. Planning Model Development: activities related to developing, improving, or enhancing energy demand forecasting, integrated resource planning, and emission projection models for the purposes of baseline demand forecasts, DSM program evaluations, DSM potential evaluations, or comparative studies of DSM versus generation resource additions.

IIIE. System Impact Assessments: activities related to implementing energy demand forecasting, resource planning, or emission projection models to evaluate the system impacts of DSM measures and technologies.

IV. Alternate Vehicle Assessment: consists of those activities collectively designed to evaluate vehicular technologies in the field and to determine the impacts of substantial deployment of the technology across the customer base of the utility.

IVA. Technology Evaluations: activities which support acquisition, measurement, data recording, and evaluation of the performance of alternate fuel vehicles in the normal patterns of usage of customers. All elements of engineering performance and customer satisfaction with the vehicle and associated equipment, including comparisons with other equipment options, are legitimate activities.

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IVB. Market Research: activities which support understanding of consumer purchase and utilization of vehicles, operating patterns, scope of market niches for different size and type of vehicles, projections of consumer acceptance under various programmatic influences, and related activities. Assessment of proposed DSM programs and/or rates to control refueling is included.

IVC. Transportation Modeling: activities which support development of transportation sector modeling, including consumer purchase decisions, vehicle usage decisions, response to policy initiatives, tradeoffs between vehicle features and attributes, and other vehicle demand aspects required in making projections of system impact assessments.

IVD. System Impact Assessment: activities which support understanding of the impact of substantial penetration of alternate fuel vehicles on utility systems, including need for resource additions, infrastructure support requirements, and other rate impacts on utility customers.

PROGRAM ELEMENT DEFINITIONS

Workshop consensus: Add the following program elements:

SPCL (q) = space cooling, natural gas
SPCL (qHP) = space cooling, natural gas heat pump
SPHT (qHP) = space heating, natural gas heat pump

Workshop non-consensus: Add the following program elements:

NGV = natural gas vehicle
FUEL CELL (q) = natural gas fuel cell

(END OF ATTACHMENT 1)

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SUMMARY OF COST-EFFECTIVENESS AND OTHER ISSUES
CONSIDERED AT THE APRIL 20-22 WORKSHOPS

Fuel Substitution Programs - Cost-effectiveness Criteria:

In general, workshop participants agreed to a three-prong test that evaluates the net impacts of each fuel substitution program on: (1) the environment, (2) source-BTU consumption, and (3) total resource costs. Parties did not agree, however, on whether the program must pass the environmental or source-BTU tests to be considered further for funding, or whether it is sufficient for utilities to disclose the results of the tests with a corresponding burden of proof to justify the program if it fails the tests. (See Table 1.)

1. **The environmental prong:** The NRDC proposed that the environmental test apply the environmental values developed in the Biennial Resource Update Proceeding (Update). Under this proposal, a fuel substitution program could not be a viable consideration unless it (1) passes the full TRC test (which now includes environmental factors) and (2) passes an "environmental TRC" with a score of at least 1.0. NRDC defined this as the net present value of the values adopted in the Update for "residual" emissions. The second test, then, would compare quantified environmental costs with and without the program using BRPU values; that is, the net environmental benefits would be compared. This two-stage testing is designed to counteract programs which may be very cost-effective from the full TRC perspective, but which may have very costly environmental impacts. SCE supports this approach.

DRA proposed a less restrictive test. For fuel substitution programs, a net environmental benefit must be demonstrated, as well as total cost-effectiveness by the TRC test. If a program is cost-effective, but fails the environmental test, the burden of proof to justify funding is on the proponent.

2. **The reduction in source BTU prong:** The second prong of the fuel substitution criteria was proposed by the CEC. In its view, fuel substitution programs which are energy efficient should be evaluated from the perspective of their impact on overall energy use (in source BTU terms) given a comparable level of service.

The more restrictive test consists of the proponent demonstrating that less overall nonrenewable energy use occurs with a comparable level of service, with the burden of proof on the proponent. The relaxed test consists of a reporting requirement only, and a burden

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of proof to justify a negative result. All proponents of fuel substitution programs must disclose the source BTU impacts, using the current CEC-established heat rate.

3. The TRC prong: The third prong of the proposed cost-effectiveness criteria for fuel substitution programs is related to the strength of the TRC for these programs. Several parties believe that a more stringent TRC (of 1.20 or 1.25) should be required.

4. In its comments to the draft report, DRA proposed that the following language be added to Rule 13:

Relatively high levels of uncertainty about procedures for calculating gas marginal costs [and] the lack of a resource planning framework which assesses trade-offs between the resource and environmental benefits of gas versus electric usage suggest the need for caution in using a simple TRC test result. Each element of each fuel substitution program, therefore, should have a demonstrated TRC cost-effectiveness benefit cost ratio of at least 1.20. In addition, the Commission expects a showing by program proponents that the benefit-cost analysis includes environmental factors relevant to the electric and gas usage affected by the element, as well as any technology-specific environmental considerations not captured by the avoided costs used in the TRC calculations. With the environmental showing, project proponents are expected to demonstrate that quantified environmental benefits exceed quantified environmental costs.

New Construction Programs - Cost-effectiveness Criteria:

In the workshop, there appeared to be polar positions in the approach to new construction cost-effectiveness criteria, epitomized by the proposals of PG&E and DRA. Since then, however, PG&E and DRA have completed a joint stipulated recommendation regarding PG&E's proposed DSM activities for its 1993 General Rate Case (Application 91-11-036). PG&E now agrees with DRA on the reclassification and definition of certain CBE programs, particularly new construction programs. It is PG&E's intention that the positions taken in the joint recommendation be consistent with the outcome of this workshop. CACD has described the original positions for purposes of a clear and complete record of the workshop discussion, as well as to reflect the positions of other parties who agreed with PG&E's original arguments.

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1. PG&E believes that new construction programs have a dual purpose: delivery of resource value and support for new energy efficiency standards. PG&E regards New Construction as a market sector, rather than a program, and, therefore, proposes to develop resource, equity, service, commercialization, and demonstration programs within that sector.

2. In contrast, DRA stated that the primary purpose of new construction programs is to support higher energy efficiency standards. Strict adherence to the TRC test should not be required. In the pending PG&E and SDG&E General Rate Cases (GRC), DRA has proposed an incentive mechanism for new construction programs that is designed to promote these standards. DRA recommended that a new Rule 11(a) be adopted:

New Construction programs should be designed, funded, and implemented in a manner which effectively promotes the development of future, higher efficiency standards by the CEC, as well as the objectives of Public Utilities Code 701.1. In conjunction with the CEC standards, utility New Construction programs should provide resource benefits in the form of reduced demand to be met by the utility electric and gas systems. For each New Construction program (residential and nonresidential), the TRC test should be used as the primary indicator of cost-effectiveness for the program as a whole. Individual measures or program elements promoted by each program, however, need not indicate cost-effectiveness with the TRC test. Cost-effectiveness of individual measures, as well as the program as a whole, should account for and facilitate the promotion of measures which conform with the cost-effectiveness criteria and source BTU criteria that will be used in setting future, more energy efficient standards by the CEC.

End-Use RD&D and DSM Coordination

Workshop non-consensus:

DRA proposed in its comments to the Order Instituting Rulemaking (R. or Rulemaking) 91-08-003 that better coordination among and between utility end-use Research, Development, and Demonstration (RD&D), California Institute of Energy Efficiency (CIEE), and DSM program activities can be realized by transferring the funding and reporting of utility end-use RD&D and CIEE projects into the DSM budget. During the workshop, DRA presented an alternate proposal, which is now its preferred proposal: Instead of the

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proposed funding linkage between end-use RD&D and DSM budgets, the Commission could adopt a set of rules which would establish Commission policy regarding such coordination.

1. Proposed Rule 30: The portion of utility RD&D activities which focuses on technologies which affect customer energy use should be closely coordinated with DSM measurement and program implementation. End use RD&D activities should be primarily for technologies which would, if included in a future DSM program, support the types of DSM program priorities established in this Rulemaking.

All parties agreed that the end-use RD&D utility staffs and the Measurement & Evaluation staffs should coordinate closely; however, there was no consensus on DRA's proposal that end-use RD&D activities be funded primarily for technologies which would support DSM program priorities established in the Rulemaking.

2. Proposed Rule 31: End-use RD&D activities may include the testing and assessment of promising future technologies installed in customer premises. When the end-use RD&D activities involve testing at a customer premise, such assessments should be restricted to a highly limited number of sites and project management for this project should include utility DSM personnel. More expansive testing of, or efforts to commercialize, emerging technologies should be proposed and implemented as part of utility DSM budgets, not end-use RD&D.

Parties could not agree on the premise underlying this proposed rule, nor could workshop participants agree on language changes that would lead to consensus on the proposed delineation between RD&D testing and DSM commercialization of emerging technologies.

3. Proposed Rule 32: The primary focus of utility end-use RD&D and utility RD&D expenditures directed to the California Institute for Energy Efficiency (CIEE) should be for planning, funding, and management of research and prototype testing of emerging energy efficiency technologies which could become part of a utility energy efficiency program within five to seven years. A primary product of utility-funded CIEE activities should be an assessment of the likely costs and load reductions from emerging technologies, for inclusion in the CEC's Conservation Inventory.

DRA believes that this will encourage the CIEE to shift its strategies from long-term to mid-term projects. The Research Board of the CIEE discussed this policy issue on June 2, and informed CACD that it opposes DRA's proposal. The Board feels

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that current policies regarding regulatory oversight of utility RD&D programs are adequate and that proposed Rule 32 is not fully consistent with the established CIEE mission. The Board is also concerned about reference to a primary product of CIEE being an assessment of the likely costs and load reductions from emerging technologies. Such assessments would have substantial budgetary implications and would involve a shift in program emphasis. The CIEE will continue to investigate this area with its Planning Committee.

TABLE 1
Summary of Positions on Fuel Substitution Issues

	Environmental Test		Source BTU Reduction		TRC Test
	Threshold Disclosure		Test Threshold Disclosure		
PG&E	No	Yes	No	Yes	= or > 1.0
Edison	Yes	No	Yes	No	= or > 1.0
SDG&E	No	Yes	No	Yes	= or > 1.25
SoCal	No	Yes	No	Yes	= or > 1.0
DRA	No	Yes	No	Yes	= or > 1.20
CEC	No	Yes	Yes	Yes	= or > 1.20
NRDC	Yes	No	No	Yes	= or > 1.20

(END OF ATTACHMENT 2)

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ADOPTED RULES, TERMS AND DEFINITIONS
FOR DEMAND-SIDE MANAGEMENT PROGRAMS¹

I. Resource Planning and DSM Program Definitions

1. This Commission's goal for utility resource procurement is reliable, least cost, environmentally sensitive energy service. Using energy more efficiently constitutes an important means of achieving this goal. The utilities should treat energy efficiency improvements and energy conservation as viable alternatives to supply-side resource options.

2. Lost opportunities are those energy efficiency options which offer long-lived, cost-effective savings and which, if not exploited promptly, are lost irretrievably or rendered much more costly to achieve. In developing funding priorities for cost-effective DSM activities, the utilities should consider capturing lost opportunities as an additional ranking criterion for programs with Total Resource Cost benefit-cost ratios greater than 1.0. The utilities should submit a detailed account of strategies designed to capture lost opportunities with any request for shareholder incentive mechanisms and/or for increases in DSM program funding.

¹ Additions to the DSM rules, terms, and definitions adopted in D.92-02-075, and corrected in D.92-03-007, are underlined.
Deletions are struck-out.

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3. As defined by the Collaborative, "cream skimming" results in the pursuit of only the lowest cost conservation and load management measures, leaving behind other cost-effective opportunities. Cream skimming becomes a problem when lost opportunities are created in the process. Utilities should pursue the most cost-effective DSM resource programs first, if doing so does not create lost opportunities.

4. To ensure optimal funding of DSM activities requires consistent treatment of programs across utilities and across regulatory forums. Common terms and program definitions help ensure consistent treatment. ~~On an interim basis, The utilities should use the definitions included in the Appendix to these rules when characterizing any proposed program. The burden is on the utility to justify any departure from them. We will consider modifying these terms and definitions after we receive the workshop report described in Sections IV.B and V.B of this order. The Reporting Requirements Manual should be updated to include the final version of the terms and definitions included in the Appendix.~~ This OIR will remain open to accommodate future requests to modify the terms or definitions proposed herein or to add new terms or definitions.

II. Cost-Effectiveness Indicators

5. The tests in the Standard Practice Manual (SPM) help assess the variety of effects associated with new or expanded DSM programs. The tests in the SPM will serve as the standard for determining DSM program cost-effectiveness until a methodology is

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established that allows for the side-by-side comparison of demand- and supply-side resources. The utilities should perform cost-effectiveness analyses for any proposed DSM program consistent with the indicators and methodologies included in the SPM. The utility should, to the extent practicable, perform each of the tests included in the SPM for any proposed DSM program.

6. This Commission relies on the Total Resource Cost Test (TRC) as the primary indicator of DSM program cost effectiveness. This reflects our view that utility DSM activities should focus on programs that serve as alternatives to supply-side resource options. Energy efficiency programs and load management programs which promote energy efficiency serve as such alternatives because they reliably reduce a utility's fuel and/or capacity needs.

7. To the extent practicable, nonprice factors should be considered along with price factors in utility resource procurement. Insofar as nonprice factors developed in the Biennial Resource Plan Update (Update) for supply-side resources affect DSM programs, the utility should include them in cost-effectiveness analyses consistent with their development in the Update. Electric utilities should use the forum described in Decision 91-10-048 to publish information on transmission and distribution costs. This information should be used consistently across all resource options for the purpose of quantifying avoided transmission and/or distribution costs.

8. Resource value refers to the ability of a DSM program to reliably reduce utilities' fuel and/or capacity needs. For DSM programs designed to defer or avoid these requirements, the resource value associated with such programs should be consistent

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with the avoided costs of electric service adopted in the Update and, when completed, the avoided costs of natural gas service adopted in Investigation 86-06-005. These values should be used in applicable cost-effectiveness analyses and when calculating shareholder incentives. We will address the issue of consistency between resource planning determinations and DSM funding authorizations in this OIR/OII, after CACD's workshop report is submitted (see Sections IV.F and V.B of this order.)

9. Insofar as a DSM program results in indirect costs, they should be considered. The speculative nature of any attempts to quantify indirect costs significantly reduces their applicability as an analytic tool at this time. These costs should therefore not be required in any of the cost-effectiveness tests included in the SPM. The issues related to indirect costs of DSM programs are technical in nature. The SPM working group, which is convened by the CPUC and the CEC, represents the appropriate forum for considering indirect costs as they apply to DSM programs.

10. Shareholder incentives represent a true economic cost in the production of utility DSM programs and should be included as a direct cost in the TRC test, the Rate Impact Measure, and the Utility Cost test. The SPM working group should consider the appropriate treatment of shareholder incentives in the societal test variation, i.e., as a transfer payment or direct cost.

11. The usefulness of the TRC test as a primary indicator of cost-effectiveness is limited for certain programs which do not necessarily focus on the timing or type of resource needs of the utility. Direct Assistance programs address equity concerns; as such, positive cost-effectiveness shall be an important, but not

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the sole, factor used to determine funding levels for these programs. Cost-efficiency is also important in the conduct of Direct Assistance programs. For Information Programs and Energy Management Services, the link between programs and savings is difficult to discern. Strict adherence to the TRC should not be required for these programs. ~~We will consider addressing the applicability of the TRC test to New Construction Programs in these Rules after we receive the workshop report described in Sections IV.B and V.B of this order.~~

New Construction Programs should be designed, funded and implemented in a manner which effectively promotes the development of future, higher efficiency standards by the CEC, as well as the objectives of Public Utilities Code § 701.1. In conjunction with the CEC standards, utility New Construction Programs should provide resource benefits in the form of reduced demand to be met by the utility electric and gas systems. Utility New Construction programs should also be designed to minimize lost energy efficiency opportunities.

For each New Construction Program (residential and nonresidential), the TRC test should be the primary indicator of cost-effectiveness for the program as a whole. Each program as a whole must pass the TRC test; individual measures or program elements promoted by each program need not indicate TRC cost-effectiveness. However, fuel substitution activities in the new construction sector must be evaluated using the criteria established in Rule 13. The utilities' cost-effectiveness analyses should be accompanied by source-BTU and other information that will be useful for CEC standard-setting.

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12. Load Building and load retention programs lack resource value, and the TRC does not apply to these programs. Though utility DSM activities should focus on energy efficiency programs and load management programs which promote energy efficiency, the pursuit of certain load building or load retention programs may achieve other policy goals. Proponents of these programs carry the burden of proof to quantify the social or ratepayer benefits, and justify any ratepayer funding for these programs.² General conclusions about the net benefits of these types of programs should be backed by program specific analysis. In particular, for load building programs utilities should quantify the programs' net effect on air emissions, including increased emissions from the increased load on the system. The utility should design any load building or load retention program so as to avoid frustrating this Commission's goal of encouraging energy efficiency and energy conservation. We intend to adopt more specific evaluation and funding guidelines for these types of programs in a later phase of these proceedings.

13. Fuel substitution programs may offer resource value and environmental benefits. ~~We currently lack a framework to assess the tradeoffs between gas and electric DSM programs that compete to provide the same service.~~ Fuel-substitution programs should

2 Proponents of fuel substitution programs with a predominantly load building or load retention character must, however, demonstrate that the program is source-fuel efficient and does not degrade the environment, pursuant to Rule 13.

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reduce the need for supply without degrading environmental quality. ~~The TRC test should be the primary indicator of cost-effectiveness for fuel-substitution programs that meet these criteria. We will consider adopting more specific evaluation criteria for fuel substitution programs in these Rules after we receive the workshop report described in Sections IV.B and V.B of this order.~~

Fuel-substitution programs, whether applied to retrofit or new construction applications, must pass the following three-prong test to be considered further for funding:

- (1) The program must not increase source-BTU consumption. Proponents of fuel substitution programs should calculate the source-BTU impacts using the current CEC-established heat rate.
- (2) The program must have a TRC benefit-cost ratio of 1.0 or greater. The TRC test used for this purpose should be developed in a manner consistent with Rules 7-10.
- (3) The program must not adversely impact the environment. To quantify this impact, respondents should compare the environmental costs with and without the program, using the most recently adopted values for residual emissions in the Update.

We discourage utilities from pursuing fuel substitution programs with a predominantly load building or load retention character. For these types of programs, the utility carries the burden of proof to demonstrate that the benefits of the program justify relaxing our focus on energy efficiency programs.

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V. Shareholder Incentives

14. The Electric Revenue Adjustment Mechanism and Core Fixed Cost Account remove significant ratemaking disincentives for utilities to invest in demand-side management. To further ensure that demand-side management programs which result in, or promote, energy efficiency are not disadvantaged in utility resource procurement decisions, we initiated a pilot program of shareholder incentives in D.90-08-068. Shareholder incentives can help ensure that the utility is motivated to procure the least-cost resources by providing a comparable opportunity for earnings from prudent investments in both demand- and supply-side alternatives. We will examine the effectiveness of the specific incentive mechanisms adopted in D.90-08-068, the longer term role of shareholder incentives in resource procurement and revisit the issue of earnings comparability after CACD's report to the Legislature is submitted in late 1992.

15. The differences among utility shareholder incentive mechanisms approved in D.90-08-068 should eventually converge toward a more uniform, statewide approach. Pending CACD's report on shareholder incentives, it is appropriate to establish a limited number of guiding principles governing future shareholder incentives. These principles should apply to shareholder incentive mechanisms proposed after the final adoption of this rulemaking.

16. Shareholder incentive mechanisms should be designed to encourage energy efficiency and load management programs that promote energy efficiency. Load building and load retention programs should not be eligible for shareholder incentives. Fuel

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substitution programs should also be ineligible pending resolution of the technical issues associated with assessing the benefits to ratepayers of these programs.

17. Shareholder incentive mechanisms should balance risk and reward. Coupling rewards for good performance with penalties for poor performance represents a reasonable way of achieving that balance. Any proposed shareholder incentive mechanism should therefore include minimum performance requirements and accompanying penalty features. The utilities should focus minimum performance requirements on efforts to achieve cost-effective energy efficiency opportunities, and in particular, on those which represent potential lost opportunities.

18. Shareholder earnings derived from a shared-savings approach to incentives reflect the value of the energy saved. Incentive mechanisms that determine earnings based solely on program expenditures are unrelated to that value. Thus, for programs whose savings can be reasonably estimated, a shared-savings approach is superior. Shareholder incentive mechanisms should be based on a shared-savings approach for programs whose savings can be reasonably estimated. We will defer the application of shared savings to SoCal's programs until after gas marginal costs are adopted in I.86-06-005.

19. As an interim policy, shareholders' rate of return on DSM programs should be no greater (and could be lower) than shareholders' rate of return on utility-constructed plants. On an interim basis, this policy should be applied to specific shareholder incentive mechanisms, as follows:

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- o For incentive mechanisms based on program expenditures, such as SoCal Gas' current variable rate of return mechanism, the earnings rate on program costs should not exceed (and could be lower than) the authorized rate of return on utility constructed plants;
- o For shared-savings mechanisms using an "S-curve" function, such as the mechanism adopted for SCE in its recent GRC, the incentive payment target should be calculated using forecasted utility expenses at 100% of forecasted net savings, times a rate that is no higher (and could be lower) than the authorized rate of return on utility constructed plants; and
- o For "flat rate" shared-savings mechanisms, such as the ones adopted for SDG&E and PG&E in D.90-08-068, the shared savings rate should not exceed (and could be lower than) the authorized rate of return on utility constructed plants.

We will revisit the issue of comparable earnings and earnings limits/caps in a later phase of this proceeding, after CACD's report has been submitted.

VI. Measurement, Evaluation, and Accounting

20. The stable development of DSM programs that deliver reliable energy savings for California's ratepayers depends on well-designed methods of program measurement and evaluation. Thoughtful measurement and evaluation practices are required to gauge utility performance, verify energy savings, and improve the design and success of future DSM programs. The utilities should make program measurement and evaluation a priority.

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21. It is reasonable to base shareholder incentives on prespecified savings until we can implement a shift from prespecified savings estimates to ex post verification made after program implementation. Though prespecified savings estimates increase risks to ratepayers, the measurement protocols developed as part of the Blueprint help mitigate these risks. To implement the shift to ex post verification, we will conduct a consolidated measurement and evaluation (M&E) phase in this Rulemaking and Companion Investigation. This M&E phase will serve as the forum for addressing the following types of measurement-related issues:

- o Pre-Implementation Measurement. The acceptable methods and procedures for estimating, prior to program implementation, the various program impact parameters for DSM programs. These include the load impacts (and its components), participation level, utility costs, total costs and useful lives of DSM measures.
- o Post-Implementation Measurement. The acceptable methods and procedures for measuring DSM program impacts after program implementation. This includes developing guidelines for M&E activities beyond current activities.
- o Incorporating the Results of Measurement Studies. Using the results of M&E activities to (1) refine pre- and post-implementation measurement protocols, (2) adjust forecasts of DSM program savings, and (3) adjust shareholder earnings under a shared-savings mechanism.

We intend to base payments of shareholder incentives on post-installation verified savings, for all shared-savings programs authorized as of January 1, 1994, using the protocols adopted in the M&E phase. Verification may be in the form of metered results, sample bill analysis, or other post-installation measurement

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methods that we deem appropriate. As part of the M&E phase, we will consider procedural options for refining and updating M&E protocols on an on-going basis.

22. It is important that forecasts of DSM savings be reliable in meeting California's energy needs. Rigorous measurement and evaluation enhances the reliability of these forecasts. The utility will include a comprehensive and aggressive measurement plan with any request for DSM funding which includes shareholder incentives. For programs authorized for 1992 and 1993, this plan should be consistent, at a minimum, with the protocols contained in Appendix A of the Collaborative Blueprint. For programs authorized for 1994 and beyond, this plan should be consisted with the protocols adopted in the M&E phase of these proceedings.

23. The utility should explicitly quantify the following for any proposed shareholder mechanism:

- o The rate effects of both the program incentive and programs costs to which the incentive will apply;
- o The program's net resource savings; and
- o The timing of both rate effects and resource savings.

24. The DSM Advisory Committees provide an informal forum for parties to review utility programs and to work with the utility on any proposed changes to its programs. These activities can augment effective program implementation. The utilities should continue the Advisory Committees. For the Committees to be effective, the utilities should clearly define the role of the Committee and the input it seeks; provide the Committee with comprehensive information on program implementation activities; notify Committee

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members in a timely fashion of proposed program changes; provide adequate information supporting such changes; and coordinate Committee activities with current and anticipated regulatory proceedings and other review procedures. To this end, respondents should establish a single clearinghouse for all Advisory Committee noticing and scheduling, as described in Section IV.H of this order.

25. We intend to improve the consistency with which DSM programs are treated across utilities and across regulatory forums by initiating the consolidated M&E phase described in Rule 21 and by addressing generic policy and methodological issues in this Rulemaking and Companion Investigation. Determinations made in these proceedings should be used in any subsequent utility-specific proceedings. We may also consider further consolidation of DSM-related issues at a later stage of these proceedings, after our generic investigation on ratemaking (R.90-02-008/I.90-08-006) is completed.

VII. Bidding

26. Introducing competition into the utility's acquisition of demand-side resources offers great potential for achieving our goal of reliable, least cost, environmentally sensitive energy service.

27. The utilities will work with the Division of Strategic Planning (DSP) to develop and implement several DSM pilot bids. PG&E has volunteered to conduct a pilot bid based on a partnership approach. Public Utilities Code § 747 requires this Commission to test at least one DSM-only bid, an integrated

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resource bidding pilot, and a DSM bidding pilot for gas utilities. As one of their DSM-only bid pilots, respondents should test at least one replacement bid. CACD will perform an evaluation of the pilots, in consultation with the California Energy Commission. This Commission will submit its report, with any recommendations, to the Legislature by January 1, 1993.

28. The bid pilots should be designed to ensure that 1) the procurement process is fair, 2) contract terms equitably share risks, and 3) utility market power is mitigated. To the extent practicable, the bidding pilots should incorporate both price- and non-price factors for all DSM programs.

29. Each of the pilots, including PG&E's, will be addressed in the investigation opened in conjunction with this rulemaking.

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DSM PROGRAM TERMS AND DEFINITIONS

Lost Opportunities

Efficiency measures which offer long-lived, cost-effective savings that are fleeting in nature. A lost opportunity occurs when a customer does not install an energy efficiency measure that is cost-effective at the time, but whose installation is unlikely to be cost-effective later. ~~If these measures are not exploited promptly, the opportunities are lost irretrievably or rendered much more costly to achieve.~~

Cream Skimming

~~Designing and implementing only the lowest cost energy efficiency programs and load management programs which promote energy efficiency while leaving behind other cost-effective opportunities for energy efficiency.~~ Cream skimming results in the pursuit of a limited set of the most cost-effective measures, leaving behind other cost-effective opportunities. Cream skimming becomes a problem when lost opportunities are created in the process.

Resource Value

~~A measure of the extent to which energy efficiency and load management programs reliably reduce utilities' fuel and/or capacity needs.~~ An estimate of the reliable energy (e.g., kWh, therms) and capacity (e.g., kW, Mcfd) reductions resulting from a DSM program. The calculation of resource value and associated benefits should be consistent with the avoided costs of electric service adopted in the Biennial Resource Plan Update and, when completed, the avoided costs of natural gas service adopted in Investigation 86-06-005.

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Uneconomic Bypass

Customer power generation or supply at a cost less than utility retail tariffs, but above utility marginal cost to serve. Electric bypass deferrals may or may not include a corresponding opportunity cost due to the potential loss in natural gas sales. An opportunity cost is realized if the customer would have installed natural gas-fired generation equipment to produce electricity for the customer's use.

I. Conservation and Energy Efficiency Programs

Conservation programs are defined as programs which have the effect of reducing consumption of at least one fuel during most or many the hours of operation of the equipment or building affected by the measure. Energy efficiency programs are defined as programs which reduce energy use for a comparable level of service.

Residential Conservation and Energy Efficiency

Residential Information Programs: Programs intended to provide customers with information regarding generic (not customer-specific) conservation opportunities. For these programs, the information is unsolicited by the customer. Programs which provide incentives in the form of unsolicited coupons for discounts on low cost measures are included.

Residential Energy Management Services: Programs intended to provide customer assistance in the form of information on the relative costs and benefits to the customer of installing measures or adopting practices which can reduce the customer's utility bills. The information is solicited by the customer and recommendations are based on the customer's recent billing history and/or customer-specific information regarding appliance and building characteristics.

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Residential Weatherization Retrofit Incentives: Programs which provide financial incentives (rebates, low-interest loans) to install weatherization measures in existing buildings. ~~The incentives are solicited by the customer and based on the customer's billing history and/or customer-specific information regarding appliance and building characteristics.~~ Incentives are predominantly weatherization measures that affect the building shell. Incentive payments for other measures (nonbuilding shell) are included, if usually when provided in connection with building shell materials.

Residential New Construction: Programs which provide financial incentives or significant technical assistance to builders of new residential structures, with the primary purpose of exceeding existing energy efficiency Title 24 standards. Program activities include fuel substitution activities when promoted as an integrated package of measures which promote electric and gas energy efficiency. If the building type is not subject to Title 24 standards, New Construction programs should offer financial incentives or technical assistance to exceed energy efficiency over currently acceptable standard practice for these facilities. New Construction programs include education and support activities for designers, architects, building officials, and other parties who may influence the supply of and demand for buildings that are more efficient than Title 24 requires (or current practice if Title 24 does not apply). ~~The incentives are intended to lead to the installation of more energy efficient materials or appliances than would have been installed in the absence of the program.~~

Appliance Efficiency Incentives: Programs which provide incentives to customers in existing residential structures. The incentives are intended to lead to the installation of a more efficient appliance than would have been installed in the absence of the program. Incentives are paid (to manufacturers, salespersons, or customers) for the replacement of an existing appliance or the installation of a new appliance in an existing residential building.

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Direct Assistance: Programs which are intended to provide assistance to low income or other "target" customer groups. Assistance consists primarily of full subsidies of the conservation measures. The primary purpose of the program is to serve an equity objective in assisting customers who are highly unlikely or unable to participate in other residential programs.

Master Meter: Program intended to reduce energy usage in existing residential structures which have master meters by replacing the master meter with individual meters.

Other Residential Conservation Programs: Any residential conservation program or program activities not defined above.

Nonresidential Conservation and Energy Efficiency

Nonresidential Information Programs: Programs intended to provide customers with information regarding generic (not customer-specific) conservation opportunities. For these programs, the information is unsolicited by the customer. Programs which provide incentives in the form of unsolicited coupons for discounts on low cost measures are included.

Commercial Energy Management Services: Services to customers in commercial buildings which provide customer assistance in the form of information on the relative costs and benefits to the customer of installing measures or adopting practices which can reduce the customer's utility bills. The information is solicited by the customer and is based on the customer's recent billing history and/or customer-specific information regarding appliance and building characteristics.

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Industrial Energy Management Services: Services to customers in industrial facilities which provide customer assistance in the form of information on the relative costs and benefits to the customer of installing measures or adopting practices which can reduce the customer's utility bills. The information is solicited by the customer and is based on the customer's recent billing history and/or customer-specific information regarding appliance and building characteristics.

Agricultural Energy Management Services: Services to customers in agricultural facilities which provide customer assistance in the form of information on the relative costs and benefits to the customer of installing measures or adopting practices which can reduce the customer's utility bills. The information is solicited by the customer and is based on the customer's recent billing history and/or customer-specific information regarding appliance and building characteristics.

Commercial Energy Efficiency Incentives: Programs which provide incentives to customers in existing commercial buildings. The incentives are intended to lead to the installation of a more efficient device(s) or systems utilizing the same energy source than would have been installed in the absence of the program.

Industrial Energy Efficiency Incentives: Programs which provide incentives to customers in existing industrial facilities. The incentives are intended to lead to the installation of a more efficient device(s) or systems utilizing the same energy source than would have been installed in the absence of the program.

Agricultural Energy Efficiency Incentives: Programs which provide incentives to customers in existing agricultural facilities. The incentives are intended to lead to the installation of a more efficient device(s) or systems utilizing the same energy source than would have been installed in the absence of the program.

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Nonresidential New Construction: Programs which provide financial incentives or significant technical assistance to builders of new nonresidential structures, with the primary purpose of exceeding existing energy efficiency Title 24 standards. Program activities include fuel substitution activities when promoted as an integrated package of measures which promote electric and gas energy efficiency. If the building type is not subject to Title 24 standards, New Construction programs should offer financial incentives or technical assistance to exceed energy efficiency over currently acceptable standard practice for these facilities. New Construction programs include education and support activities for designers, architects, building officials, and other parties who may influence the supply of and demand for buildings that are more efficient than Title 24 requires (or current practice if Title 24 does not apply). ~~The incentives are intended to lead to the construction and operation of equipment which is more efficient than would have occurred in the absence of the program.~~

Street Lighting Conversion: Programs designed to replace less efficient lighting equipment with more efficient lighting equipment in utility-owned street lights.

Other Nonresidential Conservation/Energy Efficiency Programs: Any nonresidential conservation program or program activities not defined above.

System Efficiency

Conservation Voltage Reduction: Programs which improve utility generation system efficiency by regulating the voltage levels of delivered electricity.

Other System Efficiency Programs: Any other program intended to improve the efficiency of utility-owned transmission or distribution facilities.

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II. Load Management

Load management programs are defined as any program which reduces electric peak demand or has the primary effect of shifting electric demand from the hours of peak demand to non-peak time periods, with a neutral effect on or negligible increase in electricity use.

Residential Air Conditioner Cycling: Programs which involve the installation of cycling devices on residential air conditioning equipment. Air conditioning loads are interrupted ("cycled" or "shed") by the utility at times of peak load.

Residential Time-of-Use: Programs intended to reduce customer bills and shift hours of operation of appliances to off peak periods through the installation of a time-of-use meter and the availability of time-differentiated rates.

Pool Pump Timer: Programs which involve the promotion of shifting pool pump hours of operation from on-peak to off-peak periods.

Nonresidential Air Conditioner Cycling: Programs which involve the installation of cycling devices on air conditioning equipment in nonresidential buildings. Air conditioning loads are interrupted ("cycled" or "shed") by the utility at times of peak load.

Nonresidential Time-of-Use: Program intended to reduce customer bills and shift hours of operation of equipment from on-peak to off-peak periods through the installation of a time-of-use meter and the availability of time-differentiated rates. Mandatory TOU participation is not included.

Thermal Energy Storage: Programs which provide financial incentives to customers or builders to install thermal storage equipment and materials capable of fully or partially storing thermal energy during nonpeak periods for use during peak demand periods.

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Interruptible/Curtailable: Programs which provide financial incentives in the form of reduced billing charges to customers in exchange for the capability of utility-initiated interruption or curtailment of service. Terms of the reduced service agreement (frequency, duration, penalty clauses, incentive levels, cost of equipment) are agreed to by contract.

Other Load Management: Any other load management program not defined above.

III. Fuel Substitution

Fuel Substitution programs are defined as programs which are intended to substitute (replace) energy using equipment of one fuel energy source with a different ~~fuel~~ competing energy source.³ ~~The programs are intended to influence the customer's choice between electric or natural gas service from the utility, with the effect of increasing sales/consumption from one fuel and decreasing sales/consumption from the competing fuel. The reference point for classifying a program as a fuel substitution program is the effect on fuel choice of the customer, not the effects on utility generation.~~

Electric Fuel Substitution: Programs which promote the customer's choice of electric service for an appliance, group of appliances, or building rather than the choice of service from a different fuel. These programs increase customers' electric usage and decrease usage of utility-supplied natural gas. Electric fuel substitution includes Bypass Deferral Special

³ "Energy source" currently refers only to utility-supplied electricity and natural gas. As the analytical constraints become less restrictive for evaluating alternative fuels, this stipulation may be broadened accordingly.

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Contracts which cause the deferral or avoidance of the installation of gas-fired equipment which would have been used to produce electricity for the customer's use, and are negotiated and established pursuant to CPUC procedures. Contract provisions may include a discounted rate, conservation and/or load management incentives, or a combination of rate and conservation/load management incentives.

Gas Fuel Substitution: Programs which promote the customer's choice of natural gas service for an appliance, group of appliances, or building rather than the choice of service from a different energy source. These programs increase customer usage of natural gas and decrease usage of an alternative fuel.

IV. Load Retention and Load Building

~~Load Retention and Load Building programs are defined as programs which have the effect of increasing the annual sales/consumption of one fuel without affecting the customer's use of other fuels.~~

Load retention consists of programs which provide an incentive or substantial technical assistance and which defer or change a customer decision to terminate or reduce utility service. In addition to retaining utility-supplied gas and electric loads, the program may cause a change in the mix of electric and gas loads. Load retention activities which are directed primarily towards electric loads are classified as "Electric Load Retention" programs. Load retention activities which are directed primarily towards natural gas loads are classified as "Gas Load Retention" programs.

Load building programs are defined as programs which have the effect of increasing the annual sales/consumption of one or both utility-supplied fuels without decreasing the consumption of either fuel. Load building activities which are directed primarily toward electric load are classified as "Electric Load

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Building* programs. Load building activities which are directly primarily toward natural gas loads are classified as "Gas Load Building" programs.

~~Electric Load Retention: Consists of Bypass Deferral Special Contracts, established and negotiated pursuant to adopted CPUC procedures, which defer or prevent a customer decision to terminate or substantially reduce electric utility service with no corresponding establishment of incremental utility-supplied natural gas purchases. Contract provisions may include a discounted rate, conservation and/or load management incentives, or a combination of rate discount and conservation/load management incentives.~~

~~Electric Load Building: Programs which have the effect of increasing electric annual sales/consumption without changes in the customer's use of alternate fuels. Increased sales/consumption is promoted by increased usage of existing electric equipment, or the addition of electric equipment/service when no meaningful alternative fuel source is available. Electric Load Building includes Incremental Sales Contracts negotiated and established pursuant to adopted CPUC procedures.~~

~~Natural Gas Load Retention: Consists of programs which provide an incentive to defer or prevent a customer decision to terminate or substantially reduce utility natural gas service, with no corresponding establishment of incremental utility-supplied electricity use by the customer.~~

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~~Natural Gas Load Building: Programs which have the effect of increasing gas annual sales/consumption without changes in the customer's use of alternate fuels. Increased sales/consumption is promoted by increased usage of existing natural gas equipment, or the addition of natural gas equipment/service when no meaningful alternative fuel source is available.~~

V. Measurement and Evaluation Programs

Measurement and Evaluation activities are defined as programs and activities intended to establish or improve the ability to measure and evaluate the impacts of demand-side management programs, collectively or individually.

Load Metering: Activities related to the collection, analysis and reporting of data obtained through the use of metering devices. Includes metering at the level of appliances within buildings as well as total building metering and class load metering. Metering activities are conducted on samples of customers for the primary purpose of obtaining consumption and demand estimates which are representative of a customer class, not of DSM program participants.

Customer Surveys: Activities related to the collection, analysis and reporting of data obtained from customer contacts (e.g. mail, telephone, on-site) regarding building characteristics, appliance holdings, energy efficiency measures in place, customer attitudes, or other information related to current or future energy usage patterns. Survey activities are conducted on samples of customers for the primary purpose of obtaining information about customers which are representative of a customer class not of DSM program participants.

New Technology Testing: Activities related to the measurement and assessment of demand-side technologies for possible inclusion in future C&LM programs. Costs associated with in-site testing and evaluation of measures or devices in a pilot program are included.

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Program Evaluation: Activities related to the collection, analysis, and reporting of data for purposes of measuring program impacts from past, existing or potential program impacts. Activities include program-specific evaluations as well as activities which evaluate more generic issues which are relevant to more than one program. Costs associated with the preparation of this Reporting Requirements Manual to the CPUC are included as a separate program within this category.

Other Measurement: Activities not listed above which contribute to the measurement of past, current, or future demand side program impacts.

VI. Other DSM Activities

Other DSM activities are defined as a residual category to capture expenditures which cannot be meaningfully included in the previously-defined DSM program categories. A primary element includes general administrative and support costs which cannot readily be attributable to the implementation of any specific DSM program.

Program Element Definitions

Description: "Program element" refers to either customer classes within sectors or to end uses/measures within customer classes or customer sub-classes.

Customer classes are defined by either rate schedule, SIC code, or energy consumption characteristics. "End use" refers to the purpose for which energy is used (see below); "measure" refers to specific customer actions which reduce or otherwise modify energy end use patterns.

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Customer Sub-Class Program Element Definitions: For the residential sector the following three types of program element sub-class designations should be used:

Single Family(SF)
Multi-Family(MF)
Mobile Home (MH)

For the nonresidential sector, sub-class program elements consist of customers classified by SIC code and size (consumption/demand). The size program element designations are as follows:

Large (greater than 500 kw)
Medium (less than 500kw and more than 49kw)
Small (less than 50kw)

Customer SIC-based program elements consist of the further disaggregation of "industrial" (per the program definition) into the four sub-class designations used by the CEC in the CFM process (TCU, Assembly, Process, and Mining/Extraction) and disaggregation of the Commercial Buildings into the 10 SIC-based building types used by the CEC.

End Use Program Element Definitions: Recommended end use definitions/acronyms for the residential sector are as follows :

SPHT(e)=space heating, electric;
SPHT(HP)=space heating, heat pump;
SPHT(g)=space heating, natural gas;
SPCL(C)=central electric air conditioner;
SPCL(Ev)=evaporative cooler;
SPCL(HP)=space cooling, heat pump;
SPCL(W)=window air conditioner;
WATHT(e)=electric water heating;
WATHT(g)=gas water heating;
REFR=refrigerator;
FREEZ=freezer;
COOK(e)=electric range;
COOK(g)=gas range;
LGHT=lighting;
PLPMP=pool pump;
SPCL(g)=space cooling, natural gas;
SPCL(qHP)=space cooling, natural gas heat pump;
SPHT(qHP)=space heating, natural gas heat pump.

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Recommended end use designations/acronyms for the commercial building sector are as follows:

LGHT(I)=indoor lighting;
LGHT(O)=outdoor lighting;
AC(e)=air conditioning, electric;
AC(g)=air conditioning, natural gas;
VENT=ventilation(motors/fans to operate HVAC equip);
SPHT(e)=electric space heating;
SPHT(g)=natural gas space heating;
WATHT(e)=electric water heating;
WATHT(g)=natural gas water heating;
RFR=refrigeration
COOK(e)=electric cooking;
COOK(g)=natural gas cooking;
MISC(e)=miscellaneous electric;
MISC(g)=miscellaneous natural gas;
SPCL(q)=space cooling, natural gas;
SPCL(qHP)=space cooling, natural gas heat pump;
SPHT(qHP)=space heating, natural gas heat pump.

Other Terms:

Useful Life: The length of time (years) for which the load impacts of a DSM measure/device is expected to last.

Load Impact Adjustments: Refers to any adjustments made to load impacts for purposes of valuing the impacts in the context of cost-effectiveness evaluation. The primary example would be the use of "Net-to-Gross" factors, as defined and used in the Standard Practice Manual for Economic Analysis of Demand-Side Management Programs, December, 1987. Other examples would include estimates of the amount and rate or decay in effectiveness of the measures, and therefore the decline in load impacts over time.

(END OF ATTACHMENT 3)