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Decision 97-08-057 August 1, 1997

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ORIGINAL

Order Instituting Rulemaking on the Commission's own motion to establish rules and procedures governing utility demand-side management.	Rulemaking 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.	Investigation 91-08-002 (Filed August 7, 1991)

FINAL OPINION

(See Attachment 6 for Appearances.)

By today's order, we complete our evaluation of two innovative pilot programs in energy efficiency designed to meet the criteria of Public Utilities (PU) Code § 744.7, namely, the ENvestSCE and TEEM pilot programs undertaken by Southern California Edison Company (SCE) and Southern California Gas Company (SoCal), respectively. These pilots utilized shareholder funds in full or in part to provide one-stop shopping services to large customers for comprehensive energy efficiency projects.

Based on the information and experience from the pilots, we find that these programs can accelerate the level of energy efficiency activity in certain segments of the market in Southern California, particularly those including the federal government, schools and municipal facilities. However, we also conclude that the programs have the potential to create unfair competition in the market. As a result, we cannot recommend to the Governor and the Legislature that these programs continue beyond the pilot stage. We may reconsider this determination after we have developed utility/affiliate rules which address the problems identified in our evaluation.

As discussed in today's decision, the ENvestSCE and TEEM pilots were conducted during a period in which the marketplace has become increasingly

competitive. In such an environment, we must reevaluate the role of utilities and utility affiliates in order to "ensure that the energy conservation industry develops in a manner which is competitive and free from the potential dominance of regulated electrical and gas corporations." (Chapter 984 of the Laws of California of 1983.) Accordingly, on February 5, 1997, we established a new framework for the administration of ratepayer-funded energy efficiency programs, one in which the utility is no longer the monopoly provider of administrative services. (See Decision (D.) 97-02-014.) Instead, the utility will compete on equal footing with other entities to provide those services.

In addition, we have recently initiated a rulemaking and companion investigation on utility-affiliate relations. (Rulemaking (R.) 97-04-011/Investigation (I.) 97-04-012.) In that proceeding, we will establish standards of conduct or rules that will both protect consumer interests and foster competition in a marketplace now characterized by increasing competition. We have notified parties that they may file comments in R.97-04-011/I.97-04-012 regarding the criteria and standard of conduct under which ENvestSCE and TEEM type programs may continue under utility affiliates.

Today's decision establishes a schedule and procedural forum for considering the results of the reviews ordered in Resolutions (Res.) E-3337 and G-3140. By July 1, 1998, SCE shall file a new application for a finding of reasonableness of ratepayer expenditures for the ENvestSCE pilot. This application shall be served on the Special Public Purpose service list in R.94-04-031/I.94-04-032. As described in this decision, SoCal's Advice Letter (AL) 2581, filed April 17, 1997, will be the forum for a compliance review of SoCal's TEEM pilot. The deadline for interested persons to file protests or comments on AL 2581 will be extended to November 1, 1997, and SoCal will be allowed to respond within 15 days thereafter.

Within 20 days of the effective date of this order, our Executive Director shall forward a copy of today's decision with the attached report (Attachment 3) to the Governor and the Legislature. In view of the recent changes to the energy services industry, we will close this proceeding and consider any further developments in rules

governing energy efficiency and low income programs in our electric industry restructuring docket (R.94-04-031/I.94-04-032.) Attachment 5 presents the most recent version of our demand-side management (DSM) rules, as developed to date in this proceeding. This will serve as the starting point for any future revisions to DSM rules.

Background

This proceeding was opened in 1991 to establish rules governing the evaluation, funding and implementation of DSM administered by the utilities. In a series of decisions over the last few years, the Commission established program evaluation criteria, including cost-effectiveness requirements, developed shareholder incentive mechanisms for DSM programs, adopted measurement and evaluation protocols for program savings and initiated pilot bidding programs pursuant to PU Code § 747.[1] These rules created clear expectations regarding the funding and performance of DSM programs under a regulatory structure in which utilities were monopoly providers of energy services and were regulated based on the cost of providing service.

In 1993, the Legislature gave this Commission the authority to "allow utilities to develop DSM programs for cooperative activities between utilities and commercial, industrial, institutional, and governmental customers that have the purpose and effect of reducing the energy bills or regulating the energy quality to those customers." (PU Code § 744.7.) The Legislature requested that the Commission evaluate these programs in terms of:[2]

a. The impact of these programs on the acceleration of cost-effective energy efficiency improvements and expansion of the markets served by nonutility providers of energy efficiency services,

b. The competitive impact of these programs with respect to small businesses and licensed contractors, as well as the effect on ratepayers,

c. The potential implications of these programs in a restructured utility industry, and

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[1] See Attachment 1.

[2] Attachment 2 presents the text of PU Code § 744.7 in full.

d. The recommendations for program improvements and continuation.

Accordingly, the Commission authorized two innovative pilot programs in energy efficiency designed to meet the criteria of PU Code § 744.7, namely, the ENvestSCE and TEEM pilot programs undertaken by SCE and SoCal, respectively. Both pilots focused on providing large customers with one-stop shopping services, including project development, project management, full project financing, quality control and performance assurance services. The opportunity for customers to qualify to participate in the ENvestSCE pilot ended December 31, 1995. The TEEM pilot was continued through most of 1996.

The primary differences between the pilot designs were the sources of funding for administrative costs and utilization of targeted customer incentives. The TEEM pilot was implemented through a shareholder-funded business unit inside the utility that sought to increase customer demand for energy efficiency without the use of financial incentives to customers. The administrative costs of TEEM were paid for by shareholders. Unlike the TEEM pilot, the ENvestSCE pilot used ratepayer resources and funds in several important aspects of its design, including partial investments in customer projects.

An evaluation of the pilots was prepared for the Commission by the Wisconsin Energy Conservation Corporation on July 8, 1996 and forwarded to the Governor and Legislature on July 31, 1996 for their review and consideration, pursuant to the reporting requirements of PU Code § 744.7. A copy of the interim report and cover letter is attached. (See Attachment 3.) The assigned Administrative Law Judge (ALJ) solicited comments on this report by ruling dated August 15, 1996. Comments were filed by the National Association of Energy Service Companies (NAESCO), SCE, SoCal and jointly by the Office of Ratepayer Advocates (ORA), the Sierra Club and The Utility Reform Network (TURN, formerly Toward Utility Rate Normalization). A public hearing for the purpose of taking oral comments on the interim report was held on October 2, 1996, pursuant to the requirements of PU Code § 744.7. (See Attachment 2.)

Evaluation of ENvestSCE and TEEM

The interim report evaluated the ENvestSCE and TEEM pilots from both an implementation and policy perspective consistent with the guidelines articulated in PU Code § 744.7. The report concludes that the pilots can and did accelerate the level of activity in certain segments of the current performance contracting market in Southern California, particularly those including the federal government, schools and municipal facilities. The report also finds that, by accelerating these markets, the pilots were able to increase the sale of complementary products and services by vendors, manufacturers and qualified service providers. The report describes the factors that contributed to the ability of the pilots to accelerate market activity in these sectors. It also discusses the design features that may have limited successes in overcoming market barriers confronting large commercial and industrial customers.

In terms of costs and benefits, the report concludes that the ENvestSCE pilot produced significant financial and resource benefits for all parties involved. For their approximately $13 million in co-investment, ratepayers are expected to receive approximately $75 million in resource benefits over the life of the projects before shareholder earnings. Shareholders invested $87 million and received an estimated 10.42% return on their investment. The customers that installed energy efficiency measures are expected to save approximately $55 million in savings over the life of the equipment. (Attachment 3, Table 3-9, p. 3-14.)

Unlike the ENvestSCE pilot, the TEEM pilot did not use ratepayer funds. Therefore, the report presents costs and benefits from only the customer point of view. As of April 1996, the TEEM project entered into a total of three signed agreements with customers for total project costs of $5.7 million. The report estimates that dollar savings will total about $1.0 million to customers with approximately 7,840,000 kWh saved and 337,000 therms saved. (Attachment 3, p. 4-3.)

The report also identifies competitive advantages for ENvestSCE or TEEM against potential competitors. Based on the information and experience from the pilots, the evaluators conclude that "the use of ratepayer funds by a utility affiliate to subsidize program costs or customer projects creates a significant competitive advantage that can

adversely affect the level of competition in a market" and that "the benefits of affiliation with a regulated utility can create a meaningful anti-competitive impact." (Attachment 3, p. 17.)

In considering the implications of these programs in a restructured electric industry, the report states:

> "Chapter 984 of the Laws of California of 1983 requires the Commission to '...ensure that the energy conservation industry develops in a manner which is competitive and free from the potential dominance of regulated electrical and gas corporations.' The dilemma created by the ENvestSCE and TEEM pilots is that they have been or could be successful in accelerating activity for some service providers but at the potential risk of creating unfair competition for other providers. The problem is that if ENvestSCE or TEEM is the best way to jump-start the performance contracting market in Southern California, can the unfair competitive advantages that arise from the unique regulated advantages be overcome, mitigated, or dispensed with without losing the desired effect of increasing customer demand for energy efficiency?" (Attachment 3, p.19.)

To address this concern, the evaluators identify and consider several options for the structure and operation of utility affiliates providing energy efficiency services such as ENvestSCE and TEEM in a restructured industry environment. They conclude that the most effective way to ensure increased activity and effective competition is through the use of non-utility affiliates that are "either precluded from using ratepayer funds or resources of the affiliated utilities, or may only do so if those resources are made equally available to potential competitors." If the resources cannot be made equally available, then the evaluators recommend that "the market value of those resources should be assessed as compensation for the use of those resources if it is higher than fully allocated cost." They conclude that "by ensuring a level playing field in terms of the use or access to tangible utility resources, the major impediments to unfair competition in the large customer performance contracting market could be avoided." (Attachment 3, p. 26.)

Positions of the Parties

Parties' comments focused on the report's discussion of the role of utilities and utility affiliates in the market, rather than on the assessment of pilot design or

implementation. Both SCE and SoCal envision that ENvestSCE and TEEM types of programs would continue in the future under unregulated affiliates, without the use of ratepayer funds.[3] SoCal urges the Commission not to restrict the utility-affiliated participant from being providers in this market, as long as no ratepayer funding is involved. As long as there is no ratepayer subsidization, SoCal argues that California utilities or their affiliates will not have market power in the provision of commercial/ industrial energy services.

SCE similarly argues that the utilities have a role to play in the energy services market and that unregulated affiliates should be encouraged to compete in that market. SCE believes that the questions of how to deal with the benefits to the unregulated affiliate of a utility's tangible resources (e.g., ratepayer funding and customer billing information) are adequately addressed by the Commission's existing affiliate transactions requirements. SCE argues that the question of how to deal with the benefits to the unregulated affiliate of a utility's intangible assets (chiefly its name and reputation) must start with an acknowledgment that these assets belong to utility shareholders, not ratepayers.

NAESCO believes that the report underscores the need to establish standards of competitive conduct for the energy services marketplace, including guidelines governing utility and utility affiliates. In their joint comments, ORA, TURN and Sierra Club urge that the Commission addresses the competitive problems identified in the report by taking the following actions:

1. Reaffirm the Commission's December 1995 decision to establish a non-utility Independent Administrator to replace the utility as the

[3] In 1995, SCE filed Application (A.) 95-05-060 proposing to transfer some of the personnel and assets of ENvestSCE to an unregulated affiliate. SCE subsequently withdrew this request, stating that it was considering alternatives, including an expansion of SCE's parent of its unregulated, shareholder-funded operations to pursue integrated energy solutions nationwide. (See D.96-02-076.) In its performance-based ratemaking application, SoCal requested flexibility to offer TEEM and other energy services under a utility affiliate, without Commission approval, as long as no ratepayer funds were involved. (See Exhibit 7 in A.95-06-002, pp. 23-34.)

administrator of ratepayer energy efficiency surcharge funds beginning in 1998.

2. Supplement the decision to establish the Independent Administrator with a decision to create additional mechanisms that will ensure the non-preferential access to critical ratepayer tangible and intangible assets, beginning in 1998.
3. Order a compliance audit of the TEEM project as identified in AL 2329-A, and a reasonableness review of the ENvestSCE project, as called for in Res. E-3337.
4. Order the cessation of the TEEM project by December 31, 1996, and the cessation of the practices of preferential access by affiliates of all of the utilities to utility-held ratepayer assets for new projects beginning January 1, 1997.
5. Establish a proceeding in late 1997 that will address the unresolved questions of (a) the consistency of the ENvestSCE pilot with policies expressed in Chapter 984; (b) the extent to which the relationships between any affiliates engaging in DSM activities of SCE, SoCal, Pacific Gas and Electric Company, or San Diego Gas & Electric Company must compensate ratepayers for practices, including the use of tangible and intangible assets for the time period 1993-1996, that are inconsistent with the provisions of Chapter 984, R.92-08-008, or § 851 of the PU Code.

In particular, ORA expressed the concern that the TEEM pilot may not have adequately compensated ratepayers for the use of ratepayer assets. According to ORA, the TEEM pilot was designed to compensate ratepayers in the form of a return of a portion of profits from the projects, should those projects turn out to be very successful. ORA argues that, without a compliance audit, the issue of ratepayer compensation cannot be resolved. ORA points out that the project benefit numbers presented in the report were based on estimates provided to the evaluators by the utilities. Without a compliance audit, ORA believes that the program benefits cannot be accurately established. (Reporter's Transcript at pp. 5355-5363.)

Discussion

We have carefully considered parties' comments and conclude that the interim report, as presented in Attachment 3, should be adopted as our final report to the Legislature, subject to two clarifications. First, we clarify that the findings of the report

are not audited and, as such, represent the best estimates to date of the costs and benefits from these pilots. Second, we clarify that the report's recommendations regarding the means to ensure effective competition are advisory in nature, and not adopted by the Commission at this time. In R.97-04-011/I.97-04-012, issued on April 11, 1997, we directed parties to submit comments on these issues as they relate to utility/affiliate relations:

> "We acknowledged in our Updated Roadmap decision (D.96-12-088) that it may be appropriate to review our affiliate transaction rules to determine whether they must be modified given potential self-dealing and cross subsidization issues that may arise as a result of electric utility restructuring. We recognize that the existing rules governing utility relations with affiliates differ among the companies, and that the present rules may not address the manner in which electric and gas utilities and their affiliates may market services and interact in a marketplace now characterized by increasing competition. Utility entities competing to provide energy services should face uniform rules so that no advantage or disadvantage accrues to a player simply because of differing regulations. It is therefore necessary to develop new rules or standards of conduct which will govern energy utility relations with their utility affiliates. We open a rulemaking and companion investigation for this purpose. The standards of conduct or rules should 1) protect consumer interests, and 2) foster competition." (R.97-04-011/I.97-04-012, p. 2.)

A copy of our order instituting the rulemaking and investigation on utility/affiliate rules is attached to this order. (See Attachment 4.) That proceeding specifically covers energy utility interactions with affiliates that provide DSM services. (*Id.* pp. 2-3.) With regard to SoCal's plans to continue TEEM and other energy services under a utility affiliate, as proposed in their performance-based ratemaking (PBR) application, the rulemaking states the following:

> "The question of whether energy utilities, generically, should be required to conduct unregulated or potentially competitive activities, like the marketing of new products and services discussed in [SoCal's] proposal, through affiliate companies, and if so, under what rules and criteria, should be addressed by the parties as they discuss utility-affiliate standards of conduct. While we expect to issue a decision on [SoCal's] proposal this spring, we put [SoCal] on notice that our decision in the PBR

docket on flexibility in introducing new products and services may be interim." (*Id.* p. 3.)

In light of our recently issued rulemaking/investigation on utility and affiliate relations, we find that this proceeding is not the appropriate forum for considering parties' comments regarding the role of utility affiliates in the provision of ENvestSCE or TEEM type services, or the rules pertaining to the provision of these services. Parties have been on notice that they may comment on these issues in R.97-04-011/R.97-04-012. In addition, parties will have the opportunity to comment on the role of affiliates (utility or otherwise) vis-à-vis our new energy efficiency and low-income program administrators in the public purpose implementation phase of R.94-04-031/I.94-04-032, as discussed further below.

We now turn to the specific recommendations made jointly by ORA, TURN and Sierra Club. At the time the report was issued, the Commission was evaluating various proposals for the administration of public purpose programs, including energy efficiency, in a restructured industry environment. Recommendations #1 and #2 (see above) represent these parties' views on administrative issues, as presented in their filings in our electric industry restructuring proceeding (R.94-04-031/I.94-04-032). In D.97-02-014, issued on February 5, 1997, the Commission established an Independent Board (Board) to oversee the administration of energy efficiency programs that would transform the market. The Board consists of regulatory representatives and members of the public.

Among other things, the Commission directed the Board to develop and issue a request for proposal (RFP) articulating policy and programmatic guidelines for one or more program administrators, subject to Commission approval. The RFP would address the circumstances (if any) under which affiliates of selected administrators, utility or otherwise, may bid for contracts associated with program implementation. Utilities were not allowed to sit on the Board, but were allowed to bid for the administration of these market transformation programs. (See D.97-02-014, pp. 31-33.) By ruling dated May 28, 1997, the assigned ALJ confirmed that the affiliate issues specific to these programs would be considered in the electric restructuring proceeding

until further notice. All parties on the Special Public Purpose service list in that proceeding will have the opportunity to comment on the Board's recommendations regarding affiliate rules.

In view of the above, we find that Recommendation #1 made by ORA, TURN and Sierra Club has been specifically addressed in D.97-02-014. Recommendation #2 will be addressed as part of the public purpose program implementation phase in R.94-04-031/I.94-04-032 until further notice. Recommendation #4 and part (b) of Recommendation #5 overlap significantly with the types of issues parties have been given the opportunity to comment on in our utility-affiliate proceeding, R.97-04-011/I.97-04-012. Accordingly, we do not consider these recommendations any further in this proceeding.

With regard to Recommendation #3, we have reviewed Res. E-3337 and G-3140, which established the review requirements for ENvestSCE and TEEM, respectively. In Res. E-3337, we denied SCE's requested findings of reasonableness, without prejudice, pending a reasonableness review:

> "DRA requested that all ENvestSCE ratepayer expenditures be subject to reasonableness review, a condition which [SCE] has accepted. Due to the unique nature of the use of ratepayer and shareholder funds in this pilot, CACD also recommends a reasonableness review of the use of ratepayer funds for the ENvestSCE pilot program. All ratepayer funds used for ENvestSCE program activities shall be subject to Commission review of reasonableness for management prudence in light of the circumstances that existed at the time decisions were made. A Commission finding of imprudence, a violation of program conditions or guidelines, or other misuse of ratepayer funds in the ENvestSCE program could lead to discontinuance of the program, disallowance, and/or penalty." (Res. E-3337, p. 5.)[4]

[4] In 1996, the Division of Ratepayer Advocates, or "DRA", was renamed ORA. The Commission Advisory and Compliance Division ("CACD") was also reorganized into industry divisions, including the Energy Division.

In Res. G-3140, which authorized SoCal's TEEM pilot, we found that "the manner in which SoCal allocates costs between ratepayers and shareholders for use of ratepayer assets is a valid subject to be included in a reasonableness review." (Res. G-3140, Finding No. 4.) By Res. G-3140, we also required that SoCal work with DRA to develop costs for all ratepayer assets utilized by the TEEM pilot (e.g., billing system, utility information, customer lists, utility expertise and reputation) that may be used in implementing TEEM. We adopted SoCal's banded earnings sharing mechanism, which would provide ratepayers with the potential to share in earnings beyond a specific level. On February 21, 1995, SoCal filed AL 2329-A which, among other things, explained the extent to which the TEEM pilot would or would not utilize utility assets and how TEEM would account for and compensate SoCal for its use of utility assets. By letter dated February 24, 1995, CACD informed SoCal that it had received AL 2329-A and found it to be in compliance with Res. G-3140.

We did not specify a time frame or procedural forum for considering the results of the reviews described in Res. E-3337 or G-3140. We agree with ORA, TURN and Sierra Club that it is appropriate to establish those parameters in this proceeding. Accordingly, we direct SCE to file a new application for a finding of reasonableness of ratepayer expenditures for the ENvestSCE pilot. This application shall be filed by July 1, 1998 and shall be served on Special Public Purpose service list in R.94-04-031/ I.94-04-032.

SoCal's AL 2581, filed April 17, 1997, will be the forum for a compliance review of the TEEM program. The deadline for interested persons to file protests or comments on AL 2581 will be extended to November 1, 1997. SoCal will be allowed 15 days from receipt of any protests or comments to respond to them. Interested persons will be entitled to conduct discovery of SoCal in the AL starting immediately and continuing until November 1, 1997. The scope of issues that interested persons may address and the Commission may decide in AL 2581 will include: 1) what utility assets were utilized by the TEEM pilot, 2) whether TEEM complied with the adopted banded earnings sharing mechanism, and 3) whether TEEM complied with the procedures set forth in AL 2329-A for accounting and compensating SoCal for the use of utility assets.

This decision does not preclude the Commission from setting AL 2581 for hearings or other further procedures after receipt of any protests or comments. It also does not prevent ORA or any other interested person from requesting in the future that an independent consultant be retained by the Commission in this matter, and does not prevent SoCal from opposing such a request.

Finally, we address the issue raised by ORA in Recommendation #5, part (a), the consistency of the ENvestSCE and TEEM pilots with policies expressed in Chapter 984.

Chapter 984 requires the Commission to "ensure that the energy conservation industry develops in a manner which is competitive and free from the potential dominance of regulated electrical and gas corporations." As discussed in the attached report, these pilots have demonstrated a significant potential for accelerating customer acceptance of energy efficiency in selected markets. However, the risk is that unfair competitive advantages can arise from the unique regulated advantages associated with ENvestSCE and TEEM type programs, unless they are mitigated. As a result, we cannot recommend at this time that these programs continue beyond the pilot stage.

Further Development of DSM Rules and Programs

Since the initiating of the ENvestSCE and TEEM pilots, this Commission and the Legislature have undertaken to fundamentally restructure the energy industry in California. Assembly Bill 1890 (Stats. 1996, Chapter 854) and our policy decisions in R.94-04-031/I.94-04-032 create a competitive framework for the provision of electric services. As discussed in today's decision, we have taken significant actions, and are contemplating additional ones, to ensure that the implementation of this framework realizes a level playing field for all market participants.

On February 5, 1997, we fundamentally modified the manner in which ratepayer-funded energy efficiency programs will be administered in the future. Utilities will no longer be the monopoly provider of administrative services but, rather, will be required to compete on equal footing with other entities to provide those services. We established an Independent Board consisting of regulatory representatives and members of the public to oversee programs designed to transform the market for

energy efficiency services. We also established a Governing Board to oversee low-income programs, including rate assistance and low-income energy efficiency services. Among other things, the Boards will develop and issue a request for proposal (RFP) articulating policy and programmatic guidelines for one or more program administrators, subject to Commission approval. As part of the RFP development process, the Boards were directed to propose appropriate modifications to the existing DSM rules, subject to Commission approval. (D.97-02-014, mimeo, pp. 20-37, 63-68.)

In view of the recent changes to the energy services industry, we will close this proceeding and consider any further developments in rules governing energy efficiency and low-income assistance programs in our electric industry docket (R.94-04-031/ I.94-04-032). As described in D.97-02-014, the future development of rules governing the evaluation, funding and implementation of energy efficiency and low-income assistance programs will be developed by the new Independent Boards, for review and approval by this Commission. Attachment 5 presents the most recent version of our DSM rules, as developed to date in this proceeding. Attachment 5 will serve as the starting point for any future revisions to those rules.

Comments On Proposed Decision

Based on the written and oral comments, the assigned ALJ issued her proposed decision on June 18, 1997. The assigned ALJ recommended that the interim report submitted on July 8, 1996 be adopted as final, subject to certain procedural clarifications. Written comments were timely filed by SCE and SoCal. Per the requirements of PU Code § 744.7, the Commission held a public hearing on July 15, 1997 to take oral comments on the final report, as proposed by the assigned ALJ.

We have carefully considered both the written and oral comments received and do not make any substantive changes to the ALJ's proposed decision, with one exception. At the public hearing, ORA and SoCal recommended that the review process for SoCal's TEEM pilot be modified to dovetail with SoCal's pending AL filing in this proceeding. We have incorporated ORA's and SoCal's recommendations in this decision. In addition, we correct minor omissions from Attachment 5, as proposed, to

incorporate the most recent version of the Commission's Rules. We also make minor editorial or typographical corrections, as appropriate.

In their comments, several parties urge us to keep this proceeding open or, in the alternative, to identify procedural avenues for addressing these rules or DSM program issues in the future. We intend that these rules, as currently formulated, apply to the current regime of DSM program administration only during the period of time that utilities continue to administer ratepayer-funded DSM programs. On the electric side, and for the gas DSM programs administered by PG&E and SDG&E, we are rapidly moving away from the current administrative regime to a new administrative regime under direction of independent Boards. Per D.97-02-014, the new Boards will propose modifications to the rules, based on Commission policy direction and subject to Commission approval, in the electric restructuring proceeding. (R.91-04-031/ I.91-04-032.) The modified rules will apply to energy efficiency and low-income programs implemented under the new administrative regime.

We do not believe that this proceeding, initiated in 1991, needs to remain open to accommodate potential proposals for modifying existing rules applying to utility administration of DSM programs, even for SoCal. As permitted in D.97-02-014, SoCal has elected to continue to manage its gas energy efficiency programs as the Commission continues to explore the development of a gas surcharge. SoCal argues that this proceeding is the only administrative avenue open to it to address DSM issues. However, the utilities' Annual Earnings Assessment Proceeding (AEAP) provides a procedural avenue for considering proposed modifications to measurement protocols, shareholder incentive mechanisms, fund-shifting guidelines and other rules related to the utility administration of DSM programs. In fact, SoCal's proposals to make such modifications will be considered by the Commission in SoCal's pending AEAP application. (Application 97-05-026.) Moreover, as SDG&E points out, any party can petition this Commission to request the appropriate review and resolution of an issue that is predicated on a previous regulatory decision. We need not keep this rulemaking or companion investigation open to accommodate such potential unforeseen events.

Finally, in response to ORA's comments, we need not keep this proceeding open to address the smooth transfer of functions from utilities to the independent Boards. This and other transition issues have been referred to the Boards for their recommendations. Parties will have the opportunity to comment on those recommendations, which are also subject to Commission approval, in the electric industry restructuring proceeding.

In sum, we agree with the assigned ALJ's proposal to close this proceeding. Issues that may arise regarding the implementation of DSM programs by utilities during the transition to Board oversight may be referred to the Boards for their recommendations and further comment in R.94-04-031/I.94-04-032, may be considered in the annual AEAP on a case-by-case basis or may be referred to another procedural forum as deemed appropriate by the assigned ALJ in consultation with the assigned Commissioner.

Findings of Fact

1. The July 8, 1996 report prepared for the Commission by Wisconsin Energy Conservation Corporation presents an independent evaluation of the ENvestSCE and TEEM pilots that addresses the questions posed by PU Code § 744.7. The findings of the report are not audited and, as such, represent the best estimates to date of the costs and benefits from these pilots.

2. The ENvestSCE and TEEM pilots can and did accelerate the level of activity in certain segments of the current performance contracting market in Southern California, particularly those including the federal government, schools and municipal facilities.

3. The downside risk to continuation of ENvestSCE and TEEM type programs is that unfair competitive advantages may arise from the unique regulated advantages associated with them, unless these advantages are eliminated or mitigated.

4. SoCal and SCE have indicated no interest in continuing with these pilots with ratepayer funds; however, they have both indicated an interested in continuing programs similar to ENvestSCE and TEEM under unregulated affiliates.

5. In a restructured energy industry, the relations between utilities and their affiliates will be a key factor in ensuring that the energy services industry develops in a manner which is competitive.

6. Parties have been given an opportunity to comment on utility/affiliate rules and standards of conduct in R.97-04-011/R.97-04-012, including whether and under what rules and criteria, energy utilities should be able to conduct ENvestSCE and TEEM type activities under unregulated affiliates.

7. By D.97-02-014, the Commission established an independent Board to oversee the administration of energy efficiency programs that are designed to transform the market. Subject to Commission approval, the Board will address the circumstances, if any, under which affiliates of selected administrators (utilities or otherwise) may bid for contracts associated with program implementation. The Board's recommendations will be subject to comment by interested parties.

8. All further development of energy efficiency programs and rules governing the evaluation, funding and implementation of ratepayer-funded DSM will be addressed in the public purpose program implementation phase of R.94-04-031/I.94-04-032.

9. Res. E-3337 and G-3140 established review requirements for the ENvestSCE and TEEM pilots, but did not specify a time frame or procedural forum for considering the results of those reviews.

Conclusions of Law

1. The July 8, 1996 report prepared for the Commission by the Wisconsin Energy Conservation Corporation (Attachment 3) should be adopted as the Commission's final report for satisfying the requirements of PU Code § 744.7, subject to the following clarifications:

a. The findings of the report are not audited and, as such, represent the best estimates to date of the costs and benefits from these pilots, and

b. The report's recommendations regarding the means to ensure effective competition are advisory in nature, and not adopted by the Commission at this time.

2. Because the ENvestSCE and TEEM programs have the potential to create unfair competition in the market, they should not continue beyond the pilot stage. We may reconsider this determination after we have developed utility/affiliate rules which address the problems identified in the July 8, 1996 report.

3. This proceeding is not the appropriate forum for considering parties' comments regarding the role of utility affiliates in the provision of ENvestSCE or TEEM type services, or the rules pertaining to the provision of these services. Parties have been on notice that they may comment on these issues in R.97-04-011/R.97-04-012. In the public purpose implementation phase of R.94-04-031/I.94-04-032, interested parties will also have the opportunity to comment on the role of affiliates (utility or otherwise) vis-à-vis our new energy efficiency and low-income program administrators.

4. This proceeding is the appropriate forum for establishing the time frame and procedures for considering the results of the pilot reviews described in Res. E-3337 and G-3140.

5. By July 1, 1998, SCE should file a new application for a finding of reasonableness of ratepayer expenditures for the ENvestSCE pilot. This application should be served on the Special Public Purpose service list in R.94-04-031/I.94-04-032.

6. SoCal's AL 2581, filed April 17, 1997, should be the forum for a compliance review of the TEEM program. The deadline for interested persons to file protests or comments on AL 2581 should be extended to November 1, 1997. SoCal should be allowed 15 days from receipt of any protests or comments to respond to them. Interested persons should be entitled to conduct discovery of SoCal in the AL starting immediately and continuing until November 1, 1997. The scope of issues that interested persons may address and the Commission may decide in AL 2581 will include: 1) what utility assets were utilized by the TEEM pilot, 2) whether TEEM complied with the adopted banded earnings sharing mechanism, and 3) whether TEEM complied with the procedures set forth in AL 2329-A for accounting and compensating SoCal for the use of utility assets.

7. This decision should not preclude the Commission from setting AL 2581 for hearings or other further procedures after receipt of any protests or comments. It also

should not prevent ORA or any other interested person from requesting in the future that an independent consultant be retained by the Commission in this matter, and should not prevent SoCal from opposing such a request.

8. Within 20 days from the effective date of this order, the Executive Director should forward a copy of today's decision with the attached report (Attachment 3) to the Governor and the Legislature.

9. The DSM rules presented in Attachment 5 should serve as the starting point for any future revisions to those rules in R.94-04-031/I.94-04-032.

10. This proceeding should be closed.

11. This decision should be effective immediately so that the Commission may forward the report to the Governor and Legislature as expeditiously as possible.

FINAL ORDER

IT IS ORDERED that:

1. The July 8, 1996 report prepared for the Commission by the Wisconsin Energy Conservation Corporation (Attachment 3) is adopted as the Commission's final report for satisfying the requirements of Public Utilities Code § 744.7, subject to the following clarifications:

   a. The findings of the report are not audited and, as such represent the best estimates to date of the costs and benefits from these pilots, and

   b. The report's recommendations regarding the means to ensure effective competition are advisory in nature, and not adopted by the Commission at this time.

2. The ENvestSCE and TEEM programs should not continue beyond the pilot stage until further order of this Commission.

3. By July 1, 1998, Southern California Edison Company shall file a new application for a finding of reasonableness of ratepayer expenditures for the ENvestSCE pilot. This application shall be served on the Special Public Purpose service list in Rulemaking (R.) 94-04-031/Investigation (I.) 94-04-032.

4. SoCal's AL 2581, filed April 17, 1997, shall be the forum for a compliance review of the TEEM program. The deadline for interested persons to file protests or comments on AL 2581 shall be extended to November 1, 1997. SoCal shall be allowed 15 days from receipt of any protests or comments to respond to them. Interested persons shall be entitled to conduct discovery of SoCal in the AL starting immediately and continuing until November 1, 1997. The scope of issues that interested persons may address and the Commission may decide in AL 2581 shall include: 1) what utility assets were utilized by the TEEM pilot, 2) whether TEEM complied with the adopted banded earnings sharing mechanism, and 3) whether TEEM complied with the procedures set forth in AL 2329-A for accounting and compensating SoCal for the use of utility assets.

5. Within 20 days from the effective date of this order, the Executive Director shall forward a copy of today's decision with the attached report (Attachment 3) to the Governor and the Legislature.

6. The demand-side management rules presented in Attachment 5 shall serve as the starting point for any future revisions to those rules in the public purpose program implementation phase of R.94-04-031/I.94-04-032.

7. The procedural forum for issues that may arise regarding the implementation of demand-side management programs by utilities during the transition to Board oversight shall be determined by the assigned Administrative Law Judge, in consultation with the assigned Commissioner, as follows: 1) issues may be referred to the Boards for their recommendations and further comment in R.94-04-031/I.94-04-032, 2) issues may be considered in the Annual Earnings Assessment Proceeding on a case-by-case basis or 3) issues may be referred to another procedural forum, as appropriate.

8. This proceeding is closed.

This order is effective today.

Dated August 1, 1997, at San Francisco, California.

P. GREGORY CONLON
President
JESSIE J. KNIGHT, JR.
HENRY M. DUQUE
JOSIAH L. NEEPER
RICHARD A. BILAS
Commissioners

ATTACHMENT 1

DEVELOPMENT OF DEMAND-SIDE MANAGEMENT (DSM) RULES AND POLICIES: CHRONOLOGY OF COMMISSION ACTIONS AND DECISIONS[1]

Meg Gottstein, Administrative Law Judge
California Public Utilities Commission

Initial Policy Development:

Decision 89-05-067 (May, 1989). Describes Commission intent to take a closer look at the role of conservation and energy efficiency ("demand-side management" or "DSM") in the regulatory scheme. Calls for en banc hearing, where Commissioners preside over an informal interchange among stakeholders.

Commission En Banc Hearing (July, 1989). Addresses status of utility demand-side management (DSM) programs and reexamination of DSM efforts. Initiates the DSM Collaborative among stakeholders (utilities, consumer groups, environmental groups, etc.) to collaborate on a blueprint for revitalizing DSM activity in California.

An Energy Efficiency Blueprint for California, submitted by California DSM Collaborative in January, 1990. Recommends financial incentives for utility DSM activities and expanded funding levels. Develops into settlement agreements among stakeholders, which are submitted for Commission approval in April, 1990.

Decision (D.) 90-08-068 and D.90-12-071. Approves settlement proposals for three-year DSM shareholder incentives, where each utility experiments with a different incentive approach (e.g., ratebased approach, shared-savings with differing percentages). All experimental incentives are based on "ex ante" (pre-implementation) estimates of per unit DSM savings. Commission directs staff to report on the effectiveness of experiment at end of three years. Describes intent to issue an Order Instituting Rulemaking as a forum for (1) comparing the adopted incentive approaches and (2) addressing other topics related to improving efforts of utility DSM programs.

Order Instituting Rulemaking/Investigation (OIR 91-08-003/ OII 91-08-002), August 1991. Proposes rules governing evaluation, funding, implementation of DSM programs and associated shareholder incentives.

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1 The most recent version of the Commission's DSM rules are attached.

D.92-02-075 Interim DSM Rules. Adopts DSM rules addressing:

- Goals of utility resource procurement and role of energy efficiency.
- Cost-effectiveness criteria and other considerations in funding DSM programs. Rules governing fuel substitution, load building, load retention and economic development activities to be developed more fully in a subsequent phase.
- DSM program terms and definitions.
- Interim policy on shareholder earnings levels and what constitutes "comparable earnings" relative to supply. Final policies to be developed after evaluation of shareholder incentive pilots.
- Move to "ex post" (post implementation) measurement of per unit DSM savings as the basis for shareholder incentives. Initiates measurement and evaluation ("M&E") phase of proceedings to establish ex post measurement protocols.
- Potential for introducing competition into utility acquisition of DSM. Initiates pilot DSM bidding programs, to be designed in a separate phase of the proceeding.

DSM Bid Pilots:

PG&E: Partnership bid pilot: D.92-03-038; D.92-09-072; Interruptible bid pilot: D.92-11-049 (modified by D.93-04-029), D.93-01-041

SDG&E/SoCal/SCE: Replacement bid pilot: D.92-09-080, D.93-02-041

Integrated Bid Pilot: D.93-06-040, D.93-10-040, D.94-06-046

General: Application of net-to-gross multiplier: D.92-12-050

**

Refinement of DSM Terms, Definitions and Funding Criteria:

General: How to treat utility rebates to customers in cost-effectiveness evaluation of DSM when those rebates exceed the cost of installed measures ("Dual Test"); application of cost-effectiveness tests at measure-specific level: D.93-02-041 (see also D.93-11-017); summary and other general modifications: D.93-11-017. Change to applying rules at end-use level: D.95-06-016.

Fuel Substitution: Three-prong test at measure-specific level: D.92-10-020; baseline reference: D.92-12-050. Reclassification of gas air conditioning and thermal energy storage: D.95-06-016.

New Construction: Total resource cost test applied at program level (except for fuel-substitution programs) D.92-10-020

Measurement and Evaluation: Program category definitions and cost containment rules: D.93-10-063. Measurement costs for cost-effectiveness determinations and allocation of measurement costs over multiple program years: D.95-06-016.

Load Building, Load Retention and Economic Development: Funding rules and modified definitions: D.93-11-017

Market Transformation: Request for further comment: D.93-02-041; eligibility for incentives: D.93-09-078

Lost Opportunities: Reporting requirements: D.95-06-016.

Avoided Costs: Avoided costs used in utility DSM forecast filings: D.95-12-054.

Ex Post Measurement and Evaluation:

Adopted Protocols: D.93-05-063 (modified/corrected by D.93-08-009, D.93-11-033 and D.94-05-063); D.93-10-063 (protocols for SDG&E's commercial energy efficiency program).

Funding Levels: D.93-10-063

Shareholder Incentives:

Evaluation of experiment and need for continued incentives: D.93-09-078; Adopts shared-savings incentive mechanisms for PG&E, SDG&E, SCE and SoCal: D.94-10-059 (corrected by D.95-05-027.) Incentive treatment for skipped measurement years: D.95-06-016.

(END OF ATTACHMENT 1)

ATTACHMENT 2

ATTACHMENT 2
(Page 1)

744.7. (a) The commission shall have the authority to allow utilities to develop programs for cooperative activities between utilities and commercial, industrial, institutional, and governmental customers that have the purpose and effect of reducing the energy bills or regulating the energy quality to those customers. The programs may include any of the following:

(1) Direct utility investment in equipment on the customers' premises to achieve reductions or increased efficiencies in energy use or to regulate energy quality.

(2) Financial assistance for the design, construction, installation, acquisition, or fixed operations and maintenance of customer facility modifications or expansions that achieve reductions or increased efficiencies in energy use or to regulate energy quality.

(3) Engineering, training in advanced facility operation and management techniques, and other consulting services to achieve reductions or efficiencies in energy use or to regulate energy quality.

(b) The commission shall allow utilities to recover in rates the reasonable costs of these programs to the extent the utility incurring those costs demonstrates that the ratepayers of the utility are likely to derive long-term benefits, including, but not limited to, utility system benefits and economic benefits generated by economic development, business retention, expansion, recruitment, and relocation activities associated with increased efficiencies in energy use and improved energy quality for the commercial, industrial, institutional, and governmental customers of the utility.

(c) This section may apply both to customers of electric and gas utilities. However, prior to the application of this section to reductions in usage or increases in efficiency of the use of natural gas for transportation-only customers of natural gas utilities specified in paragraph (2) of subdivision (a), the commission shall first determine that cost-effective energy efficiency programs for transportation-only users of natural gas can be developed which meet the criteria set forth in subdivision (b).

(d) Utilities carrying out programs authorized by this section shall utilize the services of nonutility providers of energy efficiency services and equipment for a preponderance of work to be performed.

ATTACHMENT 2
(Page 2)

(e) It is the intention of the Legislature that in reviewing and supervising programs authorized by this section, and in establishing the level of direct and indirect general ratepayer support to be used in these programs the commission shall pursue the public benefits of these programs consistent with the policies expressed in Chapter 984 of the Statutes of 1983. The Legislature further intends that the commission shall, in determining whether and to what extent direct and indirect general ratepayer support may be used in these programs, exercise its regulatory and supervisory powers to promote a competitive marketplace for energy efficiency equipment and services. The commission's findings concerning general ratepayer support of those programs, and its determination that those programs are consistent with the policies expressed in Chapter 984, shall be determinative of those issues unless found to be arbitrary and capricious. However, nothing in this subdivision is intended to affect any litigation commenced prior to July 1, 1993. Nothing in this section shall prevent the commission from utilizing a competitive bidding process for all or any part of the work to be performed under these programs.

(f) In authorizing this program, the commission shall implement a selective audit and review program that shall critically evaluate the actual performance of this program, as related to the proposed benefits. The audit and review shall include specific findings on whether in implementing this program, California utilities have achieved significant acceleration of cost-effective energy efficiency improvements and substantial expansion of the markets served by nonutility providers of energy efficiency services. Conclusions of this program review shall also include, but not be limited to, the issue of competition with small business, licensed contractors, as well as the effect on ratepayers. Recommendations for program improvement and continuation shall be included in the report to the Legislature and the Governor. An interim report shall be completed by the commission and made available to the Legislature, Governor, and interested parties no later than December 1, 1996. A final report shall be completed by the commission and made available to the interested parties no later than July 1, 1998. The commission shall hold a public hearing on the final report. The final report shall be adopted by the commission and made available to the Legislature, Governor, and interested parties no later than October 1, 1998.

(g) This section shall remain in effect only until January 1, 1999, and as of that date is repealed, unless a later enacted statute, which is enacted before January 1, 1999, deletes or extends that date.

(Added by Stats. 1993, Ch. 742, Sec. 1. Effective January 1, 1994. Repealed as of January 1, 1999, by its own provisions.)

(END OF ATTACHMENT 2)

ATTACHMENT 3

Public Utilities Commission

STATE OF CALIFORNIA
505 VAN NESS AVENUE
SAN FRANCISCO, CALIFORNIA 94102

J. Gregory Conlon
PRESIDENT

TEL: (415) 703-2440
FAX: (415) 703-2532

July 31, 1996

The Honorable Pete Wilson
Governor, State of California
State Capitol, First Floor
Sacramento, California

The Honorable Steve Peace
Chair, Senate Energy, Utilities
and Communications
State Capitol, Room 5064

The Honorable Mickey Conroy
Chair, Assembly Utilities & Commerce
State Capitol, Room 2117

John W. Rovane
Acting Secretary of the Senate
State Capitol, Room 3044

E. Dotson Wilson
Chief Clerk of the Assembly
State Capitol, Room 3196

Dear Governor Wilson:

Enclosed for your review and consideration is the Interim Report required by Public Utilities Code § 744.7. This report evaluates two innovative pilot programs in energy efficiency designed to meet the criteria of Section § 744.7, namely the ENvestSCE and TEEM programs undertaken by Southern California Edison Company and Southern California Gas Company, respectively.

These pilots focused on providing "one-stop shopping" services to large customers, including project development, project management, full project financing, quality control and performance assurance services. Both pilots relied on third party service providers to actually deliver and install energy efficiency products and services. The ENvestSCE program utilized direct general ratepayer support, while the administrative costs of the TEEM program were borne exclusively by shareholders.

The Interim Report evaluates these pilots from both an implementation and policy perspective, consistent with the guidelines you articulated in § 744.7(f). Also consistent with § 744.7(f), we intend to adopt a Final Report by October 1, 1998 after undertaking the following review process:

1. First, we will solicit comments on the Interim Report from all interested parties in our demand-side management rulemaking, the electric industry restructuring proceeding and other proceedings, as appropriate.

2. After evaluating those comments, we will prepare and issue a proposed Final Report and hold public hearings on that document.

3. After receiving this further input, we will adopt a Final Report and make it available to you and interested parties.

Please do not hesitate to contact me or Administrative Law Judge Meg Gottstein if you have any questions about the enclosed Interim Report or the review process set forth above.

With gratitude for your interest in these vital subjects I am, on behalf of my colleagues Commissioners Daniel Wm. Fessler, Jessie J. Knight, Jr., Henry M. Duque and Josiah L. Neeper,

Respectfully,

P. Gregory Conlon
President of the Commission

EVALUATION OF ENvest[SCE] AND TEEM PILOT PROJECTS

Final Report

July 8, 1996

Prepared for:

California Public Utilities Commission
Commission Advisory and Compliance Division

Wisconsin Energy Conservation Corporation

EVALUATION OF ENvest[SCE] AND TEEM PILOT PROJECTS

Final Report
July 8, 1996

Prepared for:

California Public Utilities Commission
Commission Advisory and Compliance Division

Prepared by:

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Charles A. Goldman*
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EXECUTIVE SUMMARY

This report presents the results of an evaluation of the ENvest[SCE] and TEEM pilot projects implemented by Southern California Edison (SCE) and Southern California Gas Company (SoCal) respectively. It was prepared for the Commission Advisory and Compliance Division (CACD) of the California Public Utilities Commission (Commission). The ENvest[SCE] pilot began in October, 1993. The customer participation solicitation phase of the pilot ended on December 31, 1995, as authorized by the Commission. The TEEM pilot commenced in early 1995. An interim report was issued on August 21, 1995. Wisconsin Energy Conservation Corporation (WECC) and several independent contractors (the Project Team) conducted this evaluation.

This evaluation was intended to address issues concerning the ENvest[SCE] and TEEM pilots as noted by the Commission in its authorization of approval for each pilot. [Resolution E-3337 (ENvest[SCE]); Resolution G-3140 (TEEM).] This report also analyzes the requirements of Chapter 984 of the Laws of California of 1983 in relation to these pilots.

This evaluation addresses the following objectives related to (1) assessing the effectiveness of the program designs embodied in the ENvest[SCE] and TEEM pilots to affect the level of activity in the energy efficiency products and services market and (2) assessing the competitive impacts of the ENvest[SCE] and TEEM pilots on that market those objectives were to:

- Determine the essential characteristics that make an energy efficiency market workably competitive;
- Determine the benefits in terms of increased customer activity to pursue energy efficiency projects due to the ENvest[SCE] and/or TEEM program designs and the potential benefits to utility ratepayers from those program designs;
- Determine (a) to what extent the characteristics of a competitive market existed prior to the ENvest[SCE] and SoCal TEEM pilot programs and (b) to what extent these programs have had an impact on the efficiency market;
- Determine what actions, if any, are necessary and appropriate to further the creation of a sustainable, more competitive market for energy efficiency services;

- Determine the appropriate utility role(s) in the development of a competitive energy efficiency service market;

- Determine what is needed, if anything, to assure that ENvest[SCE]- and TEEM-type programs are: (a) in compliance with the intent of Chapter 984 to ensure a competitive energy services market, free from utility dominance, and (b) an appropriate utility function; and

- Determine the implications of potential industry restructuring with respect to ENvest[SCE]'s and TEEM's competitive market impacts.

Information used by the Project Team for the evaluation included: (1) documents such as Commission decisions and reports; (2) information provided in response to data requests to ENvest[SCE] and TEEM; (3) interviews and/or surveys of ENvest[SCE] and TEEM personnel and management, active and potential customers, full service providers and specialized service providers; (4) DSM program expenditure reports filed by SoCal and SCE with the Commission; and (5) publicly available information on affiliates or business units similar to ENvest[SCE] or TEEM formed by other utilities in the United States.

OVERVIEW OF ENvest[SCE] AND TEEM PILOTS

The ENvest[SCE] and TEEM pilots were designed as innovative efforts to increase the level of activity in the energy efficiency products and services (EEPS) market in Southern California. Both pilots targeted large commercial, institutional, governmental, and industrial customers.

While the objectives of both pilots were similar, important design features of each pilot intended to achieve those objectives were different. Both pilots focused on providing one-stop shopping services to large customers including project development, project management, full project financing, quality control, and performance assurance services. The purpose of these bundled services was to make large scale energy efficiency projects easy, affordable, and valuable for customers to pursue. The primary difference between the pilot designs was the ENvest[SCE] pilot's use of utility ratepayer funds as targeted incentives to overcome customer market barriers and to cover the pilot's administrative costs.

The TEEM pilot is implemented through a shareholder funded business unit inside the utility that seeks to increase customer demand for energy efficiency without the use of financial incentives to customers. The administrative costs of TEEM are paid for by shareholders. The only direct

connections to SoCal are the pilot's design features that allow TEEM customers to repay the costs of a project on their utility bills and the use of SoCal's name recognition, reputation and goodwill to market TEEM projects. Any use of ratepayer funded resources such as the utility billing system require TEEM to pay SoCal the full market or allocated cost for such use. Utility customer lists were not to be available to TEEM.

The ENvest^{SCE} pilot also sought to create increased value that would encourage more customers to implement large scale energy efficiency projects. But unlike TEEM, this pilot used ratepayer resources and funds in several important aspects of its design. The most important were:

(1) $13 million of previously unspent DSM funds available as ratepayer co-investment (in effect targeted rebates) in projects to help ensure that customers had, at least, an estimated 20% savings from their energy project;

(2) $8 million of unspent DSM funds used to pay the administrative costs of ENvest^{SCE} during the approximately two year pilot; and

(3) Up to $2 million of ratepayer funds available as a loss reserve for bad debts. Shareholders would bear any losses above that level.

In addition to using ratepayer funds, ENvest^{SCE}, as a regulated undertaking, also had access to the billing system, marketing resources, and proprietary customer and market surveillance information complied by SCE, as well as the use of SCE's large customer service representatives. Like TEEM, the ENvest^{SCE} pilot was designed to allow customers to repay the cost of projects through their utility bill. ENvest^{SCE} also provided full project financing funded by SCE shareholders. TEEM instead uses third party financing as part of the arranging service that it provides to customers.

The use of ratepayer funding and resources meant that ENvest^{SCE} projects were subject to the Commission's DSM guidelines which require projects have a Total Resource Cost (TRC) benefit/cost ratio of at least 1.0 and that only energy efficiency products and services be offered by a regulated entity such as ENvest^{SCE}. TEEM, which is shareholder funded, is not subject to the DSM guidelines. Both pilots, however, were fuel neutral; the best energy solution would be offered to the customer including improving the efficiency of existing electric and natural gas equipment and fuel substitution. Projects were to be designed to be comprehensive in capturing savings opportunities from increased efficiency in energy usage.

Both pilots relied on third party service providers to actually deliver and install energy efficiency products and services. Each pilot established a network of qualified service providers by issuing applications to providers and screening applicants to ensure that providers were qualified and capable of providing valuable services to customers without a threat of interruption because of financial limitations. Both the ENvest[SCE] and TEEM pilots effectively qualified all applicants who provided applicable services for large customers.

In the pilots, the primary overall project development and management role remained with ENvest[SCE] and TEEM. For example, in the ENvest[SCE] pilot, ENvest[SCE] would develop the scope of a project with the customer and select three to five service providers to bid on the project or components of the project. ENvest[SCE] would select a winning bidder subject to the customer's approval. The TEEM process is similar.

PILOT RESULTS

The opportunity for customers to qualify to participate in the ENvest[SCE] pilot ended on December 31, 1995. The results from that pilot therefore represent the level of activity generated during that period adjusted to reflect changes in project values as more precise cost or saving estimates are available from the project implementation phase.

The TEEM pilot commenced operation in early 1995. But due to a limited staff during its first year, the pilot has only generated a limited amount of activity to date. The pilot is intended to continue through at least December 31, 1996.

The results from each pilot are provided separately.

A. ENvest[SCE]

From October 1993 to December 31, 1995, ENvestSCE made approximately 151 initial contacts with commercial, industrial, governmental and institutional customers within SCE's service territory. Fifty-six percent of these contacts were with public sector customers (84), 30% with commercial customers (45), and 14% with industrial customers (22).

As of December 31, 1995, ENvest[SCE] had entered into 34 agreements with 26 different customers. These signed agreements include contracts for installation as well as contracts for more detailed

feasibility studies and engineering/design work. The terms of the signed agreements range from eight to 15 years with an average term of 12 years.

All of the signed agreements are with governmental or institutional customers. The percentage of signed agreements by dollar value is:

Federal Government (including U.S. Post Office)	62.8%
School Districts	22.0%
Municipalities and Counties	10.9%
Colleges and Universities	4.3%
Total:	100.0%

The signed agreements involve approximately 375 locations with an estimated building area of almost 46 million square feet.

ENvest^{SCE} is forecast to expend approximately $99,639,976 on project costs. Even if one project deemed a "remote possibility" is not implemented, the pilot will have successfully met its target for providing approximately $88 million in customer project investment. As noted, over 60% of this investment is in the federal government sector.

The estimated $99.6 million of project investment is estimated to yield approximately:

- 150 million kWh of annual energy savings
- 37.3 MW of annual demand savings
- 1.074 million tons reduction in CO_2; 693 tons reduction in SO_x and 1000 tons reduction in NO_x
- $15 million of annual customer bill savings

Each project has a TRC ratio exceeding 1.0 with a range of 1.1 to 1.8. Gross total resource benefits are estimated at approximately $75 million.

The average project payback was 6.7 years with a range of 4.2 to 11.4 years. This suggests that the pilot projects tended to focus on more comprehensive retrofits and/or that customers recognized significant non-energy benefits from the energy efficiency investments (such as modernization benefits). The estimated percentage of specific project components by end-use in terms of total project dollars are:

Lighting	48.0%
HVAC	44.1%
Controls	2.8%
Other	5.1%

The predominant savings opportunities found and implemented were in the electric usage sector.

As of March 31, 1996, the pilot has recorded the expenditure of approximately $6.4 million of the $8 million in ratepayer funds allocated to cover program administrative costs. The remaining $1.6 million of authorized funds are expected to be expended during the project implementation phase of the pilot through 1998.

Of the $13 million of ratepayer funds authorized by the Commission for co-investment in projects, $12,891,671 has been committed or estimated to be used in the 34 signed agreements. In March, 1996, ENvest^{SCE} refunded $50,000 of the unallocated funds to SCE customers. The balance of $58,329 was retained as a contingency fund for potential allocation as project costs become more precise. Ratepayer co-investment has been approximately 13% of estimated total project investment.

As of March 31, 1996, ENvest^{SCE} has not incurred any project credit losses. The $2 million of authorized ratepayer funds remains available to ENvest^{SCE} if losses exceed a reserve established by a credit premium included in the pricing of each project.

Based on project costs and investment, ENvest^{SCE} estimates that it will earn approximately a 10.42% average return from the pilot on the financing investment that it will make.

The ENvest^{SCE} pilot used qualified third-party service providers to develop and implement projects. As of March 31, 1996, that service provider network had 193 qualified service providers. Of these 193 qualified providers, 28 were Comprehensive Service Providers of full service ESCOs (14.5%). Applications were sent to 649 potential providers. Twenty applicants have not been qualified due to failing to complete the application, offering ineligible technologies, providing services in the wrong customer segment (e.g., residential) or asking to have their application withdrawn. Sixteen percent of the qualified service providers (30) are Women, Minority, or Disable Veterans Business Enterprises as certified by either the Cordoba Clearinghouse or the California State Office of Small Minority Business.

As of March 31, 1996, 96 different providers (approximately 49% of total qualified providers) have had 174 opportunities to bid on 34 different projects. Thirty-seven of these providers have had the opportunity to bid on more than one project. Fifty-eight awards to service providers have been made through the competitive bid process. Comprehensive or full service providers have had 29 opportunities to bid resulting in five awards. More bid awards will be made as project implementation continues into 1998.

B. TEEM

TEEM has made approximately 93 initial customer contacts with commercial, industrial, governmental and institutional customers in the SoCal Gas service territory. These contacts from February 1995 to April 1996 break down as follows:

School Districts (18)	19%
Municipal Governments (16)	17%
Federal Government (8)	9%
Industrial Customers (10)	11%
Commercial Customers (23)	25%
Colleges and Universities (18)	19%

Fifty-seven proposals or follow-ups have been made from these initial contacts.

As of April 1996, TEEM had entered into three signed agreements with customers for estimated total project costs of approximately $5,700,000. The estimated customer bill savings are $1,003,000 representing approximately 7.84 million kWhs and 337,000 therms saved. These signed agreements involve one school district, one municipal government, and one industrial customer. The terms of the contracts range from seven to 14 years with simple paybacks ranging from 2.4 to 9.1 years.

The predominant savings opportunities identified involve electric end-uses, particularly lighting, HVAC and controls. One of the signed agreements involves an innovative water reclamation project.

Of the 57 proposals made by April 1996, 33 are still considered active by TEEM. These active proposals reflect TEEM's recent decision to concentrate in the public, federal government and institutional sectors (about 73% of active proposals).

Similar to ENvest[SCE], TEEM has qualified a list of service providers to develop and implement projects. As of April 1, 1996, TEEM had qualified all 39 providers who had applied. Seven of these providers are classified as Comprehensive Providers or full service ESCOs (18%).

Because of limited project activity to date, there has been limited opportunity for qualified service providers to bid on projects. This has caused some apprehensiveness and unhappiness on the part of some providers. Nine providers have participated in a TEEM project as of April 1, 1996.

The TEEM pilot as noted is expected to solicit and develop projects through at least December 31, 1996. Thus, increased bid opportunities will occur for qualified service providers.

IMPLEMENTATION OF THE PILOTS

The ENvest[SCE] and TEEM pilots had some fundamental differences in their program designs. But, only two aspects of these differences in design seem to have affected the implementation mode used in each pilot: (1) financing and (2) the presence of ratepayer funding. The exclusive use of third party financing together with no ratepayer funding allows the TEEM pilot to implement a more "market driven" pilot. Unless customers perceive value and third party financiers see the opportunity for an acceptable return with acceptable risk, TEEM projects will not proceed. In the absence of the use of utility funds, whether for financing or co-investment, TEEM could be less concerned than ENvest[SCE] with regulatory requirements that might influence its judgment to pursue a specific project or constrain its ability to respond to customer desires.

ENvest[SCE], as demonstrated by its choice of fairly restrictive financing underwriting requirements, resulted in the implementation of a design that proved unattractive to certain customer segments (i.e., large commercial and industrial). These underwriting criteria were designed in part to minimize risk for ratepayers who could be subject to credit losses. The project proposals offered to customers by ENvest[SCE] also had to conform with the Commission's DSM Guidelines which provided less flexibility for ENvest[SCE] to potentially pursue what the customer really wanted (e.g., the primary driver for a project may have been increased asset productivity not energy savings).[1] The presence of ratepayer funds to cover ENvest[SCE] administrative costs also appears to have allowed that pilot to ramp-up much faster than the TEEM pilot funded by shareholders.

[1] This lack of flexibility was cited as a primary reason by SCE for seeking to create a non-utility affiliate rather than to seek authorization to extend the ENvest[SCE] pilot beyond December 31, 1995.

There are also several important similarities and differences between the implementation of the pilots that have occurred which are not the direct product of the initial program designs. The most important similarities in implementation have been:

- Despite an initial, unfocused approach to the large customer energy services market, both pilots concentrated efforts in the traditional MUSH market and with the federal government;[2]

- There has been a minimal use of utility customer and marketing information in each pilot primarily because each pilot has been able to generate sufficient leads from trade allies and generally available market information. When utility marketing representatives were used, success was either very limited or non-existent. In contrast, both ENvest[SCE] and TEEM used utility intangible assets such as utility name recognition, good will, etc. that they perceived as valuable to attract potential customers and to differentiate themselves from other providers in the market such as full service ESCOs;

- Delivery in each pilot has been fuel-neutral. Assessments provided to customers have provided comprehensive options concerning both electric and natural gas savings opportunities in each pilot; and

- Each pilot has relied on qualified service providers to help deliver projects, although neither pilot to this date has been able to generate sufficient work to keep most qualified service providers busy. In addition, ENvest[SCE] and TEEM in practice have clearly been in control of the overall development and implementation of projects, particularly in terms of direct interaction with customers.

In effect, the implementation of both pilots has tended to focus on finding potentially profitable niches in the energy services marketplace for large scale, comprehensive jobs.

There were several implementation differences that are also important to note when comparing the effectiveness or results of the two different pilot designs. The major implementation differences were:

- The "understaffing" of the TEEM pilot clearly slowed its ability to ramp-up to provide effective services to potential customers, particularly relative to the staffing efforts in the

[2] TEEM is also pursing efforts in the commercial property niche of the performance contracting sector. The MUSH market (municipalities, universities, schools and hospitals) is characterized by governmental and institutional customers.

ENvest[SCE] pilot. TEEM for its first year, until early 1996, effectively operated with only three full-time employees. This could have been particularly important in the federal government sector in which ENvest[SCE] was able to gain a substantial inroad before TEEM was able to begin to effectively participate in that market.

- While both pilots sought to capitalize on their relationship to a regulated utility, TEEM has explicitly sought to differentiate itself from traditional ESCOs that have offered primarily "shared savings" arrangements (which TEEM believes are misleading, expensive and a potential source of friction with customers due to the problems of measurement involved) or that have offered their own products as part of a bundled package of services. TEEM has been more aggressive than ENvest[SCE] in emphasizing and implementing a pilot based on flexibility to respond to customer needs rather than other concerns such as regulatory compliance. This is not unexpected as the regulatory involvement in the ENvest[SCE] pilot did require more rigidity in implementation.

Unfortunately, the different ramp-up of staffing resources and the different time frames for the implementation of the pilots make it difficult to compare certain aspects of the pilots. Thus, most empirical information to assess the market and competitive impacts of the pilots on the performance contracting market is available from the implementation of the ENvest[SCE] pilot. However, potential customer and service provider perceptions and decisionmaking from the TEEM pilot also allow reasoned judgments to be made about that pilot's potential impacts, particularly when program design components similar to ENvest[SCE]'s are involved.

MARKET IMPACT OF THE PILOTS

The market potential for cost-effective energy efficiency opportunities in the large commercial, institutional, and industrial sectors in Southern California is significant. Based on a review of studies performed by the utilities and consultants retained by ENvest[SCE] and publicly available studies of DSM potential, the Project Team estimates the market potential for energy efficiency products and services in Southern California to be $1 billion for electricity and $400 million for natural gas. These estimates may be conservative because they are based on utility long run avoided costs as opposed to the higher retail rates currently paid by large customers.[3]

[3] The future design of the fixed/variable cost recovery charges split in rate schedules would affect this observation.

The energy efficiency products and services market is composed of two distinct sectors: (1) the services/"cash" sector in which customers pay for services in cash (although part of the project cost may be paid by a utility rebate) and no performance guarantee is typically provided and (2) the performance contracting market in which customers typically repay borrowed full project financing out of the savings from the project and some type of performance guarantee is provided. Prior to the pilots, utility intervention in either market sector was primarily through the offering of rebates to large customers which could be used by service providers to independently market and develop their own projects.

As a result, with the sharp cutbacks in SCE's and SoCal's rebates for large customers (e.g., from $19 million in 1993 to $2 million in 1995 for SCE), many service providers no longer had access to utility rebates to market their energy efficiency products or services except by participating in ENvest[SCE]. The withdrawal of most traditional rebates from the EEPS marketplace should be expected to shrink the level of activity in the services/"cash" sector and limit the ability of non-utility performance contracting firms to use utility rebates to enhance their offering so that it is sufficiently valuable to overcome customer market barriers to energy efficiency. This latter factor may explain the slower growth or drop in activity in the performance contracting market reported by certain providers in 1995 compared to the growth during 1991 to 1994. Other factors may have been: (1) the financial squeeze faced by public sector customers including financial crises such as the Orange County problem and/or (2) the presence of ENvest[SCE].[4]

Despite the large market potential identified for the EEPS market in Southern California, the performance contracting market in Southern California during the early 1990s is estimated to have only been in the range of $35 to $45 million per year. Four to five large Energy Service Companies (ESCOs) and several smaller ESCOs appear to have been the primary participants in the market.

This limited level of activity reflects that, at the inception of the pilots, there was a functioning performance contracting market in which customer confusion and concerns about truth and risk limited actual activity. Based on our interviews, surveys and other reports and documents, many potential customers were concerned about the risk of choosing a provider because of a bad experience that they had or heard about. Poor work, lack of information and problems with applying the concept of "shared savings" created an aura of concern about providers resulting in customer confusion about whom to trust or believe, particularly when the consequences of being wrong were meaningful (e.g., public accountability as well as bad investment using scarce resources for a municipal entity or school district). Technological uncertainty and a resulting lack of

[4] TEEM as noted was still ramping up throughout 1995.

standardization among competitors contributed to customer confusion and risk. There was also a perception on some potential customers' part that some providers were equally (or more) interested in selling an affiliated product or service. This pre-pilot market did not exhibit the characteristics of a robust, effectively competitive market in which competition among many providers constrained the price and/or increased the value of services offered to customers.

It was within this context that ENvest[SCE]'s entry[5] into the performance contracting market sector appears to have accelerated activity by approximately $65 to $90 million per year, indicating that the current overall performance contracting market in Southern California is approximately $100 to $135 million per year. Over 60% of that overall activity is attributable to ENvest[SCE] projects.

Based on the review and analysis of the experience from the pilots, the Project Team concludes that:

(1) The ENvest[SCE] and TEEM pilots[6] have accelerated and can accelerate the level of activity in certain segments of the current performance contracting market in Southern California, particularly those including the federal government, schools, and municipal facilities. By accelerating these markets, the pilots have increased the sale of complementary products and services by vendors, manufacturers, and qualified Service Providers.

(2) The majority of ENvest[SCE] estimated project expenditures are in the federal government market sector in which it enjoyed a special advantage to gain a "first mover" position. The potential for additional projects in this sector appears substantial.

(3) The primary reasons for the ENvest[SCE] pilot's impact of accelerating activity in the federal performance contracting market were:

- Its unique status as a part of a tariffed utility provider that allowed it to gain an "indirect" franchise in the federal government market sector during the pilot; and

- Its offer of a program of sufficient value to federal customers.

(4) The pilots were also able to accelerate activity in the performance contracting market in the public and institutional market sectors because:

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[5] See Footnote 4.

[6] As noted, the primary empirical information is from the ENvest[SCE] pilot. However, our interviews on both pilots and the similarities of the pilot designs indicate that TEEM, if effectively implemented, would also accelerate activity in the performance contracting market.

- The bundled program design included full project financing that was attractive to overcome the market barriers for certain customers, particularly, federal agencies, schools and municipalities;

- ENvest[SCE]'s and TEEM's' affiliations with a regulated utility were important to some customers in their decisionmaking. This affiliation reduces the customer's perception of risk and uncertainty due to the trust engendered by the regulated utility's name, its reputation for technical proficiency, its perceived neutrality as to products and providers and the perception that the utility has been and will be a long-term institution in the Southern California region.

- ENvest[SCE]'s ability to use ratepayer funds increased its attractiveness to certain customers. Ratepayer funded components that customers found particularly attractive were:

  - The ratepayer co-investment which served as a targeted rebate and which allowed certain customers to extend the term of their loan/lease while still receiving an a 20% estimated share of savings allowing more savings to be "reinvested" to capture modernization benefits; and

  - The ability for certain customers to repay through the utility bill. This option was not that important to TEEM customers.

(5) The ENvest[SCE] pilot design was unsuccessful in overcoming the market barriers confronting large commercial and industrial customers. This appears to be true for three potential reasons.

- First, the specific program design embodied in the pilot had components that were unattractive to these customers. These specific design components include:

  - a bundled set of services when the customer did not need or wish to purchase the full set of services;

  - a financing rate in excess of the rate for capital otherwise available for the customer to make the investment;

  - a financing structure that was not sufficiently flexible to be customized to meet the customer's needs;

- a high level of creditworthiness that a potential customer could not meet or which resulted in a request for the customer to provide a level of security that was unattractive; and

- The absence of a more extensive performance guarantee.

These design components reflect a decision to reduce potential risk to ratepayers and from potential regulatory oversight.

- Second, the scope of ENvest[SCE] services; the integration of large scale energy efficiency solutions, may not be sufficient by themselves to create adequate customer value to overcome existing market barriers. Certain customers may be more interested in increasing asset productivity and competitive advantage than incurring risks and transaction costs from large scale, complex energy efficiency projects to reduce operating expenses that only constitute a small percentage of their total costs (e.g., 2 to 3%). The inability to offer non-energy related services that augment or allow energy efficiency projects to be added to services perceived by customers as having greater value may have limited ENvest[SCE]'s attractiveness to certain large commercial customers, and particularly, to industrial customers. This latter limitation was the result of ENvest[SCE]'s need to follow Commission DSM guidelines which only allowed energy efficiency opportunities to be pursued.

- Third, there were implementation problems that caused a number of customers to comment on the slowness with which the process moved and the lack of adequate communications in a timely manner to maintain their interest in the potential project. These potential problems may have been more prevalent in the ramp-up of ENvest[SCE]. Our interviews with Service providers and customers indicated that these matters were less of a concern during 1995, than they appear to have been in 1994. TEEM has also had ramp-up problems due to a limited staff in its first year.

  It is not clear whether the more flexible TEEM design will result in more agreements with large C/I customers. However, the TEEM design would avoid a number of the problems, particularly the level and flexibility of financing as well as the ability to offer non-energy efficiency productivity improvements, noted by large C/I customers about the ENvest[SCE] design. TEEM is able to avoid these potential problems because it is entirely shareholder funded and thus not subject to the Commission's DSM guidelines or prudence reviews.

(6) The pilots, while accelerating the level of activity in the MUSH market sector of the performance contracting market, also appear to have redistributed market share. The unique advantages available to ENvest[SCE] and TEEM to better overcome customer market barriers provided them with meaningful competitive advantages relative to other providers.

(7) ENvest[SCE], by providing ratepayer co-investment, has in some sectors (i.e., municipalities and schools) increased the comprehensiveness of projects implemented by certain customers as well as accelerated the timing of some projects. However, the experience from the pilots as well as the comments of customer and service providers indicate that the absence of customer rebates would not substantially reduce the number of projects ultimately undertaken by MUSH market customers in the performance contracting market. But, there are reasons to believe that the absence of rebates to large commercial/industrial customers will reduce the number of projects undertaken even if other market barriers could be overcome. Less comprehensive public sector projects in addition to the potential reduction of large C/I projects may result in uncaptured market potential opportunities and societal benefits due to the absence of rebates.

COMPETITIVE IMPACT OF THE PILOTS

The ENvest[SCE] and TEEM pilots were able to accelerate and expand, to some degree, the level of activity in the large customer performance contracting market. The pilots were able to do so because of access to unique advantages that were not available to other providers in the marketplace. However, to the extent that these advantages primarily exist due to the presence of regulation, the restriction of their availability to only utility affiliates raises serious anti-competitive concerns.

ENvest[SCE] and TEEM were direct competitors to full service ESCOs who offered customers similar, comparable or expanded services: overall project development and management, full project financing and performance or savings guarantees, warranties or assurance. Most other service providers who offer a specialized product or service did not perceive the pilots as competitors, but rather as opportunities for increased business, while incurring limited marketing costs. This was particularly attractive as rebates were withdrawn from the market.

The potential competitive advantages for ENvest[SCE] or TEEM against potential competitors could or did arise out of five distinct, but interrelated, sources:

(1) Privileged access to utility information/billing/marketing systems due to affiliation with a regulated utility;

(2) The use of ratepayer funds to pay program administrative costs and/or provide subsidies to customers;

(3) Special advantages such as the ability to offer tariffed service only available to a public utility and its affiliates;

(4) The use of a utility's name recognition, reputation, and other related advantages due to the affiliation with a regulated utility; and,

(5) Control over the qualified Service Provider network.

Both ENvest[SCE] and TEEM made particular effort not to abuse or misuse their access to customer and market information possessed by their affiliated utilities. Customer usage information was received on comparable terms of access available to other providers. Based on a review or knowledge of customer or general market information, both pilots sought to develop their own customer lists and leads from trade allies and publicly available sources rather than use or rely primarily on utility information. ENvest[SCE] and TEEM did use utility customer representatives for marketing, but each did so without much success.[9]

The access to utility billing systems was also not extensively used in the pilots. Indeed, TEEM had to accelerate the hiring of an accountant because SoCal's billing system could not perform certain desired functions. Based on the experience from the pilots, access to utility information and billing or marketing systems did not create a meaningful anti-competitive impact, although their use has the potential to do so.

The two most significant advantages available to ENvest[SCE] and/or TEEM that did adversely impact potential competitors were:

[9] As an unregulated affiliate, TEEM had to and did compensate SoCal for this use at fully allocated cost.

(1) The ability of ENvest[SCE] to use ratepayer funds to subsidize pilot program administrative costs and customer projects through ratepayer co-investment; and

(2) The benefits of affiliation with a regulated utility. These benefits appear to be an interwoven mix from two diverse sources: (1) the presence of regulation and (2) customers' perception of the performance of the utility.

Based on the information and experience from the pilots:

- The use of ratepayer funds by a utility affiliate to subsidize program costs or customer projects creates a significant competitive advantage that can adversely affect the level of competition in a market; and,

- The benefits of affiliation with a regulated utility can create a meaningful anti-competitive impact. But, the strength and value of such affiliation is not uniform across the market.

Based on customer comments, these utility affiliation benefits (which include name recognition, reputation, experience, goodwill, expertise, perceived longevity and a perception of acting more in the public interest than an unregulated firm) increased the chance that ENvest[SCE] or TEEM would get in the door with more customers to market or show what they could do and created a more favorable environment of customer opinion in which to recommend a project. During at least the initial start-up period, this capability, attained without the need for extensive proactive advertising and cost, is a significant competitive advantage as long as potential customers do not perceive a difference between the utility affiliate and the regulated utility.

However, it should be acknowledged that the benefits from affiliation with a regulated utility could be transitory or even non-existent. Like any competitive advantage, the benefits could be lost if ENvest[SCE] or TEEM does not deliver valuable services to the customer. In addition, over time in an industry in which personal business relationships are as important as technical and management competence, it could be expected that, at least among networks of potential customers, a TEEM or ENvest[SCE]'s success will be dependent on their own abilities as potential customers distinguish between the utility affiliate and the regulated utility. Finally, some customers did not attribute desirable attributes to the start-up affiliate such as expertise and experience but rather thought the attributes transferred might be bureaucracy and lack of creativity.

Based on the experience from the pilots, affiliation with a regulated utility was a meaningful advantage. To the extent that even a transitory advantage allows a utility affiliate like ENvest[SCE] or

TEEM to establish a long-term niche in the market without significant cost, the advantage is meaningful, significant and would result in an adverse impact on potential competitors. Competing firms, especially new entrants into a market, spend significant amounts of money and resources on differentiating themselves from their competitors.

It is these very intangible values that are the basis of the ENvest[SCE] and TEEM designs to overcome customer concerns about risk and uncertainty: whom they can trust for useful information, how to go about identifying and doing what is really in their self-interest, and sometimes eliminating the pervasive uncertainty of whether you can believe anyone. These intangible values are real competitive advantages in a marketplace where potential customers have historically been skeptical about what they can expect from providers in the performance contracting energy efficiency market.

The Project Team concludes that ENvest[SCE] affiliation with SCE and its ability to use ratepayer funds and resources, provided it with a significant competitive advantage against its likely existing competitors. The affiliation of TEEM with a regulated utility appears to have been a meaningful competitive advantage based on customer comments. The primary competitive benefit provided by these advantages was ENvest[SCE]'s or is TEEM's ability to uniquely be able to influence customer purchasing decisions concerning large scale energy efficiency solutions. By controlling the access to these unique means to overcome customer market barriers in a market constrained by customer demand, ENvest[SCE]- or TEEM-type utility affiliates could potentially exert significant market power in the performance contracting market in Southern California and over the sale of complementary goods and services in that market. Control of the qualified Service Providers network was the key to exerting power, because access to ENvest[SCE]'s or TEEM's network was the only way to enjoy ENvest[SCE]'s or TEEM's competitive advantages, especially rebates or other traditional utility DSM benefits which were not available for providers to independently market and sell with their services. These competitive advantages were also the primary means by which ENvest[SCE] and TEEM used to differentiate themselves in the market.

There were, however, also competitive disadvantages for ENvest[SCE] caused by the presence of regulation. The most prominent disadvantage appears to have been the requirement that all projects comply with the Commission's current DSM guidelines. This requirement restricted the attractiveness of ENvest[SCE], particularly to certain large commercial and industrial customers who appear to define value in terms of asset productivity or maintaining and increasing competitive advantage. These customers may want larger projects whose primary focus is on attaining these goals, only a part of which may entail energy efficiency activities. Regulatory oversight and review can also delay the timing and certainty of business decisions in a way that is unattractive to large

business customers. In addition, the presence of ratepayer funds or resources increases the risk that regulation might find decisions that turn our to have an adverse impact on customers (e.g., credit losses) to be imprudent and require costs to be borne by shareholders. This tends to make a firm more conservative.

IMPLICATIONS OF RESTRUCTURED UTILITY INDUSTRIES

Chapter 984 of the Laws of California of 1983 requires the Commission to "...ensure that the energy conservation industry develops in a manner which is competitive and free from the potential dominance of regulated electrical and gas corporations." The dilemma created by the ENvest[SCE] and TEEM pilots is that they have been or could be successful in accelerating activity for some service providers but at the potential risk of creating unfair competition for other providers. The problem is that if ENvest[SCE] or TEEM is the best way to jump-start the performance contracting market in Southern California, can the unfair competitive advantages that arise from the unique regulated advantages be overcome, mitigated, or dispensed with without losing the desired effect of increasing customer demand for energy efficiency?

This latter question must be addressed in the current and expected environment that ENvest[SCE]- or TEEM-type entities would operate in. Currently, competition in the energy efficiency products and services market is characterized by limited effective customer demand. That is why there is such a divergence between estimated market potential and actual activity in the marketplace, particularly after utility rebates have been substantially reduced. ENvest[SCE] and TEEM were designed to expand a market in which the existing participants were having difficulty doing so alone.

But, if restructuring of the utility industry proceeds, the nature of competition will likely be over who serves all of the needs of a utility's existing large customers, not just their energy efficiency needs. Nationally, utilities have been forming unregulated energy services affiliates to provide a broad range of services to large customers including energy efficiency and power brokering, when it is permissible. ESCOs have been consolidating to increase their capabilities to provide services to large customers and further mergers or partnerships between these ESCOs, power marketers or brokers and independent power producers and energy efficiency product manufacturers can be anticipated. The nature of this potential competition will be over whether a utility maintains its large customers, even in terms of providing core service: electricity or natural gas.

The anticipated restructuring of the electric and natural gas industries fundamentally changes the potential level of activity and competitiveness in energy efficiency markets. It does so in two primary ways:

(1) It changes the nature of regulatory policy toward energy efficiency by individual utilities.

Simply, regulators in a restructured environment are unlikely to mandate the use of individual utility resources (for example for rebates) that may disadvantage the utility in an increasingly competitive marketplace.

(2) It changes the reasons that utilities will pursue energy efficiency efforts away from a regulatory mandate to attain societal objectives to a utility's perceived self-interest. In a monopoly environment, DSM, except for any resource benefits that a utility perceived were really created, was primarily a customer service and regulatory driven public policy objective. Utilities often did DSM because regulators insisted on it. As long as the utility was effectively made financially whole and there was no significant adverse competitive impact (e.g., vis a vis cogenerators or because of business relocations), ratepayers resources were used despite an upward pressure on rates to achieve a public policy objective.

A restructured environment removes this "protection" that there will be no adverse utility impacts from the pursuit of a public policy goal. When customers can buy from someone else the perspective on acceptable potential rate impacts, use of internal resources and the definition of strategic interests change. Regulatory public interest motivations are replaced by perceptions of self-interest which are ultimately measured by determining what provides the greatest value to the utility and its shareholders in terms of increased profitability or improved strategic competitive position.

There would appear to be four primary options available to the Commission concerning the structure and operation of utility affiliates providing energy efficiency services such as ENvest[SCE] and TEEM in such a restructured industry environment.

(1) Allow an ENvest[SCE]-type affiliate to proceed as structured and implemented in the pilot, albeit with some program design changes intended to improve its chances to be more successful in the large commercial and industrial segments.

Absent a Commission mandate, it does not appear that a utility would voluntarily choose this option because of potential rate impacts, demand for internal utility resources and the

continuing entanglement with regulatory oversight. In addition, this option does not appear responsive to meeting large commercial and industrial customer needs. This option would also have the most adverse competitive impact although it could be expected to accelerate activity particularly in the MUSH market.

If the ENvest[SCE] model is to be continued as it was essentially structured in the pilot, then it would appear that: (1) its focus should be limited to the MUSH, federal government and perhaps certain large commercial niche markets (e.g., hotels and other property-type business) and (2) regulators must be willing to accept the anti-competitive impacts created on some service providers because of the unilateral ability for the utility affiliate to use ratepayer resources.

(2) Allow regulated utility affiliates such as ENvest[SCE] to proceed but limit their role solely to one of a facilitator which lend their tangible and intangible benefits to private businesses to develop activity in the large customer segment of the performance contracting market.

Option 2 could mitigate the direct competitive impacts from ENvest[SCE]'s access to ratepayer funds and TEEM's and ENvest[SCE]'s affiliation with a regulated utility by in effect opening up unique competitive advantages to be used by potential competitors. But, it seems fairly clear that limiting a utility energy efficiency affiliate to such a role shifts the burden of competitive disadvantages in a new, restructured industry to the affiliate utility. This shift effectively constrains a utility from competing to keep its existing large customers while requiring it to help its potential competitors gain entry to those large customers.[8]

This option may have been a viable option in the traditional regulated utility industry prior to the 1990s. It appears inconsistent with and unsustainable in a restructured utility environment. However, there may be alternative public institutions that could be created which could serve similar functions without an internal conflict of interest.

(3) Modify the ENvest[SCE] model, as structured, by eliminating or counterbalancing the primary sources of potentially unfair competitive advantages (e.g., eliminate unequal access to ratepayer funds and the utility's billing information and customer marketing systems). This option would probably require ENvest[SCE]-type functions to be provided by an unregulated

[8] The consequences of losing the fixed margin from large customers could fall on the remaining utility customers who have the fewest alternatives.

affiliate which would not have unique access to ratepayer funds and resources or require the affiliate to adequately compensate the utility for the use of any ratepayer resources.

Option 3 would effectively recreate the ENvest[SCE] pilot into the TEEM pilot. In that pilot, TEEM had no greater access to ratepayer-funded resources than its potential competitors (e.g., customer lists) or had to pay the fully allocated or market costs of such resources when they were used (e.g., the use of utility customer representative for marketing). TEEM's only competitive advantage was the intangible benefits from its affiliation with a regulated utility.

Option 3 seeks to prevent unfair competitive impacts by establishing a "level playing field" in which the utility affiliate is put on the same terms as other independent providers to use the unique advantages available from a regulated utility. The unregulated utility energy efficiency would be subject to all of the Commission's affiliated interest requirements and reviews. If the regulated utility wished to offer certain services to the affiliate, they would have to be available on comparable terms to the affiliate's potential competitors or compensated at market or fully allocated cost levels, whichever was higher.

The use of a form of a discretionary "Golden Rule" for utility energy efficiency efforts would mean that the objectives of those efforts will be utility self-interested ones, not the traditional regulatory objectives of maximizing the capture of cost-effective societal benefits. Eliminating certain ratepayer funded resources, such as access to utility personnel or information when easily available sources of information for marketing efforts are available is unlikely to significantly diminish the ability to stimulate greater activity in the large customer performance contracting market. But, the elimination of customer incentives is likely to affect the level of activity by eliminating some increment of additional activity that would not likely otherwise occur.

The lingering issue under Option 3 is should utility affiliates have to compensate utility ratepayers for the use of the benefits from the affiliation with a regulated utility? That issue is discussed as Option 4.

(4) Modify the TEEM model by requiring compensation for the use of the intangible "assets" of a regulated utility.

The issue underlying this option is whether a utility energy efficiency affiliate should be required to compensate utility ratepayers for the value of the intangible benefits received from affiliation with a regulated utility.

There are in fact three basic aspects to this question of compensation for this affiliation: (1) who benefits from the use of the intangible assets; (2) who owns the intangible assets; and (3) what is the value if compensation is due. If the benefits are determined to be ratepayer funded "assets," it could be asserted that utility affiliates have an unfair source of competitive advantage.

The Commission has previously ruled that the shareholders own the right to a utility's name and reputation. Southern California Edison Company, 90 PUR4th 45. But, some customers stated that the reason that they felt more comfortable with ENvest[SCE] or TEEM due to their affiliation with SCE and SoCal respectively, because of the presence of regulation. This regulatory presence creates two perceptions: (1) that regulated utilities and their affiliates such as ENvest[SCE] and TEEM somehow act differently than private, non-regulated firms, and (2) that unlike dealing with private providers, customers had a place to go (the Commission) to seek redress if they felt unfairly treated by ENvest[SCE] or TEEM.

Thus, while SCE and SoCal had to establish a favorable reputation to transfer to ENvest[SCE] and TEEM, it is extremely difficult, and perhaps misleading, to divorce this reputation from each utility's regulated status. This is particularly true in ENvest[SCE]'s and TEEM's efforts to transfer attributes that differentiated themselves from unregulated providers on the basis that they, due to their affiliation with a regulated utility would act more in the "public interest" or the customer's self-interest than other providers. This supposedly was in contrast to unregulated providers.

Under the traditional monopoly utility environment, compensation could be required for the use of intangible benefits based on the fact that a primary source of those benefits was the regulated status of the utility, not simply its operation. However, a restructured industry should be expected to limit the advantages that flow from being the current local regulated provider of service to large customers. ENvest[SCE]- and TEEM-type entities are likely to be selling multiple energy services to large customers and competing against similarly situated and sized firms. Marketing efforts will focus on who can best meet a range of customer needs. While incumbent utilities may maintain an advantage in the short term in the large customer performance contracting market, other providers with proven expertise, experience, the absence of a "fly by night" image, an energy service product comparable to the incumbent's offer and even a history of affiliation with a large regulated utility in an another jurisdiction can be expected to enter the market.

Seeking alternatives to counterbalance this likely transitory advantage would be preferable to trying to estimate a difficult to determine and changing value. Alternatives are discussed in the Recommendations section.

The ENvest[SCE] and TEEM pilots were (and are) innovative means to overcome customer market barriers to increase activity in the large customer performance contracting market in Southern California. However, the very unique advantages used in the ENvest[SCE] pilot constitute unfair competitive advantages. A regulated ENvest[SCE] model can ensure that the public policy purposes presented for its implementation are maintained, but would not appear to allow features that would prove effective in attracting large commercial and industrial customers. Also, a regulated ENvest[SCE] may not be able to effectively compete to retain a utility's large customers with potential unregulated competitors in a restructured industry. However, an unregulated ENvest[SCE] or TEEM is likely to focus on the attainment of private rather than public objectives. An unregulated "ENvest[SCE]-type" affiliate or TEEM affiliate with no unique uncompensated access to utility resources would not put ratepayers funds at risk. But, the Commission must determine what to do about the intangible benefits that an unregulated entity receives from affiliation with a regulated utility.

RECOMMENDATIONS

The restructuring of the electric and natural gas industries will change the nature of competition and competitors in the large customer energy efficiency performance contracting market. Most non-comprehensive energy services providers will continue to seek to partner with other firms to develop business and to implement large scale projects. Full service providers however can also be expected to partner with other firms to respond to the multipoint competition that will be waged for large customers. This multipoint competition which bundles a whole range of potential energy services together is likely to make it more difficult for specialized or small energy providers to develop their own work independently.

In this restructured environment of multipoint competition for large customers utilities should be expected, as they are doing, to choose a variation of Option 3 in which unregulated utility affiliates utilizing the benefits from affiliation with a regulated utility offer energy efficiency services to large customers. If strategic customer incentives are needed, they are likely to be shareholder funded and based on the overall value of retaining a specific customer which will use a bundle of energy services, not just energy efficiency. The TEEM pilot and the NEWCO proposed to replace the ENvest[SCE] model will characterize this type of utility affiliate.

If public policy determines that increased activity in the marketplace is desired to capture more societal benefits or that an institutional framework is needed to allow specialized and smaller providers to independently market their products and services, the ENvest[SCE] model could be recreated but without utilities as the key institution. Utility decision making in a restructured environment will have powerful incentives to focus on self-interest and to exercise control over the development of the energy service market to large customers. A public institution funded by a line or access charge could however be established to play the role of facilitator, funder and overseer of projects to large customers. Access to the funds and resources from this institution would be on a non-discriminatory basis. A public institution similar to regulation may also provide some of the elements of trust, credibility and long-term availability that appear necessary to overcome current customer market barriers to increase the level of activity in the performance contracting market. In addition, this institution could counterbalance for potential competitors, the current value that the utility affiliate receives from affiliation with a regulated utility.

The issue which the Commission will confront in a restructured environment is whether the use of the affiliation with a regulated utility in non-utility markets requires compensation to ratepayers. In a traditional monopoly utility environment, it would appear that such compensation is justified for the use of ratepayer-funded resources and to recognize that many of the benefits of this affiliation are due to the presence of regulation. Such compensation would also level the playing field for existing competitors who cannot enjoy such a unique claim. However, this issue becomes more clouded in a restructured environment in which affiliation with a regulated utility becomes less of a credible claim since energy service providers other than distribution utilities may be effectively unregulated. In addition, the uniqueness of the claim is also likely to disappear as many energy service affiliates of regulated utilities from other jurisdictions seek to provide multiple energy services to large customers in Southern California. The value of affiliation in this latter scenario may be fairly limited and vulnerable to being overcome as customers understand that the old regulated monopoly system does not exist anymore.

The problem posed in these pilots appears to involve a transitional stage in which ENvest[SCE] and TEEM developed from an improved DSM effort to a learning experience about strategic positioning in one market that will be involved in the multipoint competition over large customers. In this instance, current advantages from affiliation are being used to secure market position and knowledge for the impending competition.

Based on all of the above considerations, the most effective way to ensure increased activity and effective competition in the large customer energy efficiency performance market is:

- Through the use of non-utility affiliates such as TEEM;

- Which are either precluded from using ratepayer funds or resources of the affiliated utility or may only do so if those resources are made equally available to potential competitors. If the resources cannot be made equally available, then the market value of those resources should be assessed as compensation for the use of those resources if it is higher than fully allocated cost. Competitors must bear such costs of such resources in the price of their products and services.

By ensuring a level playing field in terms of the use or access to tangible utility resources, the major impediments to unfair competition in the large customer performance contracting market could be avoided.

The issue of what to do about the benefits of affiliation to a regulated utility raises a different point. From a ratepayer/public policy perspective, the affiliation of ENvest[SCE] and TEEM to a regulated utility helped overcome barriers to activity in a performance contracting market constrained by customer confusion and perceptions of risk. In this sense ENvest[SCE] and TEEM played a role as a force to stabilize and standardize practices in the industry to create a more conducive environment for customer activity. While ENvest[SCE] and TEEM created market niches for themselves, thus redistributing market share, this potential change in perception of the performance contracting market could result in increased activity for all full service providers.

Therefore, during this transitional period to a restructured performance contracting market, as well as a restructured utility industry, the focus of regulators would best be on preventing the cross-subsidization of utility affiliate offerings from the tangible resources of a regulated utility. The Commission should also require a "truth in advertising" policy so that customers are not misled as to the nature or extent of the utility affiliate's connection with the regulated utility and establish alternative public institutions that can provide credibility and trust to overcome existing market barriers for other service providers to counterbalance a utility's affiliate's benefits from affiliation with a regulated utility. This latter institution could also pursue increased societal benefits through the use of public or ratepayer resources (e.g., for rebates), if desired.

Increasing effective competition that accelerates and/or expands the level of energy efficiency activity (which is a substitute for usage) will also help increase the competitiveness and efficiency benefits anticipated from more competitive electric and natural gas supply markets.

1. INTRODUCTION

This report presents an evaluation of the competitive impacts of two pilot programs: ENvest[SCE], developed and implemented by Southern California Edison Company (SCE) and TEEM, developed and implemented by Southern California Gas Company (SoCal). Both pilots were authorized by the California Public Utilities Commission (Commission). This final report and an Interim Report issued on August 21, 1995, were prepared for the Commission Advisory and Compliance Division (CACD) of the Commission. A Project Team comprised of Wisconsin Energy Conservation Corporation (WECC) and several independent contractors conducted the evaluation.

BACKGROUND AND HISTORY

Beginning in the 1970s and continuing to today, the Commission has encouraged California investor owned utilities to invest in cost-effective energy efficiency programs which provide verifiable energy savings. These programs have traditionally been funded by all ratepayers. In 1993 and 1994, SCE and SoCal proposed separate pilot programs which would require participating customers to repay most, if not all, of the costs of energy efficiency projects contracted for under the pilots. The intent of this repayment obligation was to lower costs to ratepayers. While the pilots differ significantly in their basic design from each other and from previous utility Demand-Side Management (DSM) program designs, each relies predominantly on third parties for the actual implementation of projects. In addition, the funding for projects is primarily from third parties and/or utility shareholders, although ratepayer funding is also used to a limited extent in the ENvest[SCE] pilot.

With this new utility role in the competitive provision of energy efficiency services, the Commission, pursuant to Resolutions E-3337 and G-3140, determined that an evaluation of these pilots be conducted in order to fulfill its mandate expressed in Chapter 984 of the Statutes of 1983. In Chapter 984, the California Legislature expressed its intent that the energy efficiency market develop in a competitive manner, free from the dominance of utilities. The purpose of this evaluation was to determine whether programs like these pilots are consistent with the development of a competitive marketplace for energy efficiency services, before proceeding beyond the pilot phase for these new utility services.

The Commission, in its Request For Proposal (RFP) for the evaluation of these pilot programs, determined that there should be an interim and final report. The Interim Report, issued on August 21, 1995, included: (1) an assessment of whether the market for energy efficiency services had changed since implementation of the ENvest[SCE] and TEEM pilots and (2) an analysis of the competitive impacts of SCE's ENvest[SCE] pilot. Because the TEEM pilot had only begun operation shortly before the preparation of the Interim Report, that report mainly focused on the market and competitive impacts of the ENvest[SCE] pilot. This final report updates the experience and lessons learned from that pilot (ENvest[SCE]) as well as analyzes the experience and impacts from the TEEM pilot to date.

The ENvest[SCE] pilot was closed to new participants on December 31, 1995, consistent with the Commission's Resolutions authorizing the pilot. Implementation of existing customer projects is expected to occur into 1998. The TEEM pilot is currently authorized to solicit participants through December 31, 1996.

WECC was retained through a competitive RFP process to perform an evaluation of these pilot programs.

OBJECTIVES OF STUDY AND RESEARCH QUESTIONS

The areas of investigation for this final report were established by the Commission in its RFP which directed that the evaluation focus on two major topics:

(1) A market assessment of the energy efficiency services market prior to and after the pilots' implementation. It was envisioned that a significant portion of this evaluation component would consist of reviewing and verifying the accuracy of market assessments completed for the utilities; and

(2) An assessment of the competitive impacts of the ENvest[SCE] and TEEM pilot programs on the energy efficiency services market.

(RFP: Evaluation of Comprehensive Impact of ENvest[SCE] and TEEM, April 1, 1995, pages 12 and 14.)

Objectives

This evaluation addresses the following objectives related to (1) assessing the effectiveness of the program design embodied in the ENvest[SCE] and TEEM pilots to affect the level of activity in the energy efficiency market and (2) assessing the competitive impacts of the ENvest[SCE] and TEEM pilots:

- Determine the essential characteristics that make an energy efficiency market workably competitive;
- Determine (a) to what extent the characteristics of a competitive market existed prior to the ENvest[SCE] and TEEM pilot programs and (b) to what extent these programs have had an impact on the efficiency market;
- Determine what actions, if any, are necessary and appropriate to further the creation of a sustainable, more competitive market for energy efficiency services;
- Determine the appropriate utility role(s) in the development of a competitive energy efficiency service market;
- Determine what is needed, if anything, to ensure that ENvest[SCE] and TEEM are (a) in compliance with the intent of Chapter 984 to ensure a competitive energy services market, free from utility dominance, and (b) an appropriate utility function;
- Determine the benefits in terms of increased customer activity to pursue energy efficiency projects due to the ENvest[SCE] and TEEM program designs and the potential benefits to utility ratepayers from those program designs; and
- Determine the implications of potential industry restructuring with respect to ENvest[SCE]'s and TEEM's competitive market impacts.

Research Questions

The following research questions directed the course of this evaluation:

1. What is the size of the market for energy efficiency services, including supporting financial services, and other related services? Address in terms of technical potential, market potential, and economic potential.

2. Are these markets workably competitive?

3. Are there significant barriers to entry in this market? Are they normal (for example, start-up capital), or somehow unique to the market?

4. Who are the key competitors in the market? Does any competitor have a disproportionate market share? If so, why?

5. Identify customer barriers to adoption of comprehensive energy efficiency projects.

6. Does SCE's role in ENvest[SCE] and/or SoCal's role in TEEM provide them with market power, given their access to customer information, ratepayer funding, and the existing marketing infrastructure? If yes, does it confer upon ENvest[SCE] and TEEM an unfair competitive advantage? Do SCE's and/or SoCal's shareholders derive a material value from the use of ratepayer-supported intangible assets such as name recognition, reputation, expertise, customer lists, and utility information by ENvest[SCE] and TEEM? Can a value be established for these assets, assuming some compensation for the use of these assets is considered necessary to promote competition? How might a value for these assets be quantified?

7. Were customers aware, prior to the pilots, of the energy efficiency services options available? Were program participants informed that SCE and SoCal are not the sole provider of energy efficiency service?

8. Were competitors provided equal access to customer information as were ENvest[SCE] and TEEM? Did the utilities charge the pilot organizations for customer information in a manner consistent with how it charges energy services companies for comparable information?

9. Describe the procedures for determining qualified third parties for ENvest[SCE] and TEEM. Was this process fair and applied consistently? Were industry participants appropriately involved in developing the selection guidelines? Was the selection process by ENvest[SCE] and TEEM consistent with energy services company practices when trade allies partner to offer comprehensive services? If the selection process had different characteristics from industry practice, did it impact ENvest[SCE], TEEM's or any competitor's ability to compete? Were the

criteria consistent with the Commission's Women Minority Disabled Veteran Business-Enterprises guidelines?

10. Did the partnering of providers encouraged by ENvest[SCE] and/or TEEM enhance the market for energy efficiency by providing a vehicle to complete comprehensive projects that would otherwise not have been adopted? Did association of the service available in these pilots with SCE or SoCal play a major part in customers' decision to participate? Does ENvest[SCE] and/or TEEM increase or decrease service provider access to the market?

11. Were the pilots more successful in penetrating certain market sectors than others? Is this type of energy efficiency project solution approach more appropriate for certain market sectors? Should any limitation be place on customer eligibility for this type of program because of the shareholder funding aspect of the program? What is the ENvest[SCE] and/or TEEM pilot's projected market share?

12. Were the established customer eligibility/selection criteria appropriate? Were certain market sectors excluded from participation in the pilot? Is this appropriate for future programs?

13. Did ENvest[SCE] and TEEM provide energy efficiency information and projects in a fuel-neutral manner? Did SCE and SoCal coordinate pilots regarding the potential for gas savings at customer sites? Did application of Commission demand-side management rules impact the ability of SCE or SoCal to achieve its investment goals for the pilot? Did SCE or SoCal forego certain potential projects because they did not comply with the Commission's demand-side management rules?

14. Did ratepayer contributions in ENvest[SCE] allow SCE to price its service below market costs?

15. Did ENvest[SCE] impact the ability of winning bidders in SCE's demand-side management bidding pilots to perform under any contract?

16. Are coordination activities between SCE and SoCal on this type of program consistent with the development of the competitive market? Would joint sponsorship, by SCE and SoCal, of this type of program promote competition in this market?

17. As structured, do the ENvest[SCE] and/or TEEM pilots allow the energy efficiency market to develop and operate in a competitive manner, free from the dominance of utilities? If utility

dominance of this market exists, has it improved or hindered customer access to energy efficiency services?

18. Were ENvest[SCE] and TEEM, as structured, consistent with the policies expressed in Chapter 984 of the Statutes of 1983? If not, what modifications would make it so? Should the Commission encourage this, or similarly funded energy efficiency efforts, as consistent with the development of a competitive market?

METHODOLOGY OF THE REPORT

There were four standard techniques used in the preparation of this report to analyze the issues presented by this evaluation:

(1) Telephone and/or in-person interviews were conducted with utility, ENvest[SCE] and TEEM personnel responsible for designing and implementing the pilot programs, with a broad selection of service providers and with customers contacted by ENvest[SCE] and TEEM who were either participating in or had been contacted but did not participate further in the pilot programs. A list of interviews is set forth in Appendix A. Interviews were conducted both to prepare the Interim Report and this final report.

(2) Written survey instruments were sent to all qualified service providers (other than Full Service Providers) under the ENvest[SCE] program requesting information about both the ENvest[SCE] pilot and the nature and extent of the energy efficiency services market in the Southern California region. In some cases, telephone interviews were subsequently conducted using the same survey instrument (or a shortened version) to increase the responses received. TEEM service providers were interviewed by telephone. As is typical of process evaluations, persons interviewed or receiving a written survey were informed that any responses would be kept confidential and that no direct attribution of responses would be made in the report. Copies of the written survey instruments and telephone interview formats are included in Appendix B.

(3) The assessment of the impact of the pilot programs on the energy efficiency services market required the Project Team to review estimates of market size and potential prepared by SoCal Gas, SCE, independent consultants retained by SCE/ENvest[SCE], or contained in publicly available estimates of the energy services market in Southern California, both before and after the commencement of these pilot programs. In addition, specific questions

were asked of participants in the energy efficiency services market to determine the nature and scope of transactions in that market as well as potential barriers to the full development of the energy services market.

(4) The assessment of the competitive impacts of the ENvest[SCE] and TEEM pilot programs required the development of a framework for identifying workably competitive markets as well as an understanding of competitive advantage and strategy. While there are many published works presenting various frameworks for such an assessment, this report particularly utilizes the framework developed in the works of Michael E. Porter (Competitive Strategy, MacMillan, 1980; and Competitive Advantage, MacMillan, 1985). These works have been recognized as presenting the most widely used technique for competitive analysis.

The data for this evaluation came from several sources:

- Documents provided by the CACD including reports, Commission decisions, and other documents;

- Information and documents supplied by SCE/ENvest[SCE] and SoCal/TEEM including responses to data requests and confidential reports prepared by independent consultants for the utilities;

- Published documents such as reports, papers, and articles on the size and competitiveness of energy efficiency markets, the success and competitive impact of utility programs similar to ENvest[SCE] and TEEM, and the nature and extent of market barriers for customers in commercial, industrial, and institutional segments;

- As noted, from interviews and written surveys of utility, ENvest[SCE] and TEEM personnel, energy service providers, and customers contacted by and/or participating in the pilot programs.

The Project Team also reviewed and analyzed data in the utility's program tracking database for the period of operation to date of the ENvest[SCE] program. Prior Demand-Side Management (DSM) efforts by the utilities in their service territories including the recent DSM bidding pilots were also reviewed. In addition, the Project Team has reviewed confidential information concerning the extent of competition and potential competitive strategies for utilities and utility affiliates in the Southern California region.

STRUCTURE OF THE REPORT

The report is organized into the four main parts containing 12 chapters as outlined below.

Part I (Chapters 1 and 2) of the report presents a summary of the history of the development of the pilot programs, summarizes the utility and Commission objectives in conducting the pilots, and describes the specific attributes and characteristics of the ENvest[SCE] and TEEM pilots.

Part II (Chapters 3 through 7) presents a description and assessment of the actual implementation of the ENvest[SCE] and TEEM pilots through April, 1996. Chapter 3 details the actual level of activity with customers and service providers for the ENvest[SCE] pilot. Chapter 4 sets forth similar information on the results from the TEEM pilot. Chapter 5 addresses the experience from the pilots concerning program implementation and compliance with regulatory requirements. Chapter 6 sets forth the perceptions of participating and non-participating customers in the ENvest[SCE] pilot including their recommendations for improvements or expansion beyond a pilot stage. Chapter 7 presents the perceptions of the various types of service providers (e.g., comprehensive ESCO, lighting contractors, Measurement and Evaluation firms, etc.) on the design, implementation and competitive impacts of ENvest[SCE]. Chapter 8 provides a review of customer perceptions of the TEEM pilot and Chapter 9 analyzes the perceptions of service providers involved with TEEM.

Part III (Chapters 10 and 11) provide a framework for and analysis of the impact of the pilot programs on the energy efficiency products and services market in Southern California. Chapter 10 focuses on the pilots' effect on the overall size or degree of activity in the energy efficiency market. Chapter 11 analyzes the competitive impacts of the ENvest[SCE] pilot on the energy efficiency market in Southern California.

Part IV (Chapter 12) sets forth the Project Teams' findings about: (1) the effectiveness of the pilot program designs to encourage customers to undertake comprehensive energy efficiency projects including an assessment by customer market segments; (2) the effect of the pilots' designs on service provider access to the energy efficiency services market; (3) the impact of the pilots on the development of a competitive energy efficiency services market, free from the dominance of utilities; (4) the impact of the potential utility use of regulated assets, resources and information, and potential compensation for utility ratepayers for such use; and (5) the potential impacts of ENvest[SCE]- or TEEM-type structures in a more competitive, restructured energy services market.

LIMITATIONS ON INFORMATION FOR THIS EVALUATION

This evaluation is limited to a degree by the actual information available from the ENvest[SCE] and TEEM pilots. ENvest[SCE] started ramping-up in October, 1993. It was necessary for an organizational staff to be hired, a service provider network to be qualified, and sales contacts to be initiated and pursued with customers. TEEM did not begin operations until February, 1995. Until February, 1996, TEEM operated with only three primary employees, limiting its capabilities to market and implement projects. As a result, TEEM only had three signed customer agreements as of May, 1996. The nature of ENvest[SCE]'s and TEEM's offering is also subject to a sales or business cycle that can typically require 18 to 24 months between an initial contact and a final agreement for services. In addition, while the ENvest[SCE] pilot marketing and customer sign-up phase ended on December 31, 1995, most projects will be implemented over the next two years. As a result, final costs and benefits can only be estimated for most projects for this report.

This evaluation must therefore be based on more than simply reporting the actual results of each pilot to date. Despite the somewhat limited information, the Project Team believes that certain observations, trends and conclusions can be drawn from the pilots for this report. While the current experience from the pilots may not be sufficient to "prove" the trends or conclusions described, they represent lessons learned from two "real world" tests that have contributed to a better understanding of more effective energy efficiency efforts as well as the role of utilities in promoting increased energy efficiency.

2. DESCRIPTION OF THE PILOT PROGRAMS

OVERVIEW

This Chapter describes the history of the development of the ENvest[SCE] and TEEM pilots and details the objectives and program designs for the pilot programs. The Chapter is intended to be descriptive of SCE's and SoCal's purposes as well as the means by which they ultimately decided to structure and operate ENvest[SCE] and TEEM. Section A describes the ENvest[SCE] pilot. Section B details the TEEM pilot. Section C compares the major similarities and differences in program design between the two pilots.

A. HISTORY OF THE DEVELOPMENT OF THE ENvest[SCE] CONCEPT

On July 30, 1993, SCE filed an Advice Letter with the Commission requesting that the Commission promptly approve "...a pilot program through December 31, 1995, to test a new approach to stimulating customer energy efficiency in Edison's service territory." (Advice Letter No. 1011-E dated July 30, 1993, page 1.) This filing, which was developed with parties outside of SCE prior to its submission to the Commission, proposed a new approach—called ENvest[SCE]—that was intended to achieve four fundamental objectives:

(1) Better respond to the needs of SCE's large commercial and industrial customers through the offering of integrated packages of energy efficiency solutions;

(2) Better leverage ratepayer funding for DSM programs through substantial shareholder investment and customer co-payment;

(3) Accelerate the development of a market for cost-effective competitive energy efficiency products and services in Southern California; and

(4) Further the Commission's goal of lower electricity bills, greater accountability to customers for energy efficiency results, improved productivity, and affordable environmental compliance.

(Advice Letter No. 1011-E, Overview, page 2.)

SCE explained the need for a new concept such as ENvest[SCE] as follows:

> While Edison and other utilities active in the DSM arena over the past decade have seen positive results for their efforts, traditional rebate-type DSM programs cannot reach all markets or overcome all barriers to customer investment in energy efficiency. Edison believes this has occurred because there are certain recurring impediments to substantial customer investment in otherwise cost-effective energy efficiency solutions.
>
> (Advice Letter No. 1011-E, Overview, page 4.)

These recurring impediments were specifically identified as:

> (1) Lack of affordability caused by (a) high first costs for proven energy efficiency technologies, (b) long customer paybacks, and (c) customer capital investment criteria that allocate capital to competing uses with shorter payback periods or with greater connection to the customer's core business;
>
> (2) The complexity for a customer to know what to do and how to do it, due to a fragmented energy efficiency services industry. Simply, the "hassle" factor, as well as the resource commitment in trying to develop and implement comprehensive energy efficiency solutions, was perceived to deter many customers from pursuing cost-effective options; and
>
> (3) The diffused accountability for ensuring or standing behind the performance of energy efficiency solutions due to a fragmented market. The risk and uncertainty that the benefits expected could actually occur, discourage customers from acting.
>
> (Advice Letter No. 1011-E, Overview, pages 4-5.)

The ENvest[SCE] program design was intended to overcome these significant customer barriers to pursuing comprehensive cost-effective energy efficiency projects.

SCE identified the benefits from the ENvest[SCE] concept, if it worked, as:

- Greater investment and customer benefits from the expanded, accelerated adoption of energy efficiency technology across SCE's service territory;
- Reduced costs and risks for utility ratepayers for greater benefits from DSM;

- Simplified regulation because of the direct contractual accountability between ENvest[SCE] and utility customers;

- Expanding customer demand for energy efficiency and therefore accelerating the development of the market for third party energy efficiency suppliers; and

- The opportunity for SCE shareholders to earn a return on their DSM investment as well as promoting the economic vitality and environmental quality of SCE's service territory.

(Advice Letter No. 1011-E, Overview, pages 3-5.)

Briefly summarized, the ENvest[SCE] concept was premised on the assumption that more customers can be persuaded to pursue comprehensive energy efficiency efforts, which they will be willing to pay for (totally or in large part), if certain customer barriers could be more effectively overcome by a program design focused on customer needs, rather than on utility resource considerations. The two most important aspects of the purpose of the ENvest[SCE] pilot were: (1) its intention to accelerate the development of comprehensive energy efficiency projects, not to displace other SCE programs such as rebates that promoted less comprehensive energy efficiency applications by customer; and (2) its purpose to better target the use of ratepayer resources and utility assets to reduce the cost and increase the benefits to ratepayers by more effective program designs that would increase comprehensive energy efficiency activity. This increase in customer demand for energy efficiency would result in increased business for third party energy services providers promoting a more sustainable and profitable energy efficiency market.

The role of the ENvest[SCE] pilot was to test a program design that would overcome the identified customer barriers and allow these hoped for benefits from comprehensive energy efficiency projects to occur.

The ENvest[SCE] pilot was authorized by the Commission to continue through December 31, 1995. While implementation of customer projects will extend beyond that date, SCE chose not to seek Commission authorization to keep the pilot open to new participants after the December 31, 1995 date. The reasons that SCE decided not to extend the ENvest[SCE] pilot are discussed in more detail in Chapter 10.

ORIGINS OF THE ENvest[SCE] CONCEPT

The ENvest[SCE] concept presented in the July, 1993 filing to the Commission appears to be the result of three distinct lines of program development being pursued within SCE in 1992 and early 1993. By far the most important appears to be a comprehensive series of planning and market surveillance and business strategy studies and recommendations made by an independent consultant to focus energy efficiency efforts on the "customer side of the meter." This planning and information sought to (1) determine the motivating needs or concerns of large commercial, industrial, and institutional customers concerning energy efficiency and (2) investigate the potential for SCE to commence and operate a profitable business providing energy efficiency services to large customers. Indeed, one recommendation suggested that SCE proceed to conduct a pilot using regulated assets to test the ability to capture cost-effective energy efficiency opportunities available to large customers.

A second line of DSM program development present was SCE's interest in testing a "Tailored Incentive Pilot" in which rebates to large customers were redesigned to focus on negotiated rebates with customers based on the presence of longer customer paybacks and the expected useful life of the measures of projects undertaken. Evaluations of SCE's prior use of untargeted rebates to large customers had raised concerns about the potential extent of free riders. The "tailored rebate" concept sought to maximize the actual "bang for the buck" of any utility rebates. This concept shows up in the ENvest[SCE] concept as the ratepayer financing contribution to allow longer payback projects by ensuring that customers could retain at least 20% of project savings.

The third line of development arose out of the Commission's en banc proceedings concerning the future of DSM in California held in February, 1993. During this en banc, the Commission requested utilities to come up with some kind of performance guarantees or assurances for customers to encourage them to undertake energy efficiency projects. This concept appears in the ENvest[SCE] design as the wrap-around warranty offered to customers.

The July, 1993 filing presented the ENvest[SCE] concept as an improved regulatory DSM design more responsive to customer concerns and one intended to expand business for, not compete with, private providers. The "Tailored Rebate Pilot" concept was used to "subsidize" ENvest[SCE] financing while the wrap-around warranty responded to the Commission's challenge. In short, the ENvest[SCE] pilot approved by the Commission was an improved DSM program design utilizing ratepayers funds and utility assets to test whether commercial, industrial, and institutional customers could be more effectively encouraged to implement comprehensive cost-effective energy efficiency projects, while mitigating potential rate impacts from such efforts.

DESIGN OF THE ENvest[SCE] PROGRAM

The ENvest[SCE] program design tested in this pilot was not assumed to be the optimal potential design. Rather, it was intended to provide a basis for learning whether and to what degree the ENvest[SCE] concept was a better approach to achieving "rapid, lasting improvement" in securing the benefits of comprehensive energy efficiency than traditional DSM approaches. Therefore, while the ENvest[SCE] pilot program was mainly designed around overcoming the specific customer barriers identified as the key barriers to customer investment in comprehensive energy efficiency, some traditional elements of program design, such as ratepayer co-funding, were also present.

Following is a description of the important or unique components of the ENvest[SCE] pilot program design.

I. Market Segments and Uses Covered

(1) Customers Covered: The ENvest[SCE] pilot was intended to focus on larger, public sector, commercial and industrial customers. These customers remained free to choose to participate in other available SCE programs (e.g., rebate programs). However, a customer had to chose between participation in ENvest[SCE] or available rebate programs, as participants in ENvest[SCE] were ineligible for ratepayer contributions other than those available under the ENvest[SCE] program. ENvest[SCE] was also not offered to customer facilities located in the San Gabriel and Southern Districts in which the Commission-authorized DSM bidding pilot was being conducted.

(2) Energy Efficiency Technologies Covered: Eligible applications included lighting, HVAC, motors, and pumps as well as energy-related processes. Each project had to satisfy a Total Resource Cost (TRC) requirement greater than 1.0. ENvest[SCE] was to be a fuel-neutral program offering the customer the best solution to their need regardless of energy or fuel source.

Table 2-1 sets forth the types of energy efficiency equipment to be offered to customers through ENvest[SCE].

Table 2-1 ENvest[SCE] Energy Efficient Equipment Solution Types

Category	Equipment	Customer Sector
Lighting	Compact fluorescent bulbs; F32 T-8 lamps; electron ballasts, halogen infrared lamps	Commercial Industrial
Envelope	Window film; special glazing; roof coatings; insulation; weather stripping; shades and reflectors	Commercial
HVAC (space)	Double duct VAV; VAV boxes/air balance; high efficiency fan motors; high efficiency elevator motors, high efficiency H_2O pumps; fan variable speed drives; high efficiency centrifugal chillers; high efficiency boilers; evaporators; condensers; water-side economizers; cooling towers; heat pumps; gas absorption chillers	Commercial Industrial
Refrigeration	High efficiency refrigerators; evaporators; condensers; exchange coolants; insulation	Commercial
Controls & Monitors	Occupancy sensors; daylighting controls; building monitors; automated environmental control systems	Commercial Industrial
Water Heating & Chilling	Pipe insulation; impeller pumps; condensers; electronic controls; gas heaters; thermal blankets	Commercial
Industrial Processes	Variable speed drives; high efficiency motors; high efficiency compressed air systems; high efficiency pumps; high efficiency fans; interlocks; solid state motor generator retrofit; insulating jackets	Industrial

II. ENvest[SCE] As A One-Stop Source For Integrated Energy Efficiency Solutions

ENvest[SCE] was designed to overcome the customer barrier assumed to be created by a fragmented energy efficiency services market which discouraged customers from pursuing comprehensive energy efficiency solutions. This barrier, which required a customer to seek information and arrange and integrate a number of service providers on its own, was sought to be overcome by having ENvest[SCE] offer a mechanism for one-stop shopping.

SCE described ENvest[SCE]'s role in this regard as follows:

> Edison will act as an integrator and focal point of customer contact, working with the customer and third party vendors to design, develop, propose, and install a customized, integrated package of energy efficiency hardware and service solutions.

> The work will primarily be delivered through a network of qualified ESCOs, manufacturers, and other vendors and subcontractors.
>
> (Advice Letter No. 1011-E, Overview, page 5.)

As part of this one-stop shop, ENvest[SCE] offered customers a bundled portfolio of services including cost-effective equipment, support services from initial energy audits to follow-up monitoring, financing options that could be repaid on the utility bill, and customer protections in terms of performance reporting and warranties.

By offering a bundled package that was thought to be responsive to customer needs and concerns, ENvest[SCE] sought to eliminate or minimize the hassle to pursue comprehensive projects. In addition, individual components of the bundle of services offered specifically sought to minimize obstacles or sources of risk and uncertainty to customers caused by energy efficiency projects. These individual components will be discussed separately in this section.

III. ENvest[SCE] Relationship with Service Providers

ENvest[SCE] was designed to act as an arranger, integrator, and financier in which actual design, installation, and monitoring was to be primarily performed by private, third party service providers. ENvest[SCE] would qualify ESCOs, manufacturers, and other vendors and subcontractors as part of an ENvest[SCE] service provider network.

Table 2-2 sets forth the Roles and Responsibilities of ENvest[SCE] and its service partners as indicated by experience from the pilot so far.

Table 2-2 Typical Roles and Responsibilities of ENvest[SCE] Partners

Function	Party
Contract with Customer	SCE
Contract with Utility	Energy Service Company (ESCO)
Contract with Vendors, Subcontractor	ESCO/SCE
Marketing	SCE
Preliminary Audits	SCE and ESCO
Credit Evaluation	SCE
Detailed Engineering Audit	ESCO/Engineering Companies
Monitoring and Evaluation	SCE
Engineering	ESCO/Engineering Companies
Project Management	SCE and ESCO
Financing	SCE
Billing	SCE
Performance Guarantee	SCE
Equipment/Installation	ESCO
Construction Management	SCE/ESCO
Start-Up/Maintenance	ESCO
Warranty	SCE/Manufacturers

The bundled set of services offered by ENvest[SCE] was intended to be delivered in three phases:

(1) A planning phase to enable the customer to make an informed decision about the value of a proposed ENvest[SCE] solution. After explaining the details of the program, SCE would arrange for an audit of the customer's facility using an ENvest[SCE] service partner. The results of this audit are combined with a usage analysis to develop a solution to propose to the customer;

(2) If the customer approves the solution, the installation phase begins. This phase contains the following services: final engineering design, procurement, permitting, installation, post-installation inspection and post-installation start-up, and commissioning;

(3) The post-installation phase provides the follow-up services necessary to ensure that the customer continues to get the benefits of the ENvest^{SCE} solution as proposed. The services provided or offered during this phase include: operational training of customer's staff, maintenance training of customer's staff, maintenance, performance verification and/or equipment recommissioning, and extended warranty services.

IV. ENvest^{SCE} Financing

In developing ENvest^{SCE}, SCE identified the up-front cost of investing in energy efficiency facilities and equipment as the primary customer investment barrier. (Advice Letter No. 1011-E, Attachment A, page 19). To overcome this barrier, the ENvest^{SCE} program design offered two different financing options to customers. The source of the financing was primarily from SCE shareholders, with a limited contribution under specific circumstances from utility ratepayers. The ENvest^{SCE} pilot specifically precluded a customer who was participating in ENvest^{SCE} from using rebates offered by SCE.

Customers were required to repay any financing received from utility shareholders plus a return calculated at the utility's authorized rate of return. The ENvest^{SCE} design offered two distinct types of financing:

(1) A service charge option ("Customer Efficiency Facilities" or "CEF" charge) under which SCE owned the facilities and the customer paid a monthly charge for their use; and

(2) A conventional loan offering ("Customer Efficiency Loan" or "CEL" charge) under which the customer owns the equipment and repays SCE for the loan to purchase the equipment, generally subject to SCE's security interest.

Under either financing option, the term of the contract could not exceed 80% of the average useful life of the installed equipment. The cost to be repaid by the customer covered the actual direct costs of design, engineering construction, materials, and any direct costs of the ENvest^{SCE} energy solution packages and other contingency amounts and overheads approved

by the Commission and a portion of the Commission authorized return as SCE might elect to include. A fixed or variable interest rate option was offered in which a risk premium was included for the fixed rate.

Customers payments would be collected monthly on the customer's regular utility bill. SCE's investment would be levelized for collection so that customer payments were not front loaded. Failure to pay would be addressed by standard electric service collection procedures.

V. Limited Ratepayer Co-investment in Qualifying ENvest[SCE] Transactions

SCE stated that it would use up to $75 million in shareholder funds for customer financing. SCE also proposed that ratepayers make a limited contribution of $13 million (from carryover 1992 DSM funds) as a co-investment to customer financing. Ratepayer support was to be limited to the amount necessary to cause the calculated ENvest[SCE] monthly repayment by the customer to be at least 20% less that the estimated monthly savings (calculated at current energy rates). But in no event could the ratepayer co-investment exceed $1 million for a project or exceed 20% of project costs, whichever was less.

This ratepayer co-investment was only eligible for projects that:

- Had a simple payback period of three years or longer,
- Had a TRC score of at least 1.0; and
- Were a minimum of $250,000 for private sector projects and $100,000 for public infrastructure projects.

VI. Managing Credit Risks and Bad Debt Reserve Fund

The ENvest[SCE] program sought to both minimize bad debts as well as provide a loss reserve fund against bad debts. The bad debt protection efforts included:

- Monitoring monthly payment activity and use regulatory remedies as appropriate, including disconnection;
- For loan transactions, obtain appropriate security from the customer;

- Contract payment obligations that become due when the customer moves or ceases to be an SCE customer; and

- Establish a loan loss reserve fund.

The loss reserve fund was to be funded: (1) by charges to customers as part of their loan and service charge payments; (2) by ratepayers up to an amount not to exceed $2 million; and (3) by shareholders for losses beyond those funded by customers or ratepayers.

VII. Performance Warranty, Savings Measurement, and Reports

ENvest[SCE] provides the customer a "wrap-around performance guarantee" to supplement the standard equipment manufacturer's and installation protections. The warranty covers replacement, deviation from expected estimated savings, and/or equipment failure for 12 months. The purpose of the ENvest[SCE] guarantee is to warrant the performance of the installed equipment under specifically identified operating conditions. Thus, this warranty is NOT a bill savings guarantee.

In addition, during the pilot period, ENvest[SCE] will measure the effectiveness of ENvest[SCE] projects to provide results both to the customer and ENvest[SCE]. These measurements will focus on assessing program gross savings and technical degradation using Commission adopted metering and monitoring protocols. The customer can choose among a level of options in terms of the period of time and intensity of measurement.

VIII. Administrative Costs and Program Tracking

The ENvest[SCE] proposal filed by SCE provided that utility ratepayers would pay for the administrative costs of the pilot, estimated at approximately $9 million. This was deemed to be reasonable since (1) ratepayers would benefit from the system benefits produced and (2) if successful, the ENvest[SCE] concept would create greater savings at lower ratepayer expense.

Because of the innovative nature of the pilot, a separate ENvest[SCE] Pilot Program Adjustment Mechanism was established separate from SCE's DSM adjustment clause. Four accounts were to be established and tracked:

(1) The ENvest[SCE] Pilot Program Adjustment Account to track all pilot program revenues and costs (including return and taxes);

(2) The ENvest[SCE] Pilot Program Administration Cost Tracking Account to track on a monthly basis the difference between the authorized level of ratepayer-funded program costs and recorded program cost;

(3) The ENvest[SCE] Ratepayer Investment Tracking Account to track on a monthly basis the amount of ratepayer investment funds which have not been allocated to specific ENvest[SCE] contracts; and

(4) The ENvest[SCE] Credit Loss Tracking Account to track on a monthly basis the difference between revenues and expenditures associated with credit losses on ENvest[SCE] contracts.

This Mechanism will remain in place until the expiration of the last ENvest[SCE] contract.

COMMISSION APPROVAL

The Commission, in Resolution E-3337 dated October 6, 1993, authorized SCE to conduct a pilot of the ENvest[SCE] concept, as described in its Advice Letter No. 1011-E and attachments and subsequent letters of clarification, through December 31, 1995. In granting authorization, the Commission approved the reallocation of 1992 unspent ratepayer DSM funds to the pilot in the amount of $16 million. Subsequent to this Resolution, the Commission issued Resolutions E-3345 and E-3379 which authorized an additional reallocation of $7 million of DSM funds to ENvest[SCE] for program administrative expenses.

Of the $23 million authorized, $13 million is allocated to customer co-investment. Ratepayers would pay up to $8 million for ENvest[SCE] administrative expenses (which ENvest was directed to use best efforts to minimize). The other $2 million could be used to cover customer bad debts as part of the loan credit reserve. The expenditures of these ratepayer funds were made subject to a review of reasonableness for management prudence that existed at the time the decisions were made.

In addition, the Commission required that this independent evaluation be performed of the potential competitive impacts of the ENvest[SCE] pilot prior to there being any decision on full implementation. This evaluation was to be funded 20% by SCE ratepayers and 80% by SCE shareholders.

OPERATION AND ADMINISTRATIVE DESIGN

The ENvest[SCE] program design specified that ENvest[SCE] would only provide two types of services directly:

(1) A core role acting as a broker/integrator of energy efficiency services and products offered or produced by independent firms; and

(2) Financing services.

Table 2-3 summarizes the ENvest[SCE] "solution components" provided or offered to customers and who would actually deliver them.

Table 2-3 ENvest[SCE] Solution Components (ENvest[SCE] Application, Attachment A, page 15.)

Solution Component	Description	Providers
Services	Core and ancillary services that precede, accompany, and follow hardware installation: • Energy Audit & Bill Analysis • Engineering, Design, & Installation • Permitting • Commission & testing • Staff Operating & Maintenance Training • Performance Verification	SCE coordinates the efforts of • Energy Service Companies • Engineering Contractors • Equipment Suppliers • Installation Contractors
Equipment	Energy efficiency hardware including: • Lighting Fixtures, Ballasts, and Tubes • HVAC Equipment • High Efficiency Electric Motors • Energy Management Systems	SCE and the customer choose from among numerous suppliers of energy efficient equipment proposed by the design agent
Financing	Financing options that include: • Customer Efficiency Loans (CELs) • Customer Efficiency Facilities (CEFs-similar to existing added facility agreements) • Ratepayer Co-investment	SCE provides financing options with support from • SCE Shareholders (principal financing) • Ratepayers (co-investment in qualifying projects)
Customer Protections	Safeguards ensuring that energy efficiency is achieved including: • Measurement & Evaluation of Installed Equipment • Optional Maintenance Agreements • Warranties • Performance Guarantees	SCE provides wrap-around coverage for the guarantees and services of: • Energy Service Companies • Engineering Contractors • Equipment Suppliers • Installation Contractors

Thus, aside from project development and management, ENvest[SCE] coordinates and oversees the implementation of services and installation of equipment by the qualified service providers in its network.

ENvest[SCE] brokers and integrates services by:

- Assessing the feasibility of a proposed project in one of two ways:
  - Using ENvest[SCE] staff; or
  - Using a third-party service provider selected by ENvest[SCE] through a competitive bid process.
- Presenting project feasibility assessment reports to customers for negotiating either:
  - A project development agreement in which the customer authorizes further development and accepts responsibility for specified development costs; or
  - A customer agreement in which the customer contracts for a full project implementation and financing solution.
- Soliciting bids from either individual service providers or comprehensive service providers (ENvest[SCE] solicits input from the customer for the bidders' list, then selects a bidders' list by matching the proposed attributes of a project with descriptive information about qualified service providers in the ENvest[SCE] database);
- Selecting winning proposals based on ranking of the technical and commercial information in bidders' written proposals and oral presentations;
- Financing the goods and services supplied by third-party providers;
- Overseeing project management of equipment procurement, permitting, installation, inspection, and commissioning;
- Measuring and verifying energy savings (through third-party providers selected by means of a competitive bid solicitation); and
- Providing equipment performance warranties to the standards specified in the customer project agreement.

B. HISTORY OF THE DEVELOPMENT OF THE TEEM PILOT

Southern California Gas Company (SoCal) filed an Advice Letter with the Commission on July 14, 1994, seeking approval for a redesigned Total Energy Efficiency Management (TEEM) pilot. The filing sought to revise a program approved by the Commission in a SoCal general rate decision (D. 93-12-043) in which SoCal had proposed to undertake joint ratepayer funded DSM efforts with SCE. The redesigned TEEM program was intended to be:

> ...a customer-focused program that makes it attractive for customers to invest in comprehensive energy-savings projects without relying on ratepayer subsidies.
>
> (Advice Letter No. 2329, July 15, 1994, page 2.)

The objective of the redesigned TEEM was to encourage SoCal's core and non-core public sector, commercial and industrial customers to implement "comprehensive, integrated, fuel-neutral energy savings projects" without ratepayer funded incentives or rebates.

The stated goals of TEEM were:

(1) Satisfying customers' energy-related needs for higher efficiency, lower operating cost technologies;

(2) Demonstrating that fuel-neutral solutions will stimulate a customer's investment in comprehensive energy solutions;

(3) Encourage equipment manufacturers to develop new cost-effective, high-efficiency equipment;

(4) Increasing the market penetration of high-efficiency equipment;

(5) Improving the utilization of both electric and natural gas delivery systems by using energy-efficiency to retain customers and levelize system load, thereby spreading costs over a lower base; and

(6) Demonstrating that new, advanced technology solutions are viable and environmentally suitable.

(Advice Letter No. 2329, July 15, 1994, pages 3-4.)

The attainment of these goals were expected to result in benefits for individual program participants, ratepayers, and utility shareholders from the ability to earn on TEEM projects, and society from related environmental and economic development benefits.

The redesigned TEEM pilot was authorized by the Commission on November 22, 1994, in Resolution G-3140. SoCal filed Advice Letter No. 2329-A on February 21, 1995, with a revised TEEM pilot program description and explanation of SoCal's proposals for implementing the pilot under Resolution G-3140. On February 24, 1995, the Chief of the Energy Branch of CACD informed SoCal by letter that Advice Letter No. 2329 was in compliance with Resolution G-3140 and that Advice Letter 2329-A contained "the controlling program language that will be effective February 21, 1995 and for the duration of the pilot."

The TEEM pilot will continue through at least December 31, 1996.

ORIGINS OF THE TEEM CONCEPT

The TEEM pilot presented in Advice Letter No. 2329 by SoCal was a response to changes in the energy services market. SoCal developed the redesigned TEEM pilot due to the increasingly competitive nature of the energy services industry and the need and desire of large customers for customized solutions to their energy needs. The TEEM concept was specifically intended to capitalize on SoCal's strengths: its relationship with customers, reputation, and its existing field representatives who could identify, qualify, and manage projects to develop sufficient customer value so that projects would be undertaken without the need for rebates.

There appear to be two primary reasons why the TEEM pilot was designed to avoid the use of SoCal Gas ratepayer funds and to significantly minimize any use of SoCal Gas' assets or resources. The first reason had to do with SoCal Gas' concern about the potential rate impacts from the use of rebates or customer financial incentives in traditional utility DSM programs. In increasingly competitive markets, particularly for larger customers, potential rate impacts from DSM programs were perceived by SoCal to threaten the ability to offer competitive rates.

There was a second important reason why the TEEM pilot was not designed to utilize SoCal ratepayer funds and minimize the use of SoCal resources.

> Finally, SoCal Gas does not want TEEM to be a DSM-driven or DSM-dependent program, yet desires a level "playing field" so that the TEEM pilot can compete in the energy-services industry.
>
> (Advice Letter No. 2329, page 2.)

The desire to not have the TEEM pilot driven by traditional DSM tests (e.g., the Societal or Total Resource Cost test or the "three prong" test for fuel substitution) and process was based on having TEEM projects evaluated from the customer's, rather than from the utility's perspective. (Advice Letter No. 2329 at p. 2.) The focus on meeting customers' perception of value was viewed as requiring that traditional, standard utility DSM practices and processes be avoided to allow greater value to customers to be offered by allowing greater flexibility for TEEM to offer what customers valued.

Thus, TEEM was conceived to improve the competitiveness of SoCal by minimizing the potential rate impacts from DSM while allowing SoCal, though TEEM, to better compete to meet the needs of its large customers in a more flexible manner than allowed by traditional, utility DSM programs. In addition, TEEM was explicitly perceived by SoCal as a competitive response to SCE's formation of ENvest[SCE]. (Presentation entitled "Total Energy Efficiency Management (TEEM)" at SoCal Residential Sales Meeting on September 29, 1994.)

DESIGN OF THE TEEM PILOT

TEEM was designed to "...be a customer-focused program that makes it attractive for customers to invest in comprehensive energy-savings projects without relying upon ratepayer subsidies." (Advice Letter No. 2329 at p. 2.) Customers would repay the cost of the services provided as well as provide a profit for SoCal shareholders (and under the proposed profit sharing mechanism to SoCal ratepayers as well).

Following is a description of the important components of the TEEM pilot program design.

1. Market Segments and Uses Covered

   TEEM's goal is to invest $60 million in comprehensive, integrated, fuel-neutral energy efficiency projects with its core and non-core commercial, institutional, and industrial customers. The primary program participants are expected to be large governmental, commercial, industrial and institutional customers. The estimated pilot investment target

would translate into approximately 30 to 40 projects over the term of the pilot with an estimated average size of approximately $2 million.

TEEM is not limited as to the technologies that will be pursued. But, the primary technologies are expected to be: energy efficiency lighting, energy efficient motors (including variable speed drives), energy management and control systems, energy efficient cooling systems, energy efficient hot water systems, and process modifications which increase energy efficiency. Because TEEM is not subject to the Commission's DSM guidelines,[1] it will also offer non-energy services such as water conservation, transportation systems and other non-energy services that customers perceive as valuable.

II. Relationship to Service Providers

TEEM will partner with other utilities or with service providers selected through a non-discriminatory Request for Qualifications (RFQ). The RFQ process will be open to all qualified contractors. Selection will be based on technical and financial capabilities to provide valuable services to TEEM and its customers. The service provider network established through the RFQ will be responsible for the actual installation of the projects. TEEM will determine the scope of the project and the service providers chosen to submit bids on those projects.

Table 2-4 sets forth the roles and responsibilities of TEEM and its service provider partners as envisioned in the TEEM program design.

[1] An exception exists if a TEEM customer receives a rebate from another SoCal program. In that case, the project must pass the standard DSM cost-effectiveness tests approved by the Commission.

Table 2-4 Services Provided Under the TEEM Program

Service Provided	By Whom
project identification	TEEM
credit check	Finance Institution Allies
internal energy audit	TEEM
proposal preparation	TEEM
comprehensive energy analysis	TEEM/Trade Allies
engineering and project management	TEEM/Trade Allies
construction	Trade Allies
monitoring and maintenance	TEEM/Trade Allies/Customer
project financing	Finance Institution Allies/TEEM
training	TEEM/Trade Allies

Contracts for design, development and/or implementation are between TEEM and the customer. While larger projects might require more than one layer of project management, TEEM was clearly designed to be the primary manager of comprehensive projects.

The set of services offered by TEEM is typically delivered in several phases.

(1) A prospective TEEM project will be identified and pre-qualified by TEEM personnel. Basic financial credit worthiness information and engineering audit studies will be used to identify the project scope and feasibility. If feasible, a proposal will be presented to the customer describing the plan for program implementation and the potential financing options.

(2) If the customer accepts the proposal, a contract will be negotiated between TEEM and the customer for all services.

(3) Upon execution of the customer agreement, advanced engineering analysis and design will begin, the project will be implemented and an operations and maintenance plan will be designed for the customer.

(4) For an 18 to 36 month period (as required by the customer), TEEM will assume technical performance responsibility for equipment installed including negotiating remedies through manufacturers, designers, providers, etc., on behalf of the customer, as appropriate.

Qualified service providers will be used in any or all of these phases as deemed appropriate by TEEM. This design is intended to increase the benefit to energy services providers by providing access to pre-qualified customers, thus increasing their market potential, implementation opportunities, and long-term project referrals.

III. Project Selection

TEEM sales representatives identify prospective customers. Large customers were initially targeted since they provide the opportunity for the best potential savings opportunities.

Project selection for qualified customers (i.e., a customer may not be receiving a discounted rate from SoCal) includes criteria that require customer cooperation over the course of the project and enable TEEM to finance a diverse mix of demonstration projects. Mandatory participation criteria include:

- allowing access to the customer facility;
- being willing to host on-site equipment demonstrations for other potential customers;
- sharing data on the project's energy use and operating costs; and
- allowing SoCal/TEEM to publicize the savings and benefits realized.

Discretionary project selection attributes which allow TEEM to implement and finance a diverse set of demonstration projects are also considered. The objective established by TEEM for the project selection criteria is "...to assure that the customer projects will encourage comprehensive installations that would otherwise be left undone." (Advice Letter No. 2329 at p. 8.)

IV. One-Stop Shopping

TEEM provides one-stop, integrated solutions to customers. Customers receive a proposal that outlines the project's scope, economic implementation plan, and recommended financing options. To reduce hassle and build confidence in overall project quality, TEEM provides directly or arranges and coordinates the following range of services: single-point

management and accountability, helping to secure financing assistance from third party lenders, providing quality energy assessments and technical expertise, assuring compliance with air-quality regulations, developing and implementing creative engineering solutions, providing on-going technical support during the project, and assisting in providing reduced cost Measurement and Evaluation.

V. Financing/Credit Risk Determination

Customers qualified to participate in the TEEM pilot are offered the opportunity for third party financing for their projects. There is no requirement for customers to provide an up-front capital investment if:

- the prospective lender (a third party financier) finds the customer's creditworthiness acceptable;
- the energy efficiency project is self-supporting (will pay for itself) over the term of the contract (which can be up to 15 years depending on the specifics of each project); and
- the customer accepts a long-term investment contract which includes an obligation to pay fees for an early termination of the contract.

TEEM offers third party financing. These third party financiers will also determine the creditworthiness of potential customers.

The TEEM pilot was designed to primarily use third party financing because it was believed that: (1) such lenders as a matter of due course in their business assessed and assumed nominal lending risks (better than TEEM could do), and (2) provided maximum flexibility and responsiveness to customer needs. In addition, risk of potential losses is shifted away from TEEM and ultimately utility shareholders.

Loan terms are expected to range from 10 to 15 years. The customer will be responsible for early termination fees.

VI. Warranties/Performance Assurance

TEEM offers customers a 18-36 month technical performance assurance by negotiating warranties that extend throughout this period which will permit TEEM to represent customers on warranty claims. TEEM does not "guarantee" savings under traditional shared savings approaches unless the customer insists on such an arrangement. TEEM was designed with the belief that "savings" guarantees are in effect illusory promises that more often led to disagreement with customers over how savings should be measured. Thus, the TEEM pilot emphasizes performance assurances, not savings warranties.

VII. Extended Services

TEEM provides detailed operations and maintenance criteria to maximize system performance, reduce degradation, and enhance the long-term effectiveness of the project. One option to be offered customers is the installation of a real time energy monitoring system that customers will be responsible for maintaining.

VIII. Cost Recovery/Tracking

TEEM is a shareholder funded pilot. Administrative costs are paid by SoCal shareholders. The estimated TEEM budget for direct program and administrative costs is $500,000 for the entire pilot. As noted, unlike ENvest[SCE] there is no ratepayer co-investment or credit loss fund. Because TEEM will or may use some SoCal systems (billing/information) and some personnel time, an activity based cost tracking system will be in place to allow appropriate charges to shareholders for the use of utility resources. Customers will pay for all of the direct costs of developing and implementing a project. However, TEEM participants may utilize any rebates available to them including those that might be offered in other programs by SoCal.[2]

The TEEM pilot is based on billing the customer as a separate line charge on the customer's SoCal bill. This is to ease repayment and recordkeeping for the customer. The customer can choose to receive a separate bill. As part of the project contract, all normal collection procedures will be implemented.

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[2] To use a rebate from another SoCal program, the project must pass the standard DSM cost-effectiveness tests. In addition, SoCal cannot claim any savings from projects in the pilot receiving a rebate for potential DSM shareholder incentive awards.

IX. Shareholder Return

All TEEM projects are designed to be self-funding. Bill savings to the customers are intended to be used to repay the capital financed (plus interest) as well as provide SoCal's shareholders with a management fee.

The project management fee is based on a percentage of the construction costs considering the economics of the individual projects. The fee is determined as a project nears implementation. The basis for the fee is to provide a reasonable return to TEEM for managing the project and assuming the risk of the technical performance responsibility described above.

X. Use of Incidental and Intangible Rate-Supported Benefits/Sharing of Project Returns

While the TEEM pilot, unlike the ENvest[SCE] pilot, does not use ratepayer funds, it does receive benefits from the use of SoCal system, resources and intangible benefits. The most prominent tangible utility resources available to TEEM are: (1) the use of the utility billing system and personnel to collect customer payments of TEEM agreements; (2) information on SoCal customers, particularly billing and usage information; and (3) the potential incidental use of utility personnel to provide accounting, marketing, legal or other services. Based on the pilot design, TEEM did not intend to use utility customer lists to identify potential participants. In addition, the TEEM pilot staff was intended to be externally hired based on prior experience in the energy services market. Therefore, the pilot design assumes no significant transfer of utility expertise or experience from SoCal to the TEEM pilot.

For the tangible utility resources that the TEEM pilot would or might use, the pilot design requires TEEM to reimburse SoCal for the use of those resources, either at market rates (i.e., prices charged to other energy service providers) or at fully allocated costs (e.g., for use of utility accounting and/or billing personnel). Currently, all energy service providers can receive specific customer billing/consumption information from SoCal with the customer's permission.

The second category of ratepayer supported benefits incorporated in the TEEM program design are intangible utility resources including utility name recognition, good will and reputation. Indeed, the TEEM pilot is designed explicitly to emphasize these SoCal intangible "assets" in marketing TEEM's services.

> TEEM will capitalize on SoCal Gas' inherent strengths including our customer relationships [and] reputation...to identify [and] qualify...projects.
>
> Advice Letter No. 2329-A dated 2/21/95, Att. B at p. 4

SoCal/TEEM does not believe that it is legally required to compensate ratepayers for the benefits received by TEEM from the use of SoCal's name recognition, reputation or good will. (See Attachment C to Advice Letter No. 2329-A.)

Despite the belief that no compensation is legally required, the TEEM pilot proposes to share shareholder earnings from projects with ratepayers. The pilot proposes a "banded" approach to implement such sharing which TEEM believes would "...more than adequately compensate ratepayers for the 'reputation factor' and would obviate the need for any other cost assignment to be made." (See Att. C to Advice Letter No. 2329-A at pp. 5-6.) Following is a brief description of the "banded" sharing proposal.

(1) Shareholders would keep cumulative earnings (i.e., project management fees) up to 20% of the original capital cost of all TEEM projects in service by December 31, 1996;

(2) For purposes of computing the ratepayer share, pre-tax earnings would be defined as TEEM revenues accruing to SoCal (excluding third party financing receipts) less all operating expenses attributable to TEEM (including an amortization of direct start-up costs);

(3) If cumulative earnings exceed the targeted earnings level, SoCal ratepayers would receive 25% and shareholders 75% of any additional earnings;

(4) With a $60 million project investment target, the targeted pre-tax earnings level would be $12 million (20%). This 20% pre-tax earnings rate equates to approximately a 12% net of tax return on the estimated capital invested.

It appears that this aspect of the TEEM pilot design was intended to respond to potential regulatory concerns that might delay the authorization of the pilot or result in the imposition of a royalty-type fee to TEEM.

ADMINISTRATIVE COSTS AND PROGRAM TRACKING

All direct implementation costs for TEEM are recorded in a memorandum account for the pilot. In addition, an activity-based costing system (with separate accounts) will be used to record labor and non-labor expenses incurred for TEEM. The system will be used to develop direct cost reports; determine costs to be credited to ratepayers (i.e., for ratepayer funds authorized for TEEM in the general rate case, as discussed above); and then determine earnings available for sharing between ratepayers and shareholders.

All direct expenses incurred to promote, supervise, and implement the TEEM pilot and individual projects are accrued in separate expense accounts and charged directly to TEEM. These expenses include all direct supervision and the marketing costs to implement the program, such as advertising, sales calls, training, and proposal preparation, as well as assignable master lease and bad debt expense, and any project-related depreciation, sales, franchise, and property taxes accrued by SoCal. These costs are recorded in the TEEM memorandum account and credited to ratepayers at the end of each calendar year for the life of the pilot program.

Each TEEM project has a separate billing code to ensure that the revenues from each project's project-management fees reimburse that project's management costs (as discussed further below). In addition, project-specific expenses, such as SoCal Gas' preliminary engineering audit, all legal and contract administration, performance assurances, and project management are accrued by separate billing code.

OPERATIONS AND ADMINISTRATIVE PROCESS

Following is a flow chart which illustrates the steps that a typical TEEM pilot project would include.

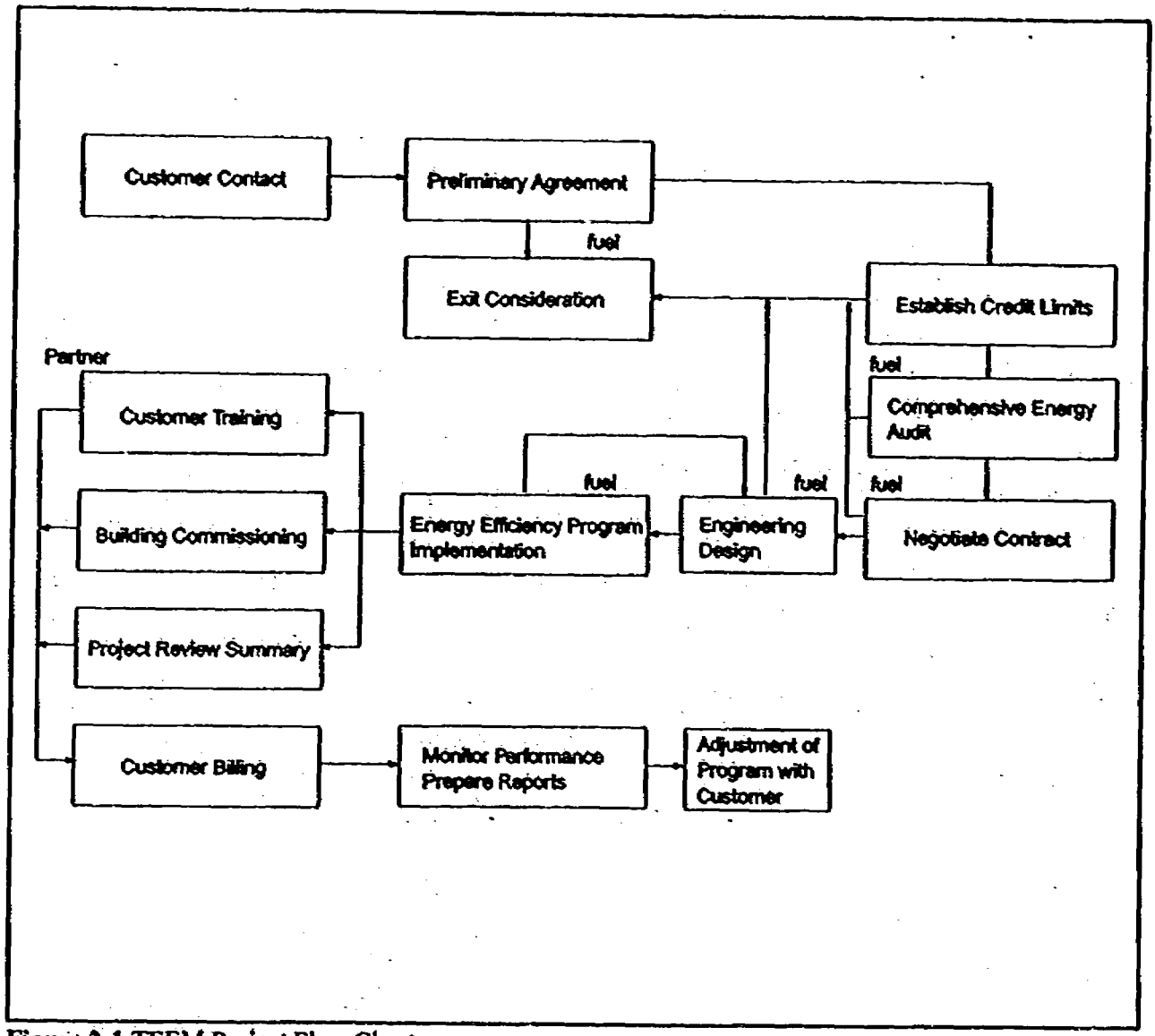

Figure 2-1 TEEM Project Flow Chart

A project that "fails" means a project that does not meet TEEM requirements because it cannot pass preliminary qualifying assessments such as creditworthiness, evaluation of adequate savings potential, etc.

APPROVAL BY THE COMMISSION

The Commission approved the TEEM pilot in Resolution G-3140 issued on November 22, 1994. SoCal filed a revised Advice Letter No. 2329-A on February 21, 1995, which was made effective by the Commission on the same date. After these modifications were addressed by the Commission, the TEEM pilot commenced its implementation in early 1995. The project is authorized to continue through December 31, 1996.

C. COMPARISON OF THE SIMILARITIES AND DIFFERENCES BETWEEN THE ENvest^{SCE} AND TEEM PILOT DESIGNS

This section will highlight the primary similarities and differences between the basic program designs developed for the ENvest^{SCE} and TEEM pilots. While the general objectives and thrust of the pilot designs are similar, there are significant differences that could present valuable information concerning the relative effectiveness and competitive impact of the respective pilots on energy services markets. The similarities will be presented first, followed by the primary differences.

1. Pilot Design Similarities

Both the ENvest^{SCE} and TEEM pilots represent an approach to providing energy efficiency services that tends to focus more on the customer perspective in terms of customer value than on traditional measures of utility DSM programs such as cost-effectiveness tests and substantial customer financial incentives. While TEEM is a "pure market driven" program because of the absence of any uncompensated ratepayer support, the ENvest^{SCE} pilot is clearly a move toward a "market driven" program with decreased emphasis on customer incentives and a greater emphasis on creating and marketing projects with sufficient customer value that customers would be willing to pay for the services and value received. Each pilot design explicitly sought to use the intangible "assets" of the utility (i.e., name recognition, good will and reputation) to increase customer perceptions of value and to overcome the loss of traditional DSM incentives (e.g., large rebates).

The TEEM and ENvest^{SCE} pilots at their inception were directed at the same types of customers; larger commercial, institutional and industrial customers who presumably have a greater potential for energy and bill savings and are perceived as more vulnerable in an increasingly competitive energy market. As is noted in Chapter 5 of this report, distinctions among these types of customers became increasingly apparent as each pilot proceeded.

Each pilot, aside from seeking to increase the attractiveness of large scale, comprehensive energy efficiency projects to large customers, was also designed to improve the competitive position of the utilities in an increasingly competitive environment, to moderate or eliminate potential rate impacts from traditional utility DSM programs, and to potentially increase load and sales from using energy efficiency (including fuel switching) to respond to and solve customers' perceived needs. While the TEEM pilot design was more explicit in its intent to gain flexibility and value by moving away from traditional regulatory tests, processes and oversight, the ENvest[SCE] pilot was no less a step in a process toward those same objectives.

The pilot designs were also similar in their intent to allow utility shareholders to profit from energy efficiency investments paid for by participating customers. This would not only help to mitigate potential rate impacts but also provide valuable information on the profitability and viability of certain markets to non-subsidized energy efficiency providers.

Both pilots had as an additional objective of their design to improve or expand the opportunities in the existing energy services market. The TEEM pilot application succinctly states this intent which is equally applicable to the ENvest[SCE] pilot.

> Much of this market is untapped given the high costs and barriers experienced by energy service companies ("ESCOs") such as marketing costs and customers' reticence to invest in long-term projects unless the project can be shown to be an operating expense. Most ESCO activity is currently tied to implementing traditional ratepayer-funded DSM programs, including rebates, incentives, and DSM bidding programs.
>
> SoCal is committed to increasing market opportunities within the energy services industry. As part of TEEM's management role, SoCal will do this by promoting fuel-neutral, energy-efficient systems, prequalifying customers for project financing and coordinating efforts with qualified trade allies...to successfully implement projects and to leverage each party's unique strengths.
>
> Advice No. 2329 at p. 9.

The pilots were designed to overcome customer barriers to increase customer demand for energy services that existing ESCOs and other service providers seemed unable to overcome and to supply this increased demand by use of the qualified service provider networks established in each pilot.

Finally, in addition to the general objectives incorporated in the pilot program designs, the specific program designs were similar in that they attempted to respond to a broad array of financial and non-

financial barriers that deter customers from pursuing cost-effective energy efficiency opportunities. The primary characteristic of the specific designs was the "one stop shopping" aspect of each pilot. Customers were offered information, technical expertise, project management and contractor arranging, financing, ability to repay on the utility bill, and performance or savings assurances or warranties as part of a comprehensive set of bundled services (ENvest^{SCE}) or menu of available services (TEEM). These program design elements attempted to respond to the commonly identified customer barriers of lack of information, lack of financial resources or the "first cost" problem, the "hassle" or inconvenience factor and perceptions of risk that an investment would not yield the anticipated net benefits.

2. Differences Between the Pilot Designs

While the general objectives and specific overall program designs of the two pilots are more similar than not, there are some fundamental aspects of specific program design that are distinctly and importantly different. The most important primary differences are:

(1) The TEEM pilot was implemented using only utility shareholder funds. The ENvest^{SCE} pilot utilized ratepayer funds to cover program administrative costs, a portion of potential financial losses and ratepayer co-investment in customer projects.

The use of ratepayer funds in the ENvest^{SCE} project meant that the pilot had to operate subject to the Commission's DSM cost-effectiveness guidelines as well as greater direct regulatory scrutiny. This scrutiny was to ensure that ratepayers were not being inappropriately put at risk or that ratepayer funds were not being inappropriately used. The TEEM pilot due to its reliance on shareholder funds was not subject to the DSM guidelines nor their restrictions on the types of services that could be offered to customers.

The use of ratepayer funds and the manner in which shareholders had the opportunity to earn a reasonable return also exposed ratepayers to different degrees of risk. The ENvest^{SCE} pilot because of the use of ratepayer funds and ratepayers' potential liability for loan losses from shareholder-provided financing created potential downside risk for ratepayers. The TEEM pilot's use of third party financing with no recourse back to the utility or its ratepayers creates no increased risk for ratepayers that required direct regulatory oversight.

(2) ENvest^{SCE} offered a bundled set of services to customers including utility-provided financing by ENvest^{SCE} which a customer had to take as a whole. TEEM also offered a comprehensive bundle of technical and administrative services but which allowed a customer to arrange

their own or to use third-party financing. This bundled approach versus more of a menu approach could affect the attractiveness or value of projects from certain customers' perspectives.

(3) The potential sharing of profits in the TEEM design, but not in the ENvest[SCE] design, as "compensation" for the use of intangible utility assets, including affiliation with a regulated utility.

Together, the two pilot designs are interesting because ENvest[SCE] retains some of the elements that have proved successful in traditional utility DSM programs (i.e., ratepayer subsidies) while blending those elements with more market-driven concepts to overcome non-financial customer barriers (e.g., hassle and risk). The TEEM pilot proceeds directly to a third party financed, customer-pay program with no ratepayer funds involved. In this regard, the two pilots allow various program elements of both traditional DSM programs and newer, more market-driven programs to be analyzed and assessed.

Table 2-5 below summarizes the major similarities and differences between the pilots. The succeeding chapters of this report will analyze the results from these pilot designs as well as assess their impacts on activity in the energy services markets including their competitive impacts on those markets. This analysis will specifically analyze whether the differences in pilot program designs resulted in different market or competitive impacts.

Table 2-5 Summary of Similarities and Difference of the ENvest[SCE] and TEEM Pilots

	ENvest[SCE]	TEEM
OBJECTIVES		
• Increase customer value and pursuit of large scale, comprehensive energy efficiency projects with attendant customer, utility and environmental benefits.	X	X
• Reduce need for rebates and potential rate impacts in a move toward more "market driven" DSM.	X	X
• Improve existing energy services markets.	X	X
• Increase project activity among large commercial, institutional, and industrial customers	X	X
• Generate profits for utility shareholders	X	X
• Generate profits for utility ratepayers		X
SPECIFIC DESIGN		
• Remove ratepayer funding and uncompensated support for pilot administrative costs		X
• Use utility "assets" of good will and reputation to increase customer energy efficiency activity in the pilot	X	X
• Offer customers a bundled set of services including a utility-only financing option	X	
• Offer customers a broad set of services but requiring use of third party financing		X
• Offer energy assessments and preliminary technical reviews	X	X
• Offer contractor arranging and project management	X	X
• Allow customer repayment on the utility bill	X	X
• Offer performance warranties/assurances.	X	X
• Offer a broad range of fuel-neutral efficiency options.	X	X
• Offer customer "incentives" to reduce customer project cost.	X	
• Offer optional maintenance agreements.	X	X
• Fully shift project cost including financing loss risk from ratepayers to shareholders or third parties.		X
• Use third party service providers to help develop and implement projects through a prequalified service provider network.	X	X

3. RESULTS OF THE ENvest[SCE] PILOT

This chapter provides a description of the level of activity and results of the ENvest[SCE] pilot through March, 1996. The ENvest[SCE] pilot solicited participants from October 1993 to December 31, 1995. After December 31, 1995, ENvest[SCE] has focused on implementation of the agreements signed with participating customers prior to December 31, 1995. Section A sets forth the scope of customer contact, types and signed agreements achieved by the ENvest[SCE] pilot. Section B describes the total pilot project size, the financial and resource benefits estimated to be attained from the pilot, and the comprehensiveness of pilot projects. Section C reviews the financial results from the pilot, including the use of authorized ratepayer funds. Section D presents the scope of service provider involvement in the pilot.

A. SCOPE OF PILOT PROGRAM

Marketing Contacts

From October 1993 to December 31, 1995, ENvest[SCE] made approximately 151 initial contacts with commercial, industrial and institutional customers within SCE's service territory. The focus of these customer contacts in order of magnitude of numbers of contacts was as follows: (1) school districts, (2) municipal governments, (3) industrial customers, (4) federal government facilities, (5) commercial customers, and (6) colleges and medical facilities. The three primary segments in which ENvest[SCE] sought participating customers were the (1) public sector (84 total contacts), (2) commercial sector (45 total contacts), and (3) industrial sector (22 total contacts).

Final Agreements: Scope of Customer Sectors

As of December 31, 1995, ENvest[SCE] had entered into 34 agreements with 26 different customers. These signed agreements include contracts for installation as well as contracts for more detailed feasibility studies and engineering/design work. The terms of the signed agreements average 12 years but range from eight to 15 years.

Table 3-1 presents a breakdown of initial contacts, signed agreements, and inactive contacts by sector.

Table 3-1

Segment	Signed Agreements	Inactive	Total Contacts
Public Sector	34	50	84
Commercial	0	45	45
Industrial	0	22	22
TOTAL:	34	117	151

Of the signed agreements, five projects have been completed or substantially completed (approximately 8% of total pilot project cost). Twenty projects are in the design and engineering phase (approximately 69%) and nine projects (approximately 23%) are in construction. It is anticipated that the completion of the work encompassed in the 34 agreements will extend into 1998.

The percentage of signed customer agreements by customer sector in terms of investment dollars, breaks down as follows.

Table 3-2

Federal Government (includes US Post Office)†	62.8%
School Districts	22.0%
Municipalities and Counties	10.9%
Colleges and Universities	4.3%
TOTAL:	100.0%

† These numbers include a potential Phase 2 project for the Fort Irwin Training Center of approximately $12.1 million which is described by ENvest[SCE] as only having a "remote possibility" of proceeding to implementation. Without Phase 2 of Fort Irwin, the appropriate percentages would be: Federal Govt. (including US Post Office) 58%; School Districts 25%; Municipalities and Counties 12%; and Colleges and Universities 5%.

Because of the diversity and nature of the customers, the 34 customer agreements involve about 375 locations with an estimated building area of almost 46 million square feet.

Effectiveness of ENvest[SCE] by Customer Sectors

The ENvest[SCE] pilot was successful in meeting its target for customer financing of approximately $88 million in project investment. But, as both **Table 3-1** and **Table 3-2** indicate, that success was exclusively centered in the public sector market, especially with the federal government. In essence, the ENvest[SCE] pilot was successful in the traditional MUSH (municipal, university, school and hospital) market for energy efficiency services and in developing what had been primarily a potential market in federal facilities.

The primary reasons that the 117 inactive customers chose not to pursue a project with ENvest[SCE] were: (1) they chose not to implement an energy efficiency project at the time; (2) did not have adequate savings to meet the ENvest[SCE] minimum "project" size; (3) chose to do a project internally or with another provider; (4) found the ENvest[SCE] solution unattractive (often the credit requirements); and/or (5) did not sign an agreement by the December 31, 1995 cut-off date for participation in the pilot.

B. FINAL AGREEMENTS: PROJECT SIZE, COSTS AND ENERGY/RESOURCE SAVINGS

Based on the current estimates for each project, the ENvest[SCE] pilot is forecast to expend approximately $99,639,976 on project costs.[1]

While the final dollars expended on the 34 agreements can only be known when the projects are completed, the estimated project size and annual net energy savings for each of the signed agreements is summarized in **Table 3-3.**

[1] As previously noted, Phase 2 of the Fort Irwin project is questionable at this time. If Phase 2 costs were excluded from calculations, the estimated total project costs for the ENvest[SCE] pilot would be approximately $87.5 million (very close to the $88 million for customer financing estimated in the ENvest[SCE] pilot approval).

Table 3-3 Status of Thirty-Four Signed Customer Agreements (As of March 31, 1996)

Customer	Est. Project Cost* ($)	Est. Annual Energy Savings ** ($)	Simple Paybacks (yrs)
Irvine Unified School District			
Phase 1	826,016	86,836	9.5
Phase 2	5,219,672	651,256	8.0
General Services Administration	4,482,229	647,774	7.1
City of San Bernardino	869,961	181,200	4.8
Edwards Air Force Base (I, II, III)	3,578,669	541,756	6.6
Huntington Beach UHSD	3,513,060	352,901	10.0
Veterans Affairs - West L.A.	6,700,844	945,100	7.1
Fort Irwin Phase 1	5,794,979	1,072,080	5.4
Phase 2	12,136,204	1,250,000	9.7
City of Santa Monica			
Phase 1	1,493,159	224,003	6.7
Phase 2	529,447	77,249	6.9
Ontario/Montclair SD	2,873,357	356,860	8.1
Central SD	184,225	35,023	5.3
US Postal Service	7,784,568	1,276,107	6.1
Rialto SD	1,813,185	158,883	11.4
Yucaipa/Calimesa SD	610,563	80,390	7.6
City of Ontario	1,828,920	224,687	8.1
Garden Grove USD	4,698,806	708,084	6.6
Saddleback USD	1,181,149	160,313	7.4
City of Corona	1,034,969	130,695	7.9
US Navy Point Mugu	3,377,459	633,054	5.3
US Navy Port Hueneme	2,623,568	535,494	4.9
US Navy China Lake I	4,377,748	710,000	6.2
US Navy China Lake II	3,344,903	516,351	6.5
US Navy Seal Beach	511,400	120,359	4.2

Customer	Est. Project Cost* ($)	Est. Annual Energy Savings ** ($)	Simple Paybacks (yrs)
US Navy Corona	329,126	72,129	4.6
USMC 29 Palms	4,932,720	968,578	5.1
USMC Barstow	2,788,694	447,733	6.2
Colton USD	885,429	133,748	6.6
Orange County Sanitation District	2,321,805	500,000	4.6
Rancho Santiago College	1,502,766	240,974	6.2
County of Riverside	1,843,790	262,618	7.0
County of San Bernardino	878,480	128,000	6.9
UCI College of Medicine	1,065,107	129,410	8.2
UCI Medical Center	1,702,999	231,000	7.4
***TOTAL:	99,639,976	14,790,645	
***AVERAGE:			6.7

* Estimated project cost prior to applying ratepayer co-investment.

** Estimated total energy savings, in dollars, prior to ENVEST payment. Energy savings are estimated for each project on a measure-specific basis. These calculations are consistent with the standards and methodologies used for Edison's DSM programs and are in accordance with the California DSM Advisory Committee (CADMAC) Protocols and Procedures for the Verification of Cost, Benefits, and Shareholder Earnings from Demand-Side Management Programs, as adopted in D.93-05-063, with subsequent revisions.

*** Total costs and savings estimated without Phase 2 of Fort Irwin would be $87,503,772 and $13,540,645. This would result in a pilot average simple payback of 6.5 years.

The forecast $99.6 million of project costs are estimated to yield approximately:

- 150 million kWh of annual energy savings
- 37.3 MW of annual demand savings
- 1.074 million tons reduction in CO_2; 693 ton reduction in SOx and 1,000 ton reduction in NOx.
- $15 million of annual customer bill savings.

Table 3-4 sets forth a summary of the estimated benefits from the projects (each of which has an estimated TRC in excess of 1.0).

Table 3-4 Summary of Estimated Benefits

	Signed Customer Agreements		
	Completed	In Progress	Total
Annualized Savings:			
kWh (000,000)	8.0	142	150.*
kW (000)	.9	36.4	37.3
Therms (000)	6.5	870.8	877.3
Bill ($000)	954	13,837	14,791.*
Life-cycle Savings			
NOx (tons)**	61	939	1,000
SOx (tons)**	42	651	693
CO_2 (tons)**	66,546	1,007,881	1,074,427
Average Measure Life (yrs)	16.5	15.4	15.5
Simple Payback (yrs)	7.4	6.7	6.7
TRC Range	1.1 - 1.6	1.1 - 1.8	1.1 - 1.8
Gross Total Resources Benefits ($000)***	3,718	71,271	74,989

* If Phase 2 of Fort Irwin were excluded, the appropriate annualized savings would be 137.5 million kWh and $13.5 million bill savings. Annualized savings and simple paybacks are based on estimated project costs and benefits as of March 31, 1996.

** Total avoided emissions for a project's entire life-cycle are calculated by multiplying the estimated annual energy savings (kWh/yr) by annual average emissions rates for each year of the measure's life-cycle. Annual average emissions rates were developed based primarily upon ER-94 assumptions. Resource savings by quantity and dollar benefits are based on estimated project costs and benefits as of March 31, 1996.

*** Total resource benefits are the avoided supply costs—the reduction in transmission, distribution, generation, and capacity costs valued at marginal cost—for the periods when there are load reductions.

Comprehensiveness of Projects

The average project payback period of 6.7 years (with a range of 4.2 to 11.4 years) suggests that many ENvest[SM] pilot projects may tend to involve more comprehensive retrofits, rather than a focus on single, high payback technologies or that the customer recognized significant non-energy benefits (e.g., modernization improvements) from the energy efficiency investment. Table 3-5 highlights the

end-uses covered by the 34 signed agreements as well as the percentage that each end-use affects the estimated total project cost.

Table 3-5 Project Components (as of March 31, 1996)

Component	Estimated Project Cost * ($000)	Estimated Annualized Energy Savings ($000)	Simple Payback (yrs)	Percent of Total Cost
Lighting	$47,854	$8,849	5.4	48.0%
HVAC	43,963	4,663	9.4	44.1%
Controls**	2,751	363	7.6	2.8%
Others***	5,072	916	5.5	5.1%
Total	$99,640	$14,791		100.0%
Average			6.7	

* Project costs such as feasibility studies, design/engineering, commission, project management, measurement and verification, and "interest during construction" were allocated to each component based on the cost of each component.

** Most of the energy savings from the installation of controls are included in the HVAC and lighting savings since the controls help achieve these savings.

*** Includes thermal energy storage and pumping.

C. LONG-TERM CONTRACTS/SUCCESS OF ENvest^{SCE} EFFORTS

Simply looking at the dollar value of signed contracts for ENvest^{SCE} is not necessarily a good gauge of ENvest^{SCE}'s overall success. Aggregated sales at any point in time fail to reflect in which market niches marketing efforts have been successful, and the extent of future sales opportunities that have been opened up by the successful penetration of those market niches.

This caveat is relevant to assessing the success or limitations of the ENvest^{SCE} pilot. Following is a discussion by customer market sector of the long-term contracts and sales opportunities that ENvest^{SCE} has been able to secure.

Federal Government Sector

ENvest[SCE] had its most visible success in the federal government sector, as evidenced by the agreements signed with various federal agencies. ENvest[SCE] marketing strategy in the federal sector initially focused on obtaining support for an "energy partnership" between the Clinton Administration and ENvest[SCE]. In January, 1994, John Bryson of SCE and the U.S. Department of Energy (DOE) Secretary Hazel O'Leary signed a Memorandum of Understanding in which ENvest[SCE] and DOE agreed to work together to achieve a minimum 20% reduction in energy use in more than 500 federal facilities in SCE's service territory. The agreement highlights the objectives of each party: the Clinton Administration's determination to vigorously implement the provisions of the Federal Energy Policy Act of 1992 (EPACT) in support of the Administration's voluntary program to reduce global and local environmental emissions, as well as SCE's efforts to promote ENvest[SCE] as a one-stop source of energy solutions for large customers.[1]

Building off of this general agreement, ENvest[SCE] staff then targeted individual federal agencies. The marketing process differed somewhat across agencies because energy and facility management is handled in different ways by various agencies. For example, SCE negotiated a Basic Ordering Agreement (BOA) with the General Services Administration (GSA) covering about 300-400 buildings in SCE's service territory. In July, 1995, SCE signed a Solicitation, Offer, and Award for Energy Savings Projects with the United States Postal Service (USPS) which includes energy retrofit activities at 79 facilities. These agreements are basically sole source awards between the federal agency (GSA and USPS) and SCE which include general terms and conditions, the scope of work, and the basic program concept and steps involved in developing an energy savings project (e.g., preliminary audit, feasibility study, engineering and design study, acceptance of final project description by agency, negotiation of payment schedule, and implementation by SCE). It is envisioned that these agreements are followed by delivery orders for individual projects which may involve groups of buildings.

ENvest[SCE] has also aggressively and successfully pursued projects with the various armed services and Veterans Administration. For example, projects are under development with the Army (Fort Irwin), Navy (Port Hueneme and Michaelson Lab at China Lake), Air Force (Edwards Air Force Base) and a VA hospital. ENvest[SCE] staff report that all federal agencies are very interested in the ENvest[SCE] program, although negotiations on contract terms and conditions have been protracted in some cases.

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[1] EPACT and federal Executive Order 12902 requires federal government buildings to achieve a 20% energy savings by the year 2000 and 30% by the year 2005.

To summarize, at least in the federal sector, because of the long-term agreements signed with various federal agencies as well as the long lead times involved for projects under development, the current level of signed contracts significantly understates ENvest[SCE]'s role and potential in the federal energy efficiency market in Southern California. To illustrate, the general agreements with the USPS and GSA alone provide ENvest[SCE] with an on-going exclusive opportunity to identify energy conservation opportunities at facilities which in aggregate represent 10-15 million square feet of floor space.

Institutional/Governmental Sector

ENvest[SCE] pursued a similar marketing strategy among state governmental agencies and institutional customers. In May, 1994, Governor Pete Wilson issued an executive order mandating a 20% reduction in energy use in state facilities, including community colleges, schools, universities, prisons, and hospitals, as part of EPA's Green Lights program. Shortly thereafter, the State of California and Consumer Services Agency (SCS), the California Environmental Protection Agency (CAL-EPA), and SCE entered into a Memorandum of Understanding (MOU) describing general principles to "demonstrate how a public-private framework could be used to meet state energy efficiency requirements and effect the speed and economies of scale through using an experienced, investor-owned utility to coordinate the activities." In the MOU, the parties agreed that the program for state and public sector facilities would initially focus on the K-12 schools and community colleges, that SCE would use its best efforts to invest up to $25 million in these projects, and that the parties would negotiate a contract which would allow use of the Office of Energy Assessment (OEA) Energy Efficiency Revenue Bond Program funds to refinance Program contracts between SCE and qualified state and public sector participants. In effect, the MOU established the general framework for SCE's marketing efforts among individual school districts and municipalities.

The relationship between ENvest[SCE] and the OEA Energy Efficiency Revenue Bond Program merits additional discussion as it relates to customer barriers to energy efficiency. In 1986, California approved a $500 million bond fund for energy efficiency investments in all types of state facilities (e.g., prisons, universities, state offices). Recently, eligible facilities have been expanded to include schools (K-12), up to a $100 million limit.[3] Since the program's inception, about $167 million in bonds have been financed in three offerings at an average interest rate of 5.7%, which provides an attractive source of funding. The process has to be initiated by a state facility (as they keep a portion of the operating savings) and the contracting process can be time-consuming as state procurement procedures must be followed. Work is typically contracted out on a time-and-materials basis, which

[3] State of California Office of Energy Assessments, "Energy Efficiency Revenue Bond Program: Summary Report", June 30, 1993.

favors traditional vendors and equipment contractors rather than ESCOs. Thus, it appears that the primary benefit of this MOU between SCS, CAL-EPA and SCE was the expectation that ENvest[SCE] could facilitate project development on a faster pace and avoid relying on the state procurement procedures. From the language of the MOU, it appears that SCE financial support would be used initially to develop projects although eligible state facilities would be able to refinance their projects at the presumably lower interest rates offered by the Revenue Bond Program.

Large Commercial and Industrial Sector

The ENvest[SCE] pilot was unable to arouse much interest among large commercial and industrial customers. There are no signed agreements with commercial or industrial customers. Unlike the federal and institutional customer market segments, the ENvest[SCE] pilot has not produced long-term contracts or significant inroads for future agreements with large commercial and industrial customers.

D. FINANCIAL RESULTS AND USE OF RATEPAYER FUNDS

Ratepayer-Funded Pilot Costs

In establishing the ENvest[SCE] pilot, the Commission authorized three specific uses of $23 million of ratepayer funds to be used in the pilot. The funds were for: (1) program administrative expenses, (2) ratepayer co-investment, and (3) potential credit losses.

Table 3-6 ENvest[SCE] Authorized Ratepayer Funding

Use of Funds	Amount
Program Administration	$8 million
Ratepayer Co-investment	$13 million
Credit Losses	$2 million
TOTAL	$23 million

As of March 31, 1996, ENvest[SCE] had recorded $6,393,217 of program administrative costs, $1,139,212 of ratepayer co-investment,[4] and no credit loss expenses. Following is a summary of each category of ratepayer funded use.

Program Administration

Program administrative costs are composed of ENvest[SCE] non-labor administrative costs (e.g., travel, consultants, supplies, etc.) and personnel costs that are not charged to a specific project. **Table 3-7** details the recorded Program Administration costs through March 31, 1996.

Table 3-7 Summary of Recorded Program Administration Costs (As of April 1996)

Functional Area	Labor*	Non-Labor	Total
Sales and Marketing	$1,105,181	$560,204	$1,665,385
Operations and Technical Services and Strategic Alliances	$777,113	$829,977	$1,607,090
Finance	$880,296	$174,023	$1,054,319
General Management	$951,273	$1,115,150	$2,066,423
TOTAL	$3,713,863	$2,679,354	$6,393,217

* ENVEST capitalizes to projects the direct costs of its in-house engineering and project management labor expended in project development, implementation, and monitoring. These costs are separately tracked in all-expense work orders and recorded as program administration costs until a proposal development agreement or customer agreement is signed, at which time these expenses are capitalized into a capital work order.

It is currently anticipated that the remaining approximate amount of $1.6 million of authorized Program Administrative costs will be incurred for project implementation through 1998.

Ratepayer Co-Investment

In approving the tariff for the ENvest[SCE] pilot, the Commission authorized that up to $13 million of ratepayer funds could be used for co-investment in projects if certain conditions were met:

- The project had a simple payback period of three years or longer;
- The project had a TRC ratio of at least 1.0; and

[4] Ratepayer co-investment is incurred and recorded only upon the completion of a project.

- The project size exceeded minimum "actual costs" or "estimated costs" of $250,000 for private sector projects and $100,000 for public sector projects.

The size of the ratepayer co-investment in a project was determined by the lesser of (1) the amount necessary for the customer to retain up to 20% of the savings at the inception of the contract term; (2) up to 20% of the project costs; or (3) $1,000,000 per customer.[5]

As of March 31, 1996, the committed and estimated ratepayer co-investment for the 34 signed agreements is approximately $12,891,671. **Table 3-8** sets forth the estimated ratepayer co-investment as part of the estimated total project cost.

Table 3-8 Estimated Ratepayer Co-investment (as of March 31, 1996)

	Signed Customer Agreement		
	Completed	In Progress	Total
Estimated Total Project Cost	$7,100,000	$92,539,976	$99,639,976
Ratepayer Co-investment	$1,016,000	$11,875,671	$12,891,671
Estimated Net Project Cost	$6,084,000	$80,664,305	$86,748,305
Ratepayer Co-investment as % of Total Project Cost	14%	13%	13%

Co-investment is only 13% of total project costs for two primary reasons: (1) 13 projects exceed $5 million in total project costs and are capped at the maximum $1 million co-investment limit per project and (2) six projects did not need the maximum 20% of project cost co-investment because they were forecast to provide at least 20% of energy savings for the customer.

ENvest[SCE], after the close of the participation phase of the pilot on December 31, 1995, estimated the total ratepayer co-investment needed. As a result of that reassessment, in March 1996 ENvest[SCE] transferred $50,000 plus interest of unallocated, authorized ratepayer co-investment funds back to ratepayers through the Electric Revenue Adjustment Account. $58,329 of unallocated funds remain as a contingency fund for potential allocation to projects as costs became more precise.

[5] An individual customer could choose to undertake a project that provided bill savings less than 20% (perhaps because of productivity or environmental benefits). If a project undertaken resulted in bill savings less than 20%, co-investment was limited to the lesser amount of $1 million or 20% of project costs.

Credit Losses

As of March 31, 1996, ENvest[SCE] has not incurred any project credit losses. The $2 million of ratepayer-funded credit loss reserve will only be used if losses exceed a reserve established by a credit premium included in the pricing of each project.

Financial Results of the ENvest[SCE] Projects

The ENvest[SCE] pilot was designed to produce favorable financial and resource benefits for both participating and non-participating customers and utility shareholders. Non-participating customers would receive resource benefits from cost-effective projects. In addition to potential productivity and environmental compliance benefits, participating customers could reduce their energy bills through implementing energy efficiency projects. The pilot was also designed to benefit shareholders by providing the shareholder a return of and on his or her investment from the pricing of the project. The target return was the utility's authorized rate of return.

Table 3-9 presents the estimated financial and resource results of the ENvest[SCE] pilot to participating and non-participating customers and shareholders estimated as of March 31, 1996.

Table 3-9 Estimated Financial Results of Pilot Program 34 Signed Customer Agreements (As of March 31, 1996)

($000)

	Total
Project Summary	
Total Project Cost	99,640
Less Ratepayer Co-Investment	12,892
Net Project Cost*	86,748
Average Contract Term (yrs)	12.0
Average Useful Life of Equipment (yrs)	15.5
Customer Financial Results	
Value of Equipment Received	99,640
Annual Payment Obligation	14,434
Annual Energy Savings	14,791
Simple Payback (yrs)	6.7
Cumulative Retained Savings** During Contract Period	4,220
Cumulative Retained Savings After Contract Period	50,387
Total Retained Savings	54,607
Ratepayers Financial Results	
Expected Use of Ratepayer Program Funding	
- Ratepayer Co-Investment	12,950
- Program Administration Cost	8,000
- Credit Loss Reserve	0
Total	20,950
Present Value of Resource Benefits (Gross Benefits)	74,989
Shareholder Financial Results	
Shareholder Investment	86,748
Annual Contract Payments Receivable	14,434
Gain on Sale	12,070
Average ENVEST Rate of Return***	10.42%

* Net project cost is not the same as total costs that would be appropriately included in a TRC calculation (e.g., only incremental costs may be appropriate in a TRC calculation, whereas total project costs recognize all costs).

** Retained savings are the difference between the estimated energy savings in dollars and the ENVEST payment.

*** Includes the fixed rate premium added to Edison's authorized rate of return pursuant to Resolution E-3337 and Experimental Schedule GSN, ENVEST Equipment Service.

As indicated in Table 3-9, the financial and resource benefits from the pilot were significant for all affected parties.

ENvest[SCE] Pilot Program Adjustment Mechanism

The ENvest[SCE] Pilot Program Adjustment Mechanism (EPPAM) was designed to ensure that ENvest[SCE] uses the authorized ratepayer funds for the purposes authorized and to permit unspent ratepayer funds to be returned to ratepayers.

Table 3-10 summarizes the EPPAM activity through March 31, 1996.

Table 3-10

Account	Ending Balance as of March 31, 1996*
Pilot Program Adjustment	$17,272,432
Pilot Program Administration Cost Tracking	$1,941,785
Pilot Program Ratepayer Investment Tracking	$13,413,467
Pilot Program Credit Loss Tracking	$2,265,893

* Because ENvest[SCE] has not expended all of the funds authorized by the Commission, each of these figures represents an over-collected balance.

Money Retained by ENvest[SCE]

Approximately 91% of the estimated project investment costs of $99.6 million represent funds that are paid to service providers. The remaining 9% represent income retained by ENvest[SCE] to cover operations and technical labor that is directly assignable to projects (6%) and interest during construction (3%).

E. ENVEST[SCE] PILOT INTERACTION WITH SERVICE PROVIDERS

The ENvest[SCE] pilot used qualified third-party service providers to develop and implement projects. As of March 31, 1996, the ENvest[SCE] service provider network had 193 qualified service providers.

As more fully described in Chapter 4, ENvest[SCE] sought applicants for its network. The results of that recruitment activity, as of March 31, 1996, is shown in Table 3-11.

Table 3-11 Summary of Service Provider Activity

Number of Applications Mailed	649
Number of Applications Received	218
Number of Applications Qualified	193
Numbers of Applications Not Qualified	20
Number of Applications Under Review	4

The twenty firms that did not qualify for the network were denied because: (1) two companies did not offer ENvest[SCE] market services (e.g., only provided residential lighting); (2) nine companies did not provide areas of expertise used by ENvest[SCE]; (3) six companies did not provide completed financial applications; and (4) three firms were denied for diverse reasons [one was looking for full-time employment; one was a joint-venture whose two members submitted separate applications and were accepted; and one firm submitted an application after December 31, 1995].

Thirty of the qualified Service Providers (16%) are Women, Minority, or Disabled Veterans Business Enterprises as certified by either the Cordoba Clearinghouse or the California State Office of Small Minority Business.

The 193 qualified Service Providers are categorized by five classifications: Comprehensive Service Providers; Engineering and Design Firms; Design and Installation Firms; Manufacturers and Distributors; and Specialized Technical Service Providers. Following is a description of each category.

Comprehensive Service Providers are firms with the requisite skills to qualify as turn-key contractors, providing all services needed to complete an ENvest[SCE] project. These firms must have demonstrated experience in providing comprehensive energy efficiency projects and have in-house engineering capability or dedicated engineering subcontractors. Comprehensive Service Providers must also have project experience in several different types of facilities (e.g., hospitals, office buildings, schools). Typically, Comprehensive Service Providers possess the necessary skills to implement large projects involving central plants or multi-facility complexes.

Engineering and Design Firms are technical specialists with the capability to perform energy efficiency feasibility studies, detailed solution design and engineering specifications. They may

have either a specialized expertise (e.g., refrigeration technology) or technical expertise in several applicable technologies. Engineering and Design Firms must demonstrate expertise and prior job experience for the technologies for which they have qualified.

Design and Installation Firms provide design and building contracting services. These firms range from those that only provide installation services to those with the capability to both design and install a single technology.

Manufacturers and Distributors are companies that manufacture or distribute proven energy efficiency products (or components) such as lamps, electronic and magnetic ballasts, occupancy sensors, controls, energy efficiency motors, heating, ventilation, and air conditioning equipment, and thermal energy storage systems.

Specialized Technical Service Providers include firms with specialized consulting services or specific technical expertise such as measurement and verification, commissioning, and other quality control and specialized services. Firms in this category assist ENvest[SCE] on specific projects as well as in overall development of ENvest[SCE] programs or guidelines.

Table 3-12 summarizes the number of service providers qualified for each of the five categories of service providers.

Table 3-12 Qualification By Category

Category	Number
Comprehensive Service Providers	28
Engineering and Design Firms	39
Design and Installation Firms	68
Manufacturers and Distributors	14
Specialized Technical Service Providers	44
TOTAL	193

As of March 31, 1996, 95 different service providers (approximately 49% of total qualified providers) have had 174 opportunities to bid on the 34 different ENvest[SCE] projects. Sixteen service providers have had the opportunity to bid on two projects. Eleven service providers have had the

opportunity to bid on three projects ...ve bid on four different projects, three on five projects, and four providers hav... ...projects.

As of March 31, 1996, 58 awards fo... ...ices have been made through the competitive bid process. Compreher... ...e bid on 29 different projects. Five of these providers have been successful in rec... ...ards.

Table 3-13 Service Provider Activi...

Category	...portunities to Bid	Awarded
Comprehensive Service Providers	29	5
Engineering and Design Firms	63	26
Design and Installation Firms	68	19
Manufacturers and Distributors	0	0
Specialized Technical Service Provi...	14	8
	174	58

In addition, 25 contracts have been av... ...on a directed basis. Ten of these direct awards were due to customer designa... ...situations that merited the designation of a service provider on the basis of uniqu... ...e.

With 30 projects still to be implemen... ...ervice providers given an opportunity to bid on projects or to win a contract awar... ...increase.

The experience of service providers w... ...ilot is discussed in more detail in Chapters 5 and 7 of this report. Customer expe... ...vest[SCE] pilot is analyzed in Chapter 6.

SUMMARY

A review of the ENvest[SCE] pilot exper... ...ral important results:

(1) The pilot has been successful ... ...arget of placing at least $88 million in customer financing in cost-eff... ...ergy efficiency investments. The estimated

total pilot project cost is $99.6 million. If the "remote possibility" of Phase 2 of the Fort Irwin project is eliminated, the estimated total pilot project cost still is approximately $87.5 million. In addition, significant financial and/or resource benefits have been estimated for participating and non-participating customers and utility shareholders.

(2) The ENvest[SCE] program design and pilot have been successful in the public sector market, particularly with the federal government, school districts, and county and municipal facilities. The ENvest[SCE] design and pilot have been especially unsuccessful in the large commercial and industrial sectors in which no participating customers were obtained.

(3) The authorized ratepayer funds available in the pilot have been substantially expended or committed. All of the funds for administration and all but about $50,000 of the $13 million co-investment fund are expected to be spent by the completion of all projects in 1998. There have been no credit losses to date, although only about 8% of total projects (by cost) have been completed or substantially completed.

(4) While many service providers (193) have qualified for the ENvest[SCE] network, only 58 providers have actually received a contract award. Only five comprehensive service providers have received a contract award although they have had approximately 29 opportunities to bid.

The subsequent chapters of this report will analyze how and why the results of this pilot occurred as well as consider the longer-term market and competitive implications of the ENvest[SCE] design on energy efficiency markets.

4. RESULTS OF THE TEEM PILOT

OVERVIEW

This chapter provides a description of the level of activity and results of the TEEM pilot through April, 1996. The TEEM pilot began operation in early 1995 after the Commission's final approval of the pilot on February 21, 1995. Primarily because of the limited level of staffing for the pilot during its first year of activity, the results of TEEM's effects have been limited. However, the potential for future activity due to increased staffing and potential leads generated in the first year of operation may be substantial.

Unlike the ENvest[SCE] pilot, the TEEM pilot did not use ratepayer funds. Therefore, the only activity to report involves customer contacts, signed agreements, and interaction with service providers as part of the TEEM provider network.

MARKETING CONTACTS

TEEM made approximately 93 customer contacts with commercial, industrial and institutional customers with SoCal Gas' service territory from about February, 1995, to April, 1996. The focus of these customer contacts has been as follows:

Table 4-1 Types and Number of Customer Contacts (as of April 1996)

School Districts	18
Municipal Governments	16
Federal Government Facilities	8
Industrial Customers	10
Commercial Customers	23
Colleges and Medical Facilities	18

From these 93 initial customer contacts, 57 proposals have been made by TEEM as of April, 1996. Three proposals were accepted and have resulted in signed customer agreements. Thirty three proposals are pending. The remaining 21 proposals are inactive for a variety of reasons including: (1) customer lack of interest to pursue an energy efficiency project at this time; (2) lack of adequate savings to justify going forward and (3) customer decision to do the project internally or seek another provider.

Table 4-2 Proposals and Status of Customer Sector

Category	# of Proposals	Inactive Proposals	Active Proposals	Proposals Accepted
School Districts	9	1	7	1
Municipal Governments	13	6	6	1
Federal Government Facilities	5	0	5	0
Industrial Customers	6	3	2	1
Commercial Customers	16	9	7	0
Colleges & Medical Facilities	8	2	6	0
Total	57	21	33	3

The pending active proposals and the proposals accepted reflect TEEM's concentration in the public sector focused on schools, municipal governments, institutions, medical facilities, and federal government facilities. This focus also reflects a decision made by TEEM toward the latter part of 1995 to focus marketing efforts on the MUSH market (municipals, universities, schools and hospitals), the federal government and commercial property, such as hotels. Thus, 21% of the active proposals are directed toward large commercial customers (with a concentration on commercial property owners/operators). One industrial customer has also signed a final agreement.

TEEM signed a Memorandum of Understanding with the federal government in December, 1995. An amendment to this MOU is expected to be signed soon that would mitigate concerns raised by TEEM's use of third party lenders. This amendment will allow TEEM to pursue specific opportunities with federal agencies.

A review of the specific proposals submitted to potential customers indicates that the predominant savings opportunities identified involve electric end-uses including lighting, HVAC and controls. When cost-effective gas opportunities have been identified, proposals to cover such measures have been made to potential customers.

FINAL AGREEMENTS

As of April, 1996, TEEM has entered into a total of three signed agreements with customers for total project costs of approximately $5,700,000. The estimated dollar savings total about $1,003,000 to customers with approximately 7,840,000 kWh saved and 337,000 therms saved. Table 4-3 sets forth the project costs, projected savings and scope of the three signed contracts.

Table 4-3 TEEM Signed Contract Summary

Project	$ Cost	$ Annual Savings	Annual kWh Savings	Annual Therm Savings	Scope of Project
Municipal Government	$2,078,000	$228,000	2,367,005	15,325	Lighting, HVAC, Controls, Boiler & Chiller
School District	$3,000,000	$520,000	5,476,568	21,472	Lighting, HVAC and Controls
Industrial Customer	$600,000	$255,000		300,000	Water Reclamation Project

The municipal governmental project was recently completed. The school district project is about 70% finished. The industrial customer project is still in the design phase. In addition, there are two federal facility projects for which an energy study and preliminary energy audit will be completed soon.

As can be seen from Table 4-3, aside from an innovative water recovery project, most savings have been from electric end-uses and involve comprehensive retrofits. The terms of the contracts range from 7 to 14 years. The estimated simple paybacks for the projects range from 2.4 to 9.1 years.

USE OF SERVICE PROVIDER NETWORK

Similar to the ENvest[SCE] pilot, TEEM has qualified a list of service providers to develop and implement projects. As of April 1, 1996, TEEM has qualified 39 service providers to participate in the TEEM service provider network. This represents all of the service providers which applies to TEEM to be qualified.

These 39 qualified providers are classified into five categories (although a service provider may qualify to provide multiple services). **Table 4-4** breaks down the TEEM qualified service providers by category.

Table 4-4 TEEM Service Providers By Category

Category	# of Providers*
Engineering Firms	12
Design Firms	14
Construction Management Firms	3
Comprehensive Providers	7
Specialty Firms	7

* The column totals in excess of 39 qualified providers because some providers are categorized within more than one type of service

Because of the limit project activity to date (3 projects), there has been limited opportunity for qualified service providers to bid on projects. As of April 1, 1996, nine service providers (23% of the total) have participated in a TEEM project.

While comprehensive service providers can bid and receive work on projects, TEEM was designed to be the project developer/manager. Therefore, it is unlikely that comprehensive service will have the opportunity to bid on jobs as project managers unless the project is so large to justify two levels of project management.

SUMMARY

The activity and results of the TEEM pilot parallel the experience in the ENvest[SCE] pilot in that:

(1) The immediate, favorable market for financed energy services appears to be in the traditional MUSH market and potentially, the federal government market.

(2) Many service providers wish to be qualified for TEEM/ENvest[SCE] type undertakings in order to increase the prospects for additional business.

(3) The predominant focus of most customer energy savings appears to be on electric end-uses, although specific customers may enjoy the opportunity for substantial gas and/or water savings. TEEM has pursued a fuel-neutral role in its marketing and implementation activities.

5. PILOT ORGANIZATION AND IMPLEMENTATION

OVERVIEW

This Chapter will describe the operational and administrative structures and processes actually implemented by ENvest[SCE] and TEEM in the pilots. In addition, the experience concerning the efforts and processes actually used to: (1) solicit and qualify Service Providers; (2) target and market to customers; and (3) select and develop specific projects will be reviewed. Included in this analysis is a review of ENvest[SCE]'s and TEEM's use of utility information and resources to identify potential customers and the relationship of ENvest[SCE] and TEEM to comprehensive service providers.

Section A will review the experience gained from the ENvest[SCE] pilot. Section B will analyze the same issues based on the experience to date from the TEEM pilot. Section C compares the similarities and differences between the ENvest[SCE] and TEEM pilots

A. ENvest[SCE] PILOT

Organizational Structure of ENvest[SCE]

ENvest[SCE] operates as a separate business unit within the SCE corporation. The Vice-President in charge of the administration of ENvest[SCE] reports to the Vice-President of Marketing at SCE. Thus, there is no formal legal entity of ENvest[SCE] which is distinct from the regulated operations of the SCE utility.

Pursuant to Resolution E-3337, the ENvest[SCE] pilot was closed to new participants as of December 31, 1995. Thus, new participants could not enter the pilot after that date. However, ENvest[SCE] must still administer and implement approximately 32 projects into 1998. Thus, the ENvest[SCE] pilot organizational structure will continue until all of the customer projects are complete.

Administrative Structure

The ENvest[SCE] administrative structure has changed somewhat from the inception of the pilot to the current structure designed to implement qualified projects. The changes have reflected: (1) the ramp-up in pilot activity and (2) the change in personnel in the pilot.

The basic administrative structure for ENvest[SCE] during the marketing and initial implementation phase of the pilot consisted of a central General Administrative unit to which other separate units reported: Sales and Marketing, Finance, and Operations which also included the Strategic Alliances unit. **Figure 5-1** depicts this organizational structure as it existed in the marketing and early implementation phase of the pilot.

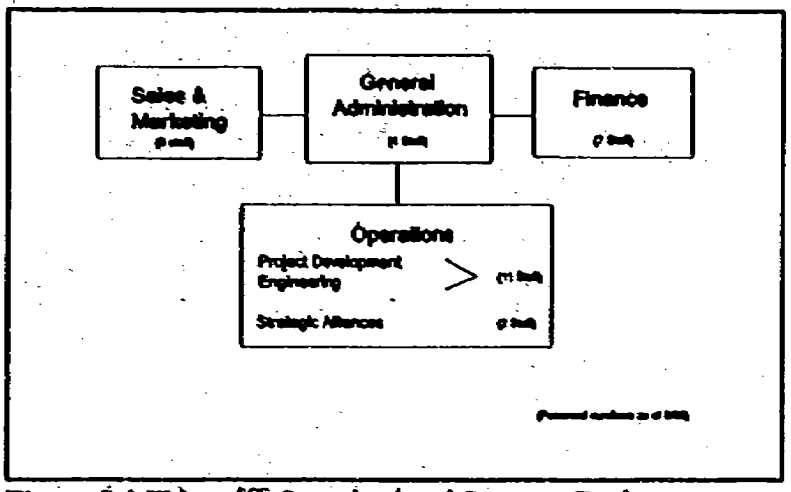

Figure 5-1 ENvest[SCE] Organizational Structure During Marketing/Implementation Phase of Pilot

The General Administrative unit was responsible for the coordination and control of all ENvest[SCE] activities and administration. The head of this unit was the Vice-President in charge of ENvest[SCE]. During the marketing participation solicitation phase of the pilot, this unit typically was composed of four persons. The project implementation structure (after 12/31/95) contains only the General Management position with administrative support shifted to a reformulated Finance and Administration unit.

A Strategic Alliances unit, during the customer solicitation phase of the pilot, was responsible for the development of and interaction with the qualified ENvest[SCE] service providers network. This unit solicited, evaluated, qualified, and worked with service providers to implement the ENvest[SCE] program. It was responsible for organizing the service provider network as well as responding to inquires from service providers. The unit also monitored the performance of service providers to determine whether they should remain on the qualified list. During part of the solicitation phase of the pilot, the head of this unit was also the head of the Operations and Technical Services unit.

After the close of the pilot, a reorganization occurred to reflect the shift in focus from marketing/sales to project/construction management. The unit, whose on-going function was to work with qualified Service Providers to implement projects, was incorporated into a Project Management/Customer Team, currently consisting of nine persons.

The Sales and Marketing unit during the customer solicitation phase of the pilot generally consisted of eight persons responsible for developing and securing customers to participate in the ENvest[SCE] program. The Director of Sales and Marketing had management responsibility as well as direct contact with customers. There were four Integrated Solutions Managers who had direct contact with customers. These Managers were divided by customer market segment in terms of primary responsibility: federal government, public institutions, non-governmental, and large commercial and industrial customers. In addition, this unit had one Sales Coordinator, a Proposal Development Coordinator, and a Coordinator for preliminary project assessment work with the Operations and Technical Services Unit.

The Sales and Marketing unit was effectively disbanded after the pilot closed to new participants. The on-going contact with qualified participating customers is handled currently by the Project Management/Customer Team. There were only four initial customer contacts after August 1, 1995 (three colleges and one water district), which resulted in one signed agreement.

The Finance unit was responsible for accounting for and administration of contracting and procurement, the development of the terms of financial agreements with customers including the development and application of ENvest[SCE]s credit and risk management policies and standards, and regulatory reporting. This unit now includes the administrative support function for ENvest[SCE]. There are currently five employees in the financing unit.

The Operations and Technical Services unit was responsible for providing or coordinating all technical assessment and implementation responsibilities including preliminary technical assessments, project and construction management, selection of qualified service providers for the ENvest[SCE] network and for specific projects, project development, and services such as Measurement and Evaluation. There are currently nine employees in this unit. The main division among the unit is between Technical Service (five persons) and Construction Management (three persons). These two functions are paired together along industry lines (i.e., federal government, schools, and municipal organizations). In addition, this unit contains two construction managers, and one Measurement & Evaluation expert.

The 1996 ENvest[SCE] organizational and administrative structure to implement the remaining qualified projects is illustrated in **Figure 5-2.**

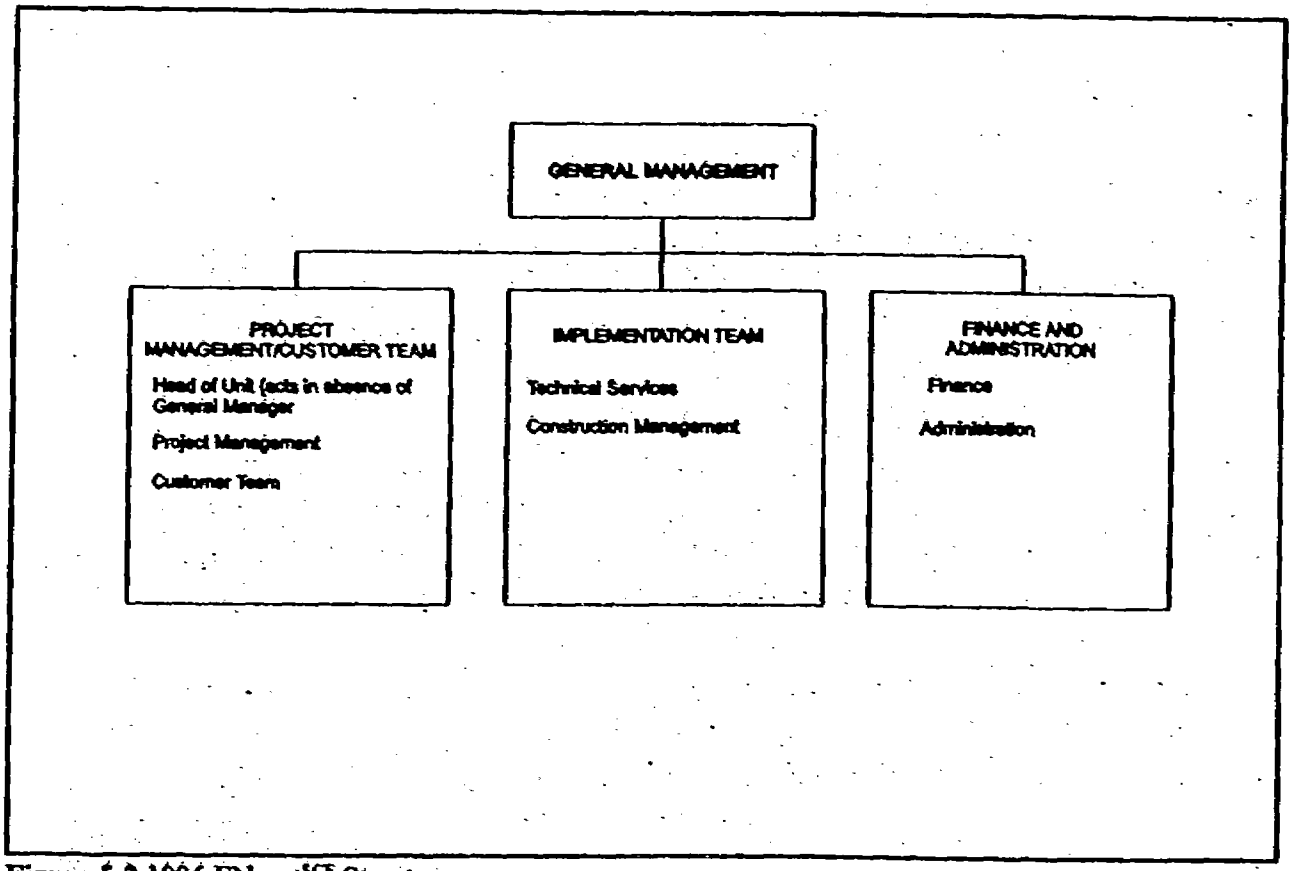

Figure 5-2 1996 ENvest[SCE] Structure

ENvest[SCE] Staffing

ENvest[SCE] staffing started small immediately after Commission pilot approval was granted in October, 1993 and grew slowly but consistently during the customer solicitation phase of the pilot. The unit heads started at ENvest[SCE] immediately after its approval by the Commission. As of December, 1993, the Sales & Marketing unit consisted of two persons, including the unit head. Operations & Technical Services had six employees (including the unit head) by June, 1994. The Finance unit had three employees in October, 1993 and added a fourth in January, 1994. The full staffing levels for the organization were not reached until about the beginning of 1995 when four employees were added to the Operations and Technical unit. However, important units for the

ENvest[SCE] start-up such as Finance, Strategic Alliances, and Sales & Marketing were more fully staffed sooner than the Operations and Technical Services unit whose responsibilities increased as preliminary technical analysis and project development and implementation were required.

The Vice-President in charge of ENvest[SCE] and the other unit heads were transfers from within SCE. About 50% of the staff hirings have consisted of outside hires. These outside hires are particularly concentrated in the customer marketing, project development, and management areas where persons employed with other energy service providers or experienced in project management in Southern California were hired by ENvest[SCE]. It was this objective of finding the right skills and relevant experience that explains in part the slow but consistent growth of staff at ENvest[SCE] throughout the pilot and the resultant slower ramp-up in ENvest[SCE] activities than had been initially anticipated.

In July, 1995, ENvest[SCE] effectively stopped soliciting new service providers and customers to participate in the pilot in anticipation of the pilot program closing on December 31, 1995. As previously noted, this meant that less staff was needed on an on-going basis for marketing and initial customer contacts, and to solicit and qualify new service providers. The current on-going ENvest[SCE] staff is composed of 28 persons (including two contract/agency persons) with two vacancies.

Interrelation Between Units

While ENvest[SCE] is structured by functional service units, the effective implementation of the ENvest[SCE] design requires substantial interaction and coordination among the units.

The initial contact with a customer was performed by Sales and Marketing personnel. If the customer wished, a walk-through technical audit of the customer facility was performed either by a person from the Operations and Technical Services unit or by a qualified service provider. This walk-through audit function required coordination with either Operations or the Strategic Alliances unit. The information from the audit was used to prepare a preliminary scoping proposal to the customer on the potential for savings and an illustration of how any desired work would be financed and repaid. This step required coordination between the Sales, Operations, and Finance units to develop and present a proposal to the customer and prepare an agreement for the customer's signature.

When the customer signed an agreement with ENvest[SCE] for a more detailed audit or for work to be performed, the primary role of the Sales & Marketing unit was shifted to the Strategic Alliances and Operations and Technical Services units (currently to the Project Management/Customer Team). A bidding process was used to select a qualified service provider(s) to perform the work, unless the

customer designated a specific qualified ENvest[SCE] provider. The Strategic Alliances unit, initially with input from the Operations unit, (1) decided how the project should be bid (as a whole or in components) and (2) selected three to five qualified providers to submit bids on the project. This team approach was also used to select the successful bidder to be presented for the customer's approval. These functions are now performed by the Project Management/Customer Team.

As the project enters the implementation phase, the Project Management unit becomes the primary contact with the customer through the Project Manager. Service providers selected for the project are required to go through the Project Manager for all important contacts with the customer. In addition, this unit is now responsible for monitoring service provider performance. The Customer Team also maintains a presence throughout the project to address customer concerns or provide information, as needed. During the implementation phase, the Finance unit will provide procurement, accounting, and data tracking assistance. Customer or other complaints about service providers are funneled back to the Project Management unit.

Upon completion of the project, and as special services such as extended Measurement & Evaluation are provided, the Implementation unit, with the assistance of the Finance and Project Management units, will monitor performance and commence customer repayment functions.

Thus, while there are strategic points at which primary responsibility passes from one unit to another (e.g., signing of the agreement), ENvest[SCE] operates on a functioning team approach intended to ensure continuity and consistency in implementation.

Operating and Administrative Expenses

There are two types of primary expenditures for ENvest[SCE]: (1) capital investment and capitalized expenditures for specific customer projects and (2) administrative expenses to operate ENvest[SCE] such as salaries, supplies, etc. Aside from the potential ratepayer contribution of up to $13 million, the first type of costs are borne by SCE shareholders. The second category of costs is paid by ratepayers, to a maximum of $8 million and subject to a reasonableness review by the Commission.

Due to the use of ratepayer funds to pay ENvest[SCE]'s operating expenses, the Commission created a separate accounting and data tracking mechanism to allow a determination of the reasonableness of how these authorized funds were expended. The Commission also directed ENvest[SCE] to minimize ratepayer expense to the extent possible in this pilot.

The only costs that ENvest[SCE] seeks to recover from specific customers are the direct costs associated with the development and implementation of a specific ENvest[SCE] solution for the customer. Otherwise, costs are categorized as program administration costs which are recovered from the authorized ratepayer funding.

The accounting distinction between costs to be recovered from specific customers and those from ratepayers is made as follows:

> ENvest[SCE]'s Operations and Technical labor directly associated with a project and any service provider costs for the project are identified at a project level and tracked through two data elements within SCE's Corporate Accounting Reporting System (CARS), the *all expense project number* and *work order number*. Prior to a customer signing either a Customer Agreement or a Proposal Development Agreement, all direct costs associated with a project are tracked by the all expense project number for the specific project. These costs are considered current period costs and reflected as program administration expenses until such time as the customer signs either a Customer Agreement or Proposal Development Agreement. Once either of these agreements are signed the all expense project costs for the project are reclassified as construction work in progress and transferred to the work order for the project. All subsequent direct costs associated with the project are also charged to the work order. Upon substantial completion of the project the total work order balance is journaled to Cost of Goods Sold.
>
> Revenue received from the customers is booked with a corresponding sales-type lease receivable on the balance sheet based on the contractual project price.

As of April, 1996, ENvest[SCE] has recorded expenditures of $6,299,303 (79%) of the authorized $8 million dollars for administrative expenses. These expenditures were primarily expended on the operation of the non-administrative units (67% of recorded expenditures to date). Sales and Marketing expenditures and Operation and Technical Services/Strategic Alliances represent the two largest non-administrative cost areas. ENvest[SCE] estimates that the entire $8,000,000 of authorized ratepayer funds will be spent on administrative expenses in order to implement the outstanding projects. There have been no credit losses to date so no ratepayer funds (authorized up to $2 million) to cover such losses has been expended.

The payment of ENvest[SCE] administrative expenses from ratepayer funds means that, unlike other service providers, ENvest[SCE] has no mark-up on its price to customers to cover operating and general overhead expenses.

Perception of Purpose

ENvest[SCE], due to its size, has been able to operate on a team basis without a need for extensive levels of coordination. Informal, daily contact and the on-going need for interaction with other members in the organization contribute to similar perception and sense of purpose within the organization. Additionally, there are regular meetings within units and among unit heads.

The Project Team's interviews with the ENvest[SCE] staff indicate a common awareness of ENvest[SCE] policies and procedures and no evidence of persistent internal bottlenecks to people performing their jobs. The employees interviewed indicated enthusiasm in pursuing the purpose of ENvest[SCE] which they saw as a better way to attain energy efficiency and related benefits by understanding and meeting customers needs by creating valuable solutions for customers.

Assessment of Operation of ENvest[SCE]

ENvest[SCE] is intended to be a non-bureaucratic organization that can effectively respond to customer needs in a timely manner. Its employees, in large part, have been selected for their ability and experience in the marketing, sale, and implementation of energy efficiency services directly to customers.

Our interview with customers (discussed in more detail in Chapter 6) indicated that most potential customers have viewed the marketing/sales and technical staff from ENvest[SCE] to be effective, competent, and fully competitive with other firms offering similar services. There have, however, been two primary recommendations for improvement in ENvest[SCE]'s implementation:

(1) Some customers feel that the pace of implementation (including follow-ups after the initial consultation) was too slow; and

(2) That in some cases, different personnel or consultants retained by ENvest[SCE] provided inconsistent recommendations. The primary examples cited were inconsistencies between sales and technical staff.

These implementation problems do not appear to have adversely affected ENvest[SCE]'s reputation. They would also appear explainable, in part, as the effect of the ramp-up efforts at ENvest[SCE] which affected the continuity of ENvest[SCE] implementation as additional persons were added and responsibilities transferred.

The ratepayer funding of ENvest[SCE] administrative expenses has allowed ENvest[SCE] to proceed up a learning curve for experience and to establish a position in the energy efficiency products and service market in Southern California. This experience, market knowledge, and position have been attained without having to include some of the cost to attain such experience and market entry in the prices charged to customers due to the presence of ratepayer funds.

SERVICE PROVIDER SELECTION CRITERIA AND PROCESS

Service Provider Qualification Criteria, Selection, and Timetable

The development of a qualified service provider network was a key concern for ENvest[SCE] since it is designed to rely on third party technical design and implementation skills. The initial concerns for ENvest[SCE] were to: (1) establish a service provider qualification process that would be attractive and equitable and (2) attract a broad variety of third party providers to allow disparate services and skills to be offered to customers. ENvest[SCE], because of the regulated aspects of the pilot, also had an objective of not limiting the service providers qualified for the pilot.

To accomplish these objectives, ENvest[SCE] met with third party providers and their organizations, such as NAESCO, to discuss the criteria and process that should be developed to qualify providers. Based on these discussions, trade association referrals, and an understanding of SCE's own procurement system for third party providers, a list of potential vendors with relevant expertise and skills was compiled.

Based on this list, ENvest[SCE] mailed an initial solicitation for participation to 250 third party providers. Accompanying each application was information about the selection process that ENvest[SCE] would use to qualify providers and what responsibilities and benefits could accrue to qualified providers. ENvest[SCE] had contacted 649 firms about potential participation in ENvest[SCE] prior to closing the pilot to new applications after August 1, 1995. A total of 193 service providers were qualified out of 218 applications.

ENvest[SCE] created five categories of providers to segment applying and selected providers by skill or area of expertise: Full Service Providers, Design and Engineering, Installers, Manufacturers, and Special Technical Services (e.g., Measurement & Evaluation).

The information requested by ENvest[SCE] of applicants covered both experience and financial status, some or most of which was considered to be confidential business information by the provider. A copy of the Application to become a qualified ENvest[SCE] service provider is attached as Appendix C.

The qualification of service providers was a joint effort between the Strategic Alliances, Operations and Technical Services, and Finance units of ENvest[SCE]. In addition to reviewing the written applications, a team of ENvest[SCE] personnel visited a number of providers, especially large manufacturing, engineering and design, and full service providers, to view their operations and to learn more about their business capabilities and experience.

The criteria used for qualifying ENvest[SCE] service providers had two primary components: (1) financial criteria which indicated an ability to perform and complete the size of the projects anticipated without interruption and (2) the professional competence and experience to deliver valuable services to customers. A service provider was qualified for the network if its application passed screening.

The objective sought to be attained by these criteria was to ensure successful projects during the two year pilot. This objective and its implementing selection criteria has an impact on the selection process. The most difficult selections tended to involve the qualifications of some Full Service Providers and their financial ability to implement projects without interruption. As a result, a higher financial screen was used for Full Service Providers than others.

The results from this selection process indicate that the process was far more inclusive then exclusive. While there was an appeal process for firms denied qualification, no rejected firm has sought to use it. Of 218 applications, only 20 have been denied, due to not submitting financial information, technology sold/serviced by the firm was not applicable to the pilot, did not serve the customer segments targeted by the program, or withdrew their application. Four applications are pending. As a result there are currently 193 qualified service providers.

The selection of service providers for the ENvest[SCE] network was also subject to the State of California Women, Minorities, Disabled Veterans Business Enterprises (WMDVBE) requirements. The extensive mailing made by ENvest[SCE] to solicit businesses to participate in delivery, included WMDVBE firms. As noted, no firms that applied have been disqualified other than for failure to provide the required information, provide an ENvest[SCE] technology, or provide services for qualified ENvest[SCE] customers. ENvest[SCE] also held a special informational meeting on May 1, 1995, to encourage more WMDVBE firms to apply to qualify as an ENvest[SCE] service provider. Thirty of the

qualified Service Providers (16%) are WMDVBE certified firms. Therefore, based on our review, ENvest[SCE] has sought out and has included WMDVBE firms in its service provider network.

Once a service provider is qualified, they are invited to an orientation meeting at which they are briefed about ENvest[SCE] and can ask questions. Five orientation meetings were held in 1994.

Each qualified service provider was required to enter into a standard Service Provider Agreement with ENvest[SCE] stating the rights and obligations of the parties involved. This document was a standard Master Agreement which was intended to be subject to negotiation. Issues for specific Providers were to be addressed in the individual contracts between ENvest[SCE] and the service provider for a specific customer project.

The timeline for the entire process for selecting qualified ENvest[SCE] service providers was from October, 1993 until March 1, 1994, although new (or rejected) firms could apply at any time up through July, 1995. The letter and applications to service providers were sent in the first two weeks of October, 1993. Responses were due in early December, 1993. The selection process intended and did get a Provider network in place by March 1, 1994. As noted, due to the pilot closing to new participants on December 31, 1995, no new service provider applications were sent out after July, 1995.

Role of Service Provider

The role of the qualified service providers on a project is within ENvest[SCE]'s discretion. Unless a customer designates a specific qualified Provider, ENvest[SCE] determines which service providers will have the opportunity to bid on specific projects and what aspects of a project a provider may bid on. According to our interviews with ENvest[SCE] personnel and a review of documents such as the July, 1993 Advice Letter to the Commission, ENvest[SCE] intended to be the project leader in terms of development and management of customer projects. This means that ENvest[SCE] determines the technical design and scope of projects and determines whether a project should be bid as a whole or by components.

To date, ENvest[SCE] has tended to be the primary contact with a customer, acting as the general project developer and manager. On matters of any significance, service providers must work through the ENvest[SCE] Project Manager rather than contact the customer directly. This kind of funneling is not unusual in large projects to ensure consistency and to prevent the customer from being "hassled," which is one of the reasons they hired ENvest[SCE]. In addition, while there is no rule, ENvest[SCE] has to date focused on a component approach to project bidding. Thus, Full Service

Providers have been picked to bid on certain projects, but have acted more like contractors bidding on a specific component of a job, rather than as a Full Service Provider for overall project development and management. If the customer was not willing to designate a service provider, ENvest[SCE] chose which service providers could bid on the portions of the project that they were qualified to perform.

Another issue that the ENvest[SCE] program has had to address is what to do about customers or customer leads brought to ENvest[SCE] by a service provider. ENvest[SCE] has adopted the policy that the service provider supplying the customer or lead will be assigned the project work only if the customer designated that service provider and that provider can qualify to be an ENvest[SCE] service provider.

Service Provider Selection For Customer Projects

The selection of qualified service providers to a specific project could only occur in one of two ways: (1) if ENvest[SCE] selected a provider to bid on a project and ENvest[SCE] subsequently picks that Provider's bid as the winning bid, and (2) if the customer designated a particular service provider who can meet the qualifying criteria to be an ENvest[SCE] provider. The customer is involved, to the extent that it desires in the selection of service providers, both at the selection of bidders and winning bidder levels. The customer has the option to reject the selected service provider chosen by ENvest[SCE].

The scope of work and the potentially most appropriate service providers are defined by ENvest[SCE], using a team approach. The best methodology for implementing the chosen energy efficiency solution (i.e., turnkey to a service provider for the whole project or proceeding on a component basis) is determined by ENvest[SCE] based on the size of the project, technologies involved, and customer needs.

Service providers were informed that ENvest[SCE] would normally select three to five qualified bidders to bid on a project. Oral presentations may be requested if ENvest[SCE] deems them necessary. The Strategic Alliances unit (now the Project Management/Customer Team) will recommend a list of potential providers based on skills and experience that fit with the job to be done, availability, and previous opportunity to bid. This last aspect is intended to attempt to ensure that the opportunity for work is spread across a broad number of qualified providers. While the bid scoring weights are not available to bidders, they are informed of the factors upon which their proposal will be evaluated. These factors include: total cost, compliance with scope requirements, innovative solutions, quality of installation plan, adequacy of proposed subcontractors and use of WMDVBE subcontractors or

suppliers. ENvest[SCE]'s responsibility is to act on the customer's behalf to select the winning bidder. This feature is designed to minimize the hassle for the customer. A losing bidder goes back to the general pool of potential bidders and can be (and has been) picked again.

To expedite the project development process, ENvest[SCE] has used the Request For Proposal process to pre-qualify service providers in certain areas so that customer needs can be met more promptly. This pre-qualification has occurred in the preliminary energy assessment (PEA) and Measurement and Verification (M&V) areas so that service providers can be assigned to customers as needed. This process provided 30 service providers the opportunity to respond to the Request for Proposals with 19 firms being selected to perform the work. As of August 11, 1995, 13 firms had been selected to perform project specific preliminary energy assessments or Measurement and Verifications studies.

As of April, 1996, there have been 94 different service providers who have submitted bids on 34 distinct projects. Fifty-eight service providers (excluding PEA and M&V providers discussed above) have won the opportunity to perform work on a project through the competitive bidding process. Five other providers have been specifically designated by customers.

Assessment of the ENvest[SCE] Service Provider Selection Process

The service provider network developed by ENvest[SCE] is very different from that generally used by comprehensive ESCOs. In general, comprehensive ESCOs partner with a few other firms, to both expand the specialized services they can provide customers as well as to respond to fluctuations in work burdens. Therefore, there will be a limited number of traditional partners for a full service ESCO with local partners, as needed, for a specific project. The ENvest[SCE] network represents a diverse pool of competent, experienced and often specialized firms. Part of the reason for such a large number of broadly skilled service providers appears to have been the concern that regulators could be upset if the opportunity for service providers to participate in the pilot had been limited.

ENvest[SCE] controls which service providers are selected for the bid competition for customer projects and the criteria and weightings that result in the selection of the winning bidder. It is this aspect of the service provider process that puzzles or concerns some qualified service providers. Qualified service providers indicate that they do not fully understand what basis or criteria is used to pick who gets to bid or who ultimately gets selected. This potential arbitrariness, when combined with ENvest[SCE]'s current practice of disaggregating the project for bidding purposes, has created a concern among some qualified service providers of whether and how much work they may actually receive from participating in ENvest[SCE].

The ENvest[SCE] service provider model has also created problems particularly during the ramp-up period. The most obvious problem, confirmed by surveys and interviews with service providers, is that there is not enough work to keep many service providers busy. While some providers may have hoped for or expected more work sooner from participating in ENvest[SCE], it is difficult to see how ENvest[SCE] expected to keep 193 qualified providers busy for any extended period of time during the pilot. In addition, trying to use many providers can result in working with new entities of varying quality on a regular basis, rather than developing experience with certain providers. The ESCO partner networks recognize the need to provide a stream of business opportunities for your close partners and to gain efficiencies and quality from working with only the best providers. ENvest[SCE] staff, in their interviews, recognized these latter benefits as well.

The problem confronted by ENvest[SCE] is that limiting the service provider network would have detracted from ENvest[SCE]'s stated goal of increasing opportunities in the energy efficiency services markets for a broad array of Providers.

A major concern raised by the ENvest[SCE] service provider qualification process is the potential for anti-competitive or discriminatory impacts. Paring down the size of the Provider's network could create a "limited franchise" for certain select Providers. This is especially true as utility rebates, and perhaps DSM bidding, are withdrawn from the marketplace. In addition, if the ENvest[SCE] design is a better means to overcome market barriers to increase customer demand (in part because of the use of ratepayer funds and intangible utility assets), then the continued splitting of projects into components in which ENvest[SCE] retains the project development and management roles will serve to limit the potential work for Full Service Providers who compete against ENvest[SCE] for general project development and management responsibilities. They must bid on ENvest[SCE] projects more like specialized contractors than as full service firms.

Embodied in this potential concern about unfair competition is that qualifying for the ENvest[SCE] service provider network requires firms to share often sensitive and confidential information with a potential "competitor". ENvest[SCE], through its qualifying of the present service provider network, has been provided information and insight into both the nature and extent of activity in the energy efficiency services market and the internal operations and policies of large energy efficiency service providers. While much of this information may have been ascertainable, the ENvest[SCE] process basically meant that it was hand-delivered to ENvest[SCE]. If providers perceived ENvest[SCE] as a potential competitor, they would have to choose not to partner with ENvest[SCE] or hope that they would become a select partner.

These potential anti-competitive concerns and/or impacts are discussed in full in Chapter 12.

CUSTOMER SELECTION/CRITERIA/MARKETING

Timeline/Development of Staff Capability

At the same time that ENvest[SCE] was proceeding to establish a qualified service provider network, it was pursuing customers to participate in the pilot. ENvest[SCE] was designed to be offered to large commercial, industrial, and governmental and non-governmental institutional customers. Various consultants specializing in these areas contributed to the program design for these sectors in an effort to make it attractive to customers.

One of the initial decisions made by ENvest[SCE] was to recruit its own sales force rather than primarily rely on transfers from or marketing by SCE's sales personnel. The focus of ENvest[SCE]'s recruitment efforts was on persons experienced in energy efficiency sales efforts in the Southern California market. This recruitment and hiring process led to a ramp-up in the ability to handle large scale marketing efforts.

Nature of Marketing Efforts

ENvest[SCE] chose to market its services by relying on general marketing to inform customers on the availability of services from ENvest[SCE].[1] This could be termed as the use of a passive, as opposed to proactive, marketing approach. Consulting with interested customers as opposed to "beating the bushes" for prospects was the preferred mode of sales and marketing operation. It was assumed that interested customers would contact ENvest[SCE]. Some "cold calls" were made to customers, primarily as a result of referrals from SCE Account Representatives.[2] But, these referrals (about twenty) did not result in ENvest[SCE] participants.

The primary means of marketing used by ENvest[SCE] were media stories about ENvest[SCE] and "word of mouth" among potential customers. In addition, the filing of the ENvest[SCE] Advice Letter meant that some customers who regularly receive such filings were informed about the potential services that could be developed by ENvest[SCE]. These efforts were furthered by news stories about the formation of ENvest[SCE], the Memoranda Of Understanding with the U.S. Department of Energy in

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[1] Customer facilities in the San Gabriel and Southern Districts in which SCE's DSM bidding pilot was being conducted were excluded from marketing by ENvest[SCE]. However, facilities owned or operated by those customers outside of those two districts were considered eligible. As a result, the ENvest[SCE] pilot did not interfere with the "winning" bidders in the DSM bid pilot.

[2] These SCE Account Representative referrals tended to be commercial and industrial customers. The interests of these referred customers is discussed in Chapter 6 under the "Inactive Customer" section.

January, 1994 and the General Services Administration in March, 1994. In addition, news coverage of the initial agreement with a public school district was used as an opportunity to keep ENvest[SCE] in the public eye.

ENvest[SCE] did not extensively target their initial marketing efforts to specific customers. For example, ENvest[SCE] did not do a general or targeted mailing to customers. Therefore, ENvest[SCE] had no reason to use the SCE billing system capability for a direct mailing. In addition, although efforts by previous consultants hired by SCE had provided extensive market and customer surveillance and information by industry segment, the initial screening of interested customers was done by looking at the customers with the highest revenues. This is not surprising since the ENvest[SCE] program design was developed around an assessment of potential customer needs and value: the potential for savings measured in part by current consumption, the need for integration of services by the customer assessed by in-house staff and expertise, and the need for access to reasonably priced financing. To the extent that the program design captured what customers wanted and needed, making the larger customers aware of the program could be expected to lead to inquiries which ENvest[SCE] could then pursue.

The marketing effort pursued by ENvest[SCE] concentrated on making the sale after an interested customer has identified itself. There were, however, two important exceptions to this observation. First, ENvest[SCE]/SCE actively pursued a Memorandum of Understanding with various federal government departments such as the Department of Energy and General Service Administration. SCE, in addition, used its advantage as a tariffed provider of utility services to "open up" the federal energy efficiency services market. These targeted efforts led to ENvest[SCE] having a preferred position in marketing to specific federal governmental entities or facilities. The contacts leading to this favorable market sector position for ENvest[SCE] were based on the pre-existing customer contacts that SCE had developed and were developing with the federal government.

Second, SCE negotiated a similar Memorandum of Understanding with the State of California focused on public schools and other municipal facilities. While none of these Memoranda of Understanding actually identified a specific customer for ENvest[SCE], they provided entry into two significant market niches in which ENvest[SCE] could pursue its consultative marketing approach.

Use of SCE Information/Personnel for Marketing

ENvest[SCE] had access to and the opportunity to use resources and personnel from SCE to both develop and deliver its marketing efforts to customers. There were three primary sources of information or market leads from SCE that ENvest[SCE] could have tapped:

(1) Customer Billing Information;

(2) Market and Customer Surveillance Information; and

(3) SCE's Large Commercial and Institutional Customer Representatives.

ENvest[SCE] does not appear to have made extensive use of any of these potential utility sources of marketing advantage which are not readily available to potential competitors. The primary reason for this is a marketing strategy adopted by ENvest[SCE] which was premised on closing the sale with an interested customer (consultative marketing), rather than proactively trying to develop initial contacts.

ENvest[SCE] did have access to and did use information on customer billings to identify the largest accounts for SCE. This information served as a first step to identify potential opportunity for savings. But, since ENvest[SCE] did not seek to proactively market, the customer billing information of value involved is for already interested customers who had contacted ENvest[SCE]. Other potential service providers can receive customer billing/consumption information from SCE with the customer's authorization. Thus, while ENvest[SCE] may have a slightly lower hassle and transaction factor to get such information, it does not appear to have provided a meaningful competitive advantage.

The market and customer surveillance information developed by and for SCE is quite detailed in many cases. SCE has extensive information on its largest customers that includes not just energy usage information but knowledge about the nature of the business and market that they operate in. This SCE information has been supplemented by outside consultant reports on specific industry segments and the keys and barriers to energy efficiency services in each, including the prospects for the industry segment as well as potential competitors. SCE also has extensive information in terms of collected data, evaluations, and prior contacts from its own DSM programs, particularly the Energy Management Hardware Replacement Program (EMHRP) which provides energy efficiency services to large commercial and industrial customers.

In a way, this aggregated information at SCE did contribute to aiding ENvest[SCE]. But this was through its impact on the development of the design of ENvest[SCE] to be responsive to customer needs. ENvest[SCE] was proposed as a more effective way to promote energy efficiency than the model embodied in the EMHRP. Indeed much of the information collected by SCE focused on non-institutional customers. While there certainly can be value in this information, it is not obvious how it has provided any significant benefit or competitive advantage to ENvest[SCE] during the pilot. Indeed, based on some of this information, ENvest[SCE] believed that its primary business would be with large commercial and industrial customers, or at least, a third with schools, a third with commercial customers, and a third with industrial customers. The actual experience from the pilot indicates that ENvest[SCE] has had no success in the commercial and industrial sectors.

SCE not only has information on large customers which ENvest[SCE] could have utilized for marketing, but also a network of Customer Representatives who can provide detailed information on specific customers as well as provide a means of direct access to customers for ENvest[SCE]. These SCE Customer Representatives were familiar with the offerings and process of the ENvest[SCE] pilot. In addition, ENvest[SCE] marketing information was provided to many of these Customer Representatives.

While ENvest[SCE] sales personnel knew the SCE Customer Representatives, ENvest[SCE]'s practice in the pilot was not to aggressively use or rely on the SCE Representatives for leads or to close sales. However, a number of customers have indicated that they first learned of the ENvest[SCE] pilot from their SCE Customer Representative. Also, about 20 referrals were made to ENvest[SCE] by SCE Customer Representatives. None of these direct referrals resulted in active projects for ENvest[SCE]. There has been, therefore, some benefit to ENvest[SCE] gained from the presence of the SCE Customer Representative network. However, while the SCE Customer Representative network could potentially represent a significant competitive advantage for ENvest[SCE], its role in the ENvest[SCE] pilot was quite limited in scope and in value.

Assessment of Use of SCE Information and Resources for Marketing

SCE has developed a significant amount of information about its large customers and the market sectors which they operate in. SCE Customer Representatives have established relationships with large commercial, industrial, governmental, and institutional customers from which they are very familiar with the operations and needs of those customers.

All of this information and access could be viewed as a significant, and potentially unfair, competitive advantage for ENvest[SCE] in terms of marketing its services to customers. While this

could be true, the fact is that ENvest[SCE] does not appear to have relied on this accumulated information or to proactively tap the potential source of referrals from SCE Customer Representatives in implementing the ENvest[SCE] pilot.

The potential anti-competitive impacts and concerns raised by ENvest[SCE]'s access to the SCE billing system, customer information and Customer Representatives will be discussed in greater depth in Chapter 8.

Presentation to Customers

After a customer has indicated interest in ENvest[SCE], an ENvest[SCE] Sales Representative contacted the customer to make a presentation of the services that ENvest[SCE] could offer the customer as well as explain the ENvest[SCE] process for developing and pursuing projects. This initial presentation included two components: (1) the benefits available from ENvest[SCE] and (2) certain information that the Commission had required that ENvest[SCE] provide the customer. The two Commission requirements were that: (1) ENvest[SCE], at the initial meeting with the customer, inform the customer that other Service Providers unrelated to ENvest[SCE] may be able to provide the services that the customer needs and desires and (2) ENvest[SCE] would pursue savings opportunities in a fuel neutral manner.

Our interviews and surveys with ENvest[SCE] personnel and customers contacted by ENvest[SCE] indicated that ENvest[SCE] complied with both of these Commission requirements. Indeed, the latter requirement is consistent with ENvest[SCE]'s stated intent to maximize the value to the customer from savings opportunities from any source in order to meet the customers needs and to induce them to participate in the program.

CRITERIA FOR PROJECT DEVELOPMENT AND SELECTION

Total Resource Cost (TRC) Test

By Commission requirement, each ENvest[SCE] project must have a TRC benefit/cost ratio of at least 1.0. There is no specific Commission requirement that each component of a project have a TRC greater than or equal to 1.0. ENvest[SCE] calculates a TRC for a prospective project and again

estimates a TRC when the project is done. ENvest[SCE] projects undertaken in the pilot met this requirement.[3]

Opportunity for Savings

ENvest[SCE] established minimum project sizes depending on the customer sector. These minimum size limits were intended to ensure that ENvest[SCE]'s focus was on significant potential savings opportunities. The minimum limits set are $100,000 for public sector projects and $250,000 for commercial and industrial projects. ENvest[SCE] established these limits based on a review of the typical project size for ESCOs in those markets.

A few prospective projects were found to have excessively long paybacks because of limited savings, far beyond what was acceptable to the customer. The typical size of the projects actually undertaken indicates that these minimum standards were effectively a non-factor in the pilot as the potential for the expected size of large projects was simply misestimated by ENvest[SCE].[4] But, the low minimums did allow ENvest[SCE] to pursue a broader range of potential projects.

Creditworthiness of Customer

In addition to ensuring a cost-effective opportunity for significant savings and benefits, the financial creditworthiness of customers was a key concern for ENvest[SCE], particularly considering the likely financing amounts involved in its projects. Financing losses could be borne by ratepayers (from the $2 million credit loss fund) and utility shareholders.

ENvest[SCE] decided that the projects it was seeking to capture were ones in which customer's credit was investment grade BBB- or better. ENvest[SCE] decided that customers with better creditworthiness would be preferred customers for the pilot. The driving forces for these choices were the limited nature of the pilot, the limited capital for the pilot (a total of $88 million), the limited credit loss reserve contribution from ratepayers (up to $2 million), the expected broad pool of potential customers, and the potential for losses to be borne by utility shareholders.

Many potential customers had publicly available investment ratings from one or more of the various investment ratings agencies. When ratings were available, ENvest[SCE] used them. However, some potential customers, particularly smaller, middle market customers do not have publicly available

[3] See Table 3-4 in Chapter 3.

[4] See Table 3-3 in Chapter 3.

investment rankings. For these customer, the ENvest[SCE] Finance unit tried to compare the financial information of those customers with that of rated companies in order to assign a rating.

If a customer did not meet the credit quality criteria, they were not automatically excluded from consideration. Rather, a decision was made as to whether other means might be available to structure the deal to adequately protect ENvest[SCE] and SCE ratepayers. Two options were securing the equipment installed in the project if it had reasonable resale or salvage value and increasing the amount of the project price to reflect a higher contribution to the loan loss reserve. The form of any security was also negotiable (e.g., letter of credit).

ENvest[SCE] established the charge for the loan loss reserve for a project based on the risk exposure for that contract. Depending on creditworthiness, liquidity etc., a premium was added for more risky projects.

While there was some flexibility built into the creditworthiness approval standard, the requirements set for the pilot were fairly stringent and favored the more creditworthy customers. Thus, some projects involving customers with limited credit history due to the newness of the enterprise resulted in delays in project development. In addition, the problem with Orange County's credit rating affected all public sector activity in that county during the pilot, effectively putting those projects on hold.

Assessment of Project Selection Criteria and Application

The ENvest[SCE] project selection criteria are logically focused on projects that may be of interest to large customers: substantial savings opportunities that can provide a discernable benefit to a large operation in which energy costs may only be a small portion of total operating costs.

But the project selection criteria that has most impacted the pilot was the high level of creditworthiness established. This had two direct impacts. First, a number of potential commercial and industrial customers could not meet the required selection criteria. Second, potential customers who can marginally meet the criteria were confronted with either extended times for project development or proposed security arrangements that proved to be unattractive. By targeting customers with high creditworthiness, the ENvest[SCE] pilot limited the pool of potential commercial and industrial customers to those who could be expected to (1) not have adequate access to reasonable cost capital themselves, and/or (2) possess internal technical and management capability that they did not wish to acquire from someone else. The high creditworthiness standards in the pilot appear to be the result of minimizing the risk of loss to ratepayers and to utility shareholders.

Financing Implementation

Customers were offered two financial options under the ENvest[SCE] tariff: (1) a loan or (2) a lease option. These financing options were repayable on the customer's utility bill. The interest rate was established based on SCE's cost of capital which averaged approximately 14% during the pilot. Third party financing was not offered as an option.

The lease offering made to potential public sector customers appears similar in structure to that offered by ESCOs. The reasons for the similarity are the California Constitution provisions and tests that require voter approval for spending beyond debt limit requirements. To address these limitations, a municipal lease option must be structured in a certain way. All of the signed agreements for project construction and implementation are federal and municipal customer leases.

The preference by customers for a particular type of financing option is based on several factors. The federal government agencies have a strong preference to own the equipment when installed and therefore prefer the loan option. As noted above, schools have obvious reasons to favor the lease option. However, while the loan or lease option can be chosen to respond to a specific customer's needs, the current tariffed services do not allow non-standard or customized financing options for a customer.

The predominant comments from potential customers about the ENvest[SCE] financing options were that they were attractive if you did not want to spend your own money or did not have access to reasonably priced capital. Otherwise, the proposed rate was simply too high for some potential customers who felt that they had access to less expensive funds. In addition, the two standard options were felt to be too inflexible to respond to individual customer needs. These views were particularly held by potential commercial and industrial customers. The structure of the deal was simply unattractive, so that some potential customers either funded a project from internal funds or sought financing from someone else or did not pursue the savings opportunity.

SUMMARY

The actual implementation of the ENvest[SCE] pilot has followed the pilot design filed and approved by the Commission. Despite normal start-up delays, ENvest[SCE] was adequately implemented and administered during the pilot period to allow an assessment to be made if it achieved its stated purposes and how the design components affected customer demand as well as impacted competition in the energy services market.

The ENvest[SCE] pilot marketing strategy did not seek to extensively use available SCE information, resources, or personnel in favor of a more consultative approach with interested customers who had already contacted ENvest[SCE]. The ENvest[SCE] qualified service provider network has been extremely inclusive of applicants. Unfortunately, the work to keep 193 qualified service providers busy was not an attainable goal within the limited size and time frame of the pilot.

The customer selection criteria tended to discourage the provision of ENvest[SCE] services to commercial and industrial customers, who otherwise might find some of ENvest[SCE]'s services attractive. The high level of creditworthiness established for the pilot, the perceived high level of the offered interest rate, and the relative inflexibility of the structure of the financing offerings (and in part the bundled set of services plus financing that a customer had to purchase as a whole rather than be able to choose from) proved unattractive to these potential customers.

The relative attractiveness of the individual services offered to customers as part of the bundled ENvest[SCE] package are discussed in depth in Chapter 10.

B. TEEM PILOT

Organizational and Administrative Structure of Teem

TEEM operates as a separate business unit within the SoCal Gas utility. The General Manager of TEEM reports to the Vice President of Commercial and Industrial Marketing at SoCal. For the first year of TEEM's operation, TEEM was staffed by three full-time employees including the General Manager. The two other employees were responsible for identifying and marketing projects to potential customers and overseeing any project implementation. The General Manager in addition to overall administrative responsibility was also involved in customer contacts and attempting to arrive at signed project agreements with customers.

The decision to start and keep the TEEM staff small was a deliberate decision by SoCal. The basis for the decision was that TEEM's initial objective was to determine the scope and nature of the actual opportunities that were present for the sale of the energy services offered by TEEM. Simply starting with a large staff was not seen as necessarily a better way to achieve that objective. The implications for the pilot of starting out with a limited staff will be discussed subsequently in this section.

In late 1995 and early 1996, as TEEM began to make more customer contacts, achieve signed customer agreements that moved to the implementation or technical analysis design stage, and focused on certain market niches, more staff has been brought on. Problems with being able to use SoCal's accounting system required that TEEM obtain its own accounting capability by hiring an accountant. Two additional sales personnel were also added to focus on specific market sectors. In addition, an energy auditor has been added to staff as well as a contract secretary (not a shared employee with SoCal). At the time of this report, TEEM was staffed by 8 persons including the contract secretary.

The current organizational structure for TEEM is depicted in **Figure 5-3.**

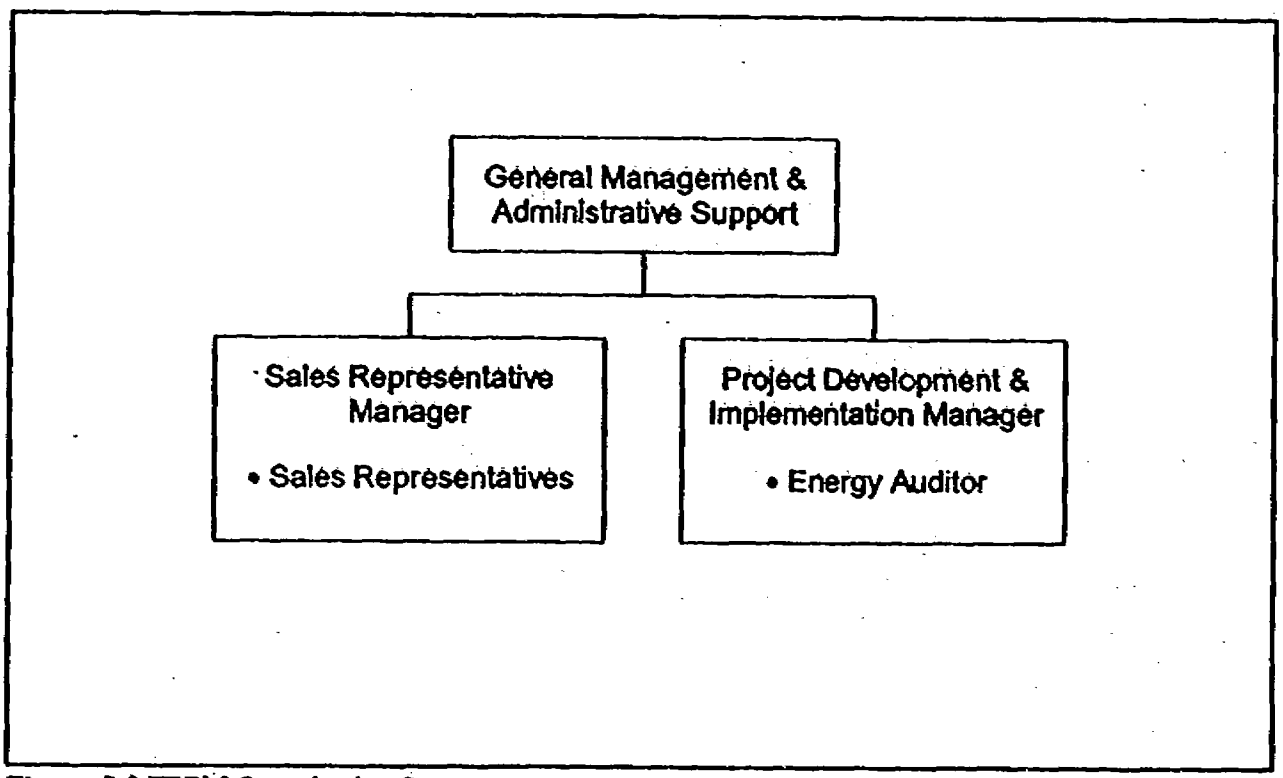

Figure 5-3 TEEM Organization Structure

Obviously due to the small size of the TEEM staff, particularly in the first year of the pilot, each staff member has been responsible for multiple duties. In addition, interaction between the various functional units has been close simply because of the need for a very small staff to coordinate to handle a significant workload. The addition of more staff has alleviated to some degree the need to perform multiple duties by allowing some specialization, particularly in the sales area, and allowing

to some degree other personnel to focus more on project development and implementation and other necessary TEEM functions.

The interaction between units is fairly simple and straightforward. When the customer signs an agreement with TEEM, the primary role of the Sales unit is shifted to the Project Implementation unit. The solicitation and qualification of a Service Provider network and selection of which bidders would have the opportunity to work or bid on a project was a joint effort during the first year of the pilot of the three TEEM employees.

Except for the General Manager of TEEM who previously worked as a Regional Marketing Manager and a Customer Service Manager for Billing at SoCal, the TEEM staff has been composed of external hires from people either experienced in the energy services industry, in managing large, complex projects or with specialized skills needed by TEEM for administrative purposes.

Operating and Administrative Expenses

TEEM is entirely a shareholder funded operation. Its budget was established at $500,000 for the three year pilot. Aside from Commission accounting requirements, when and if TEEM uses utility resources (e.g., the SoCal accounting system) or shared employees, there are no other regulatory data tracking requirements.

The costs of operating TEEM will be attempted to be recovered from participating customers including a return to utility shareholders for assuming the risks of project management and providing technical performance assurances. In effect, TEEM is operated as a cost plus offering to participating customers.

Assessment of Operation of TEEM

The operation of TEEM for the first year of the pilot was directly affected by the low staffing level during that period. Having only three staff including the General Manager resulted in several important consequences for the operation of TEEM in the first year of the pilot. The most important impacts were:

- Inadequate staff to effectively address the needs of establishing and adequately implementing an integrated and prioritized program to administer, market and implement large scale, comprehensive energy efficiency efforts. While the efforts and results of the three staff during this period are greater than would reasonably be expected, the limited staff

has resulted in lost opportunities to establish early on a more effective, targeted marketing and delivery effort. Efforts to achieve these objectives were unable to be appropriately addressed until a decision to add additional staff in late 1995/early 1996 was made. This decision allowed priorities to be established and strategic and targeted marketing plans to be developed with the hope that there would be adequate time and resources to implement at least some of those plans.

The presence of inadequate staff during the first year has not appeared to undercut the long-term potential for success for TEEM. Indeed, as will be discussed, the contacts made and experience gained in the first year of the pilot appear to have the potential to bear fruit in the balance of 1996. It must also be recognized that SoCal, which has established TEEM in part to discover the potential in the large customer energy services market, acted conservatively since it was shareholder funds that were at risk in the untested venture. But, whatever the reason, the limited staffing of TEEM did inhibit both the effectiveness and capability of its operations during the first year of the pilot despite the hard and capable work of that limited staff.

- A direct consequence of the limited staff was to create what appears to be a short term problem with some potential customers and service providers. As will be more fully discussed in Chapters 8 and 9, the primary "negative" comment about TEEM by some parties has been that it failed to keep them adequately informed as to the progress of events. In some cases there was a significant gap between initial contact and follow-up. This impact appears to be a direct result of: (1) an initial objective of testing the waters in all large energy services markets and (2) limited staff to adequately develop, market, and implement projects for the initial customer responses received. The more recent decisions to target certain market segment and the addition of additional staff can be expected to help alleviate this potential problem. Whether the current staff is adequate to fully resolve the problem will only be seen from future experience in the pilot.

The overall conclusion to be made is that the limited staffing in the first year of the pilot slowed down TEEM's ramp-up into an entity that is ready to operate like an established business entity. However, as noted, the consequences appear to be a loss of time and opportunity rather than any long-term impediment to TEEM's potential success. However, continuation of such a problem could be a major obstacle to success in a market in which personal business relationships appear to be equally important as technical competence.

Service Provider Selection Criteria and Process

TEEM, like ENvest[SCE], was designed to rely on third party service providers to help develop and deliver projects. Thus, the TEEM pilot used a service provider selection process to qualify providers for its eligible network to work on TEEM projects.

TEEM solicited potential service providers by advertising in general and industry publications. As result of this advertising 41 firms requested a Request for Qualifications and attendant materials. (A copy of the RFP Package is attached to this report as Appendix C). A question and answer session was held on August 28, 1995, at SoCal's facility in Downey which 40 trade allies attended. As of April 1, 1996, 39 service providers have been qualified. This represents all of the service providers who have applied to be qualified.

TEEM generally competitively bid a project in selecting qualified Service Providers to work on a specific project. TEEM decides which Providers best fit the needs of the project in selecting a limited number (e.g., 3-5) to bid on work. If a customer wishes to designate a qualified Service Provider they can do so. In some cases, a bid may be negotiated with a specific provider because of a specialized skill, the need for a prompt response to a customer or because past experience has demonstrated that a particular provider can provide the greatest value to a customer's project. The three TEEM projects in the design or implementation phase have at some point employed each of the selection methods indicated above. As of this Report, 9 different Service Providers have been selected to work on projects.

Assessment of the TEEM Service Provider Selection Process

Like ENvest[SCE], TEEM has been quite inclusive in qualifying Service Providers. However, because the TEEM operation of its qualified Service Provider Network is very similar to ENvest[SCE]'s, the anti-competitive concerns noted in the earlier section concerning the ENvest[SCE] pilot are equally applicable to the TEEM pilot. These anti-competitive concerns and/or impacts are more fully discussed in Chapter 11 of this Report.

Customer Selection/Criteria/Marketing

The initial marketing efforts for TEEM were to find out what the potential for selling energy services to large customers at a profit might be. As a result, TEEM sought out large commercial, industrial, government and institutional customers. Because of the limited staff resources at the inception of the pilot, proactive marketing to customers was extremely limited. Until February 1996, no

marketing had been performed through the utility bill envelope and only one story in one trade journal had been done. The primary source of customer leads came from service providers.

The staff that was available wound up responding to the customer inquiries that had come from service providers interested in having a "deep pocket" or large entity like SoCal/TEEM help them to develop and implement projects. Thus, while TEEM staff responded to these inquiries, it did not have an adequate opportunity to develop or implement its own marketing efforts until additional staff was added in early 1996.

Rather than use SoCal customer marketing information (which TEEM had indicated its Advice Letter that it would not use), TEEM purchased a list of schools from the State of California and developed a list of hospitals and medical facilities in the Southern California area off the Internet. One direct mailing was made by TEEM to this latter list.

At the end of 1995, TEEM reassessed its marketing needs and decided to target its efforts to certain customer segments. The segments chosen were in the traditional MUSH market-municipalities, schools, colleges and universities, and hospitals and medical facilities-, in the commercial property areas (especially hotels) and federal facilities. This targeting is not intended to dismiss other commercial and industrial customers as desirable or prospective targets. The choice was made based on the differences among the resources, time and need to operate programs in these different target markets, and the likely success in securing customers among those sectors. To reflect this decision, the three members of the sales unit have divided up primary responsibility for these targeted markets. In addition, SoCal marketing personnel utilizing TEEM customer lists were used in the Spring of 1996 to pursue customers leads (without success). The nature of these marketing efforts were to train and authorize SoCal marketing personnel to inform their customers, through their normal course of doing business, of the TEEM program and how it worked. Training included compliance with all regulatory and administrative mandates regarding lead referrals between Pacific Enterprise's companies. TEEM paid SoCal the fully allocated cost of using these marketing personnel.

It is reasonable to expect that the additional resources now available for more proactive marketing and the more targeted focus of that marketing will increase the number of signed customer agreements in the future.

Use of SoCal Information/Personnel for Marketing

Similar to ENvest[SCE], TEEM could have tapped three primary sources of information or market leads from utility sources or utility personnel:

(1) Customer Billing Information;
(2) Market/Customer Surveillance Information; and
(3) SoCal Marketing Representatives and their expertise

TEEM has not relied heavily on these sources to gain potential targets for marketing nor has it accessed utility resources that are not equally available to its potential competitors without the payment of compensation.

The Commission required that SoCal shareholders pay for the use of any utility information (e.g., customer consumption patterns, etc.) by TEEM. The practice at SoCal has been that independent ESCOs can obtain customer usage information at no cost with the customer's permission. TEEM has used this customer approval process in the pilot to obtain specific customer usage information. In this regard, it operates no differently than independent ESCOs.

TEEM also has potential access to SoCal's customer list to identify potential participants. Under Resolution 6-3140, TEEM was not prohibited from using SoCal's customer list and information but would have to pay compensation for such used based on the fully allocated cost of those services. However, TEEM stated in Advice Letter No. 2329-A that:

> The TEEM pilot program will not rely on SoCal Gas' customer list to identify potential participants.
>
> Advice Letter No. 2329-A at p. 4.

To assure that TEEM would not use utility customer lists without appropriate compensation, the TEEM pilot promised to confine its marketing activities to customer types "which are easily identified by utilizing trade journals, commercial and industrial directories, the phone book, etc." (Advice Letter No. 2329-A, Attachment C at p. 4.) As noted, TEEM developed its own customer lists rather than use SoCal information. In addition, it paid for the use of SoCal marketing personnel.

A third source of potential anti-competitive concern arises from a utility affiliate's potential to use utility expertise without compensation (when such use is not equally available to potential ESCO competitors). However, as previously noted, TEEM has primarily hired external expertise to staff

the TEEM unit. The use of SoCal marketing personnel in the Spring of 1996 was not prohibited by the Commission and TEEM paid the fully allocated cost of using such personnel. While SoCal marketing personnel will have knowledge of individual customers, this knowledge apparently was not helpful to TEEM as no significant new customer leads were generated from this marketing. Thus, there has been no significant transfer of utility expertise or experience from SoCal to operate the TEEM pilot, including the substantial use of utility customer representatives to recruit TEEM participants. When resources such as customer marketing personnel have been used, TEEM has paid the fully allocated costs for such resources.

The bottom line is that, while TEEM may have the opportunity to access potentially valuable utility information and experience, it has not done so to any significant extent during the course of the pilot. The access that it has used has been on equal terms (and availability) to its potential competitors or has required the payment of compensation for the cost of the used services or resources.

Presentation to Customers/Utility Intangible "Assets"

TEEM in its presentations to customers focuses on the value of the proposal to the customer in terms of energy savings and related productivity or environmental compliance benefits. This emphasis on "customer value" is reflected in the fuel neutral nature of proposals (indeed TEEM estimates that about 90% of the estimated savings proposed to date would be from electric end-uses).

There are three major themes running through TEEM's proposals to customers in addition to the specific benefits of the proposed project to customers. They are:

(1) The benefits that can be gained from working with TEEM due to its connection to SoCal;

(2) That TEEM is not trying to sell a specific product or service, but rather trying to earn a reasonable return on the entire project; and

(3) The difference between TEEM and "shared savings" ESCOs whom potential customers may have dealt with in considering or implementing earlier energy efficiency projects.

The thrust of these three themes is that TEEM can be trusted and is experienced (due to its connection to SoCal) and unlike other potential ESCO providers is focused on the customers' concerns and needs rather than trying to sell a customer a product or service that they do not want or do not need.

TEEM seeks to differentiate itself to customers through (1) its affiliation to a regulated entity whom customers may perceive as somewhat less self-interested because of regulation which seeks to attain the public interest and takes a larger and longer view of projects; (2) noting that its goal is to sell the customer the "best" solution rather than its own products and (3) highlighting the risk that some customers have had in the past of dealing with ESCOs who have delivered less than they may have promised. Thus, not only does TEEM market a "one stop" menu of services, but it seeks to point out that TEEM can be trusted to do the right thing for customers by emphasizing its connection to a regulated entity in contrast to the "fly by night" practices or high margins charged by other ESCOs.

TEEM's marketing themes attempt to characterize why even traditional ESCO markets (such as the MUSH market) still appear to offer plenty of sales opportunities to new providers and the potential benefits that utility ESCOs such as TEEM might reap from the use of a regulated utility's intangible assets such as name recognition, goodwill and perception of expertise. It is clear from TEEM's general marketing that it believes that these three general themes are as important as the specific proposals that it makes to customers. These general marketing themes are intended to give TEEM an edge in getting a customer to consider a proposal from TEEM as well as creating that element of trust and confidence with a customer that is necessary to close the deal in TEEM's favor.

SoCal/TEEM believe that a utility's intangible assets are the property of a utility's shareholders and thus there is no legal requirement that utility ratepayers be compensated for the use of such assets. It is clear from TEEM's operation that these intangible assets are perceived by TEEM as important and valuable to TEEM's marketing efforts. Chapter 8 will consider customers' perceptions of the value of these intangibles. Chapter 10 will consider the effect of these utility intangibles on developing and expanding the energy services marketplace, while Chapter 11 will analyze the potential competitive impacts of allowing utility ESCOs to use such utility intangible benefits without the requirement to pay compensation or to lend such assets to potential competitors on equal terms.

Criteria for Project Development and Selection

The TEEM pilot seeks to capture or encourage comprehensive, fuel neutral installations that would otherwise be left undone. (Advice No. 2329-A, Attachment E.) In the implementation of the pilot, TEEM has operated as a market-driven program in which the selection and feasibility of a project has essentially been driven by its ability to be financed by third party lenders and its acceptability to customers.

Because shareholders are funding the administrative costs of the pilot, the traditional DSM cost effectiveness tests are not applicable.[5] Rather, the driving force in a project is the presence of adequate savings and benefits (e.g., productivity in addition to bill savings) to allow reasonable cost financing acceptable to the customer to be arranged.

TEEM's self-interest has surfaced in its decision to target marketing opportunities to certain customer segments. While it will continue to explore customer-driven projects in all large customer sectors, TEEM's emphasis, considering its resources and desire to generate a return for shareholders, is presently on fairly standard jobs with short turn around times and fewer customer barriers to overcome (i.e., characteristics of the MUSH market-type project).

Summary

The progress of the TEEM pilot was slowed by the limited staffing for the pilot, particularly during its first year of operation. Despite the limited resources, TEEM was able to respond to customer inquiries funneled to TEEM by service providers, establish a qualified Service Provider network and implement several projects. It has done so without any substantial reliance on utility information, resources or assets other than intangible assets such as goodwill and name recognition. The bottom line selling point during implementation has been "customer value" which emphasizes a broad range of benefits, including bill savings, that could be produced from a project.

It is not possible to assess whether TEEM currently has sufficient resources to capture a substantial portion of the potential opportunities that may be available. But, the TEEM implementation experience to date, in addition to the recently added resources and targeted use of those resources, suggests that customer agreements are likely to be proceed at a faster pace.

C. COMPARISON OF ENvest[SCE] AND TEEM IMPLEMENTATION EFFORTS

The ENvest[SCE] and TEEM pilots had some fundamental differences in their program designs. But, only two aspects of these differences in design seem to have affected the implementation mode used in each pilot: (1) financing and (2) the presence of ratepayer funding. The exclusive use of third party financing together with no ratepayer funding allows the TEEM pilot to implement a more

[5] The standard DSM cost-effectiveness tests do apply if a customer seeks to obtain a rebate from another SoCal program.

"market driven" pilot. Unless customers perceive value and third party financiers see the opportunity for an acceptable return with acceptable risk, TEEM projects will not proceed.

In the absence of the use of utility funds, whether for financing or co-investment, TEEM can be less concerned than ENvest[SCE] with regulatory requirements that might influence its judgment to pursue a specific project or constrain its ability to respond to customer desires.

ENvest[SCE], as demonstrated by its choice of fairly restrictive financing underwriting requirements, resulted in the implementation of a design that proved unattractive to certain customer segments (i.e., large commercial and industrial). The underwriting criteria were designed in part to minimize risk for ratepayers who could be subject to credit losses. The project proposals offered to customers by ENvest[SCE] also had to conform with the Commission's DSM Guidelines which provide less flexibility for ENvest[SCE] to potentially pursue what the customer really wanted (e.g., the primary driver for a project is not energy savings). The presence of ratepayer funds to cover ENvest[SCE] administrative costs also appears to have allowed that pilot to ramp-up much faster than the TEEM pilot funded by shareholders. The impact of ratepayers funds being used in the ENvest[SCE] pilot on customer interest in participating in that pilot is discussed in more depth in Chapter 10.

There are several important similarities and differences between the implementation of the pilots that have occurred but which are not the direct product of the initial program designs. The most important similarities in implementation are:

- Despite an initial, unfocused approach to the large customer energy services market, both pilots have concentrated implementation efforts in the traditional MUSH market and with the federal government;

- There has been a minimal use of utility customer and marketing information in each pilot primarily because each pilot has been able to generate sufficient leads from trade allies and generally available market information. In contrast, both ENvest[SCE] and TEEM use utility intangible assets that they perceive as valuable to attract potential customers and to differentiate themselves from other ESCOs;

- Delivery in each pilot has been fuel-neutral. Assessments provided to customers have provided comprehensive options concerning both electric and natural gas savings opportunities in each pilot; and

- Each pilot has relied on qualified service providers to help deliver projects, although neither pilot to this date has been able to generate sufficient work to keep most qualified service providers busy. In addition, ENvest[SCE] and TEEM in practice have clearly been in control of developing and implementing projects, particularly in terms of interacting with customers.

In effect, the implementation of both pilots has tended to focus on finding potentially profitable niches in the energy services marketplace for large scale, comprehensive jobs.

There are several implementation differences that are also important to note when comparing the effectiveness or results of the two different pilot designs. The major implementation differences are:

- The "understaffing" of the TEEM pilot clearly slowed its ability to ramp-up to provide effective services to potential customers, particularly in respect to the staffing efforts in the ENvest[SCE] pilot. This could have been particularly important in the federal government sector in which ENvest[SCE] was able to gain a substantial inroad before TEEM was able to begin to effectively participate in that market.

- While both pilots seek to capitalize on their relationship to a regulated utility, TEEM has explicitly sought to differentiate itself from traditional ESCOs that have offered primarily "shared savings" arrangements (which TEEM believes are misleading, expensive and a potential source of friction with customers due to the problems of measurement involved) or that have offered their own products as part of a bundled package of services. TEEM has been more aggressive than ENvest[SCE] in emphasizing and implementing a pilot based on flexibility to respond to customer needs rather than other concerns such as regulatory compliance or self-interested product sales margins. This is not unexpected as the regulatory involvement in the ENvest[SCE] pilot did require more rigidity in implementation.

Unfortunately, the different ramp-up of staffing resources and the different time frames for the pilots make it difficult to compare certain aspects of the pilots. For example, the limited number of customer agreements for TEEM make it difficult to assess whether (or more importantly how much) TEEM's relative lack of success compared to ENvest[SCE] is due to timing, resources or the presence or absence of certain tangible utility assets.

The important factor though is that reasoned judgments can be made from the information currently available from these two pilots. One of those judgments is that the differences in implementation in terms of marketing themes as well as the differences in program designs must be understood in order to assess the relative effectiveness of the pilots and their component elements in either expanding the

market for energy services and the potential impact on the competitiveness of the energy services marketplace. In the next four chapters, the perceptions of customers and services providers to the pilots' designs and implementation to date will be discussed.

6. CUSTOMER PERCEPTIONS OF ENVEST[SCE]

OVERVIEW

In this Chapter, the Project Team discusses: (1) customer experiences with and reactions to the ENvest[SCE] pilot program design and delivery; (2) customer investments in energy efficiency prior to the ENvest[SCE] pilot; (3) customer barriers and decisionmaking criteria when deciding to participate in ENvest[SCE] and invest in energy efficient products and services; and (4) customer suggestions for improvements to the pilot program. Customer perceptions are presented in a way to capture the range of responses across the different groups interviewed. Specific statements reflecting the range of views are included for each topic.

WECC performed two sets of interviews/surveys to ascertain customer perceptions of the ENvest[SCE] pilot. The first set of interviews and surveys were conducted to prepare the Interim Report issued on August 21, 1995. The second set of interviews were conducted in May, 1996, for this final report.

This Chapter will present the information and findings from these two sets of customer interviews in three sections: (1) customer perceptions early in the ENvest[SCE] pilot implementation period (June - August, 1995); (2) customer perceptions after the close of the participation phase of the pilot on December 31, 1995, and after more experience with implementation had been gained in 1996; and (3) findings from both sets of customer contacts that characterize customer perceptions of pros and cons of the design and implementation of the ENvest[SCE] pilot. The initial portion of the first two sections contain a description of the approach used to gather customer information.

A. FIRST SET OF CUSTOMER INFORMATION IN JUNE - AUGUST, 1995

This first set of customer interviews/surveys were conducted early in the ENvest[SCE] pilot implementation cycle. However, by August, 1995, ENvest[SCE] had made most of the initial customer contacts that would be made in the pilot. Indeed, only four initial contacts were made after August 11, 1995. Thus, this set of customer information is particularly revealing as to customer perceptions about the general design of and marketing efforts made by ENvest[SCE].

Approach

In the first set of customer contacts, all potential customer respondents received an advance letter from SCE describing the evaluation study, soliciting their participation in the evaluation study, and assuring them of confidentiality regarding their identification with specific information provided to the evaluation. The Project Team then used two basic approaches to gather information from two customer groups - active and inactive customers in the ENvest[SCE] program. The Project Team contacted active customers to schedule a telephone interview. A mail survey was sent to inactive customers. Multiple contacts were made to assure the highest response rate possible.

The Project Team interviewed 32 active customers and received mail survey responses from 18 inactive customers and conducted follow-up telephone interviews with four inactive customers. ENvest[SCE] classifies active customers as signed or in the pipeline. Signed, active customers are those customers ENvest[SCE] contacted and has signed agreements with for work (i.e., feasibility study, project design, and/or implementation work). In the pipeline, active customers are those customers ENvest[SCE] contacted and do not have a signed contract with, but discussions about a project are underway and the customer may or may not sign a contract with ENvest[SCE] in the future. Inactive customers are those customers ENvest[SCE] contacted, had some discussions with, but either ENvest[SCE] or the customer decided not to go further on a project at this time[1].

Six classes of customers were either interviewed or received mail surveys. The classes of customers included: federal facilities, hospitals, municipal governments, private commercial and industrial businesses, schools, and universities. As Table 5-1 shows, the number of responses for the various groups varied across type of customer. The Project Team interviewed all active, signed customers and 52% of the active customers in the pipeline. A stronger factor influencing the number of responses was whether a customer was active or inactive. The majority (72%) of inactive responses were from private business. This group is also the largest inactive customer group (49 customers).

The Project Team made a substantial effort to identify the key decisionmaker for each customer. These individuals could be plant or facility energy managers, financial officers, or heads of the organization or agency. There was a good mix of engineering and management respondents.

Respondents were asked both closed and open-ended interview and survey questions. Samples of the interview protocols and the mail survey questionnaire are included in Appendix B. Interviews

[1] Most inactive customers decided not to use ENvest[SCE]. Thirteen customers (including municipalities, schools, commercial, and industrial customers) were not qualified by ENvest[SCE] to complete a project because the project size was below the minimum requirement, the customer was only interested in financing from ENvest[SCE] or the customer was in bankruptcy.

were conducted during June and July, 1995 and mail surveys were sent and received back during July and early August, 1995. The following comments within each section are divided into Active and Inactive Customer responses. Specific economic segments are discussed as appropriate.

Table 6-1 Customer Responses by Category

Category/Type of Customer	Number Contacted	Number of Responses
Active - Signed (received interviews)		
Federal Facilities	4	4
Municipal Governments	2	2
Schools	3	3
Subtotal Active - Signed	*9*	*9*
Active - In the Pipeline (received interviews)		
Federal Facilities	5	4
Municipal Government	14	8
Private Businesses	11	5
Schools	13	6
Universities	1	0
Subtotal Active - In the Pipeline	*44*	*23*
Inactive (sent mail surveys)		
Hospitals	2	1
Municipal Governments	11	3
Private Businesses	49	13
Schools	6	2
Universities	6	0
Subtotal Inactive	*74*	*19*
Total Customers	*127*	*51*

PROGRAM DESIGN AND DELIVERY

Respondents were asked several questions relating to the marketing, delivery, and overall administration of the ENvest[SCE] program. Customer feedback on a number of issues related to the program follows.

School districts and cities seem very enthusiastic about the basic design of the ENvest[SCE] program. In particular, they cite the fact that they do not have to put up any up-front capital, and they like the "one-stop shop" nature of the complete service ENvest[SCE] offers. One respondent commented, *"It's a blessing for schools"*. Another respondent commented, *"It's really structured well for municipalities"*.

In general, most respondents had difficulty commenting on the program's overall quality of design. Participants were at various stages of design and implementation. However, many of the schools and municipal organizations indicated that the service quality was very good so far. There were a couple of minor complaints early on, but those problems had been satisfactorily resolved.

Active Customer Responses

A number of customers with projects in the pipeline commented that they were quite impressed with ENvest[SCE]'s initial marketing and presentation, but that ENvest[SCE] has been very slow to follow-up on their projects. More specific comments from customers regarding the program can be summarized in the following statements.

- Experiences with service provider network - The Project Team asked several questions that related to customer's experiences with the ENvest[SCE] service provider network. For the most part, customers involved with projects commented that projects are not far enough along to have allowed customers to have much interaction with service providers. A significant number of customers reported having received preliminary feasibility audits. Several customers reported problems at this stage: feasibility studies that had to be redone because costs and savings data were way off. For the few projects at the engineering design stage, customers commented they were generally pleased with the performance of providers.

- Fuel Neutrality - In general, it appears that in discussing projects, ENvest[SCE] staff worked with customers to determine what the appropriate solution was for a particular circumstance. Customers commented there did tend to be an emphasis on easier, electrical projects rather than looking at the whole system, inclusive of the best electric and gas options. However,

participants generally reported that they did not perceive ENvest[SCE] to be "pushing" electric technologies over gas.

- *"ENvest[SCE]'s role in the process was basically an ESCO, they brought together the necessary engineering, financial expertise to study the facilities. They were the center of the universe on these two studies. I found ENvest[SCE] staff to be very professional during our contact on the projects."* - Municipal Government customer

When asked why they went with ENvest[SCE] but had not gone with ESCOs or other providers who may have previously contacted them, the most common responses from active customers were:

- SCE is a well-established firm that will not be "going anywhere". *"What guarantee would we have that an ESCO would be there in three to four years"*. A private business customer said, *"We saw this as an assurance that we would not get gouged."*

- SCE seemed to be more objective - the utility is not selling their own energy efficiency product line. We can look to the utility for balance of opinion among a variety of service providers who are selling their own "wares."

- Financial terms more attractive - while the internal rate of return for a utility may not be attractive in the money market, SCE's return did not appear all that unattractive to several customers. For example, the ENvest[SCE] program did not require up-front capital, and the financing terms could be arranged for an extended time period.

Of the active customers surveyed, many reported being contacted by ESCOs but had not pursued working with them - lack of trust was a reason often cited, as well as a lack of understanding of customer needs and a willingness to work on smaller scale projects. Indeed, customers saw many advantages of ENvest[SCE] over a traditional ESCO. In some instances, active customers also identified the ENvest[SCE] program as an ESCO program. Advantages active customers saw of ENvest[SCE] over an ESCO were similar to those cited above, including: (1) the assurance of SCE as a parent of ENvest[SCE]; (2) ENvest[SCE]'s low cost of capital; (3) ENvest[SCE]'s (SCE's) name recognition; and (4) the relationship of payment for services to the monthly energy bill.

Inactive Customer Responses

The majority of inactive customers surveyed indicated that they had been working with either an SCE representative or an ESCO prior to being contacted by someone from ENvest[SCE]. Customers

reported being familiar with SCE's energy efficiency services. This is confirmed by the number of customers who reported previous participation in SCE rebate programs for particular technologies or services.

Customers in the current inactive category that the Project Team interviewed went no farther than the preliminary, walk-through audit stage. For the most part, there were only initial discussions with ENvest[SCE] followed by the preliminary, walk-through audit. Respondent customers provided a variety of reasons for not going farther with a particular project, including: (1) project did not meet internal investment guidelines or (2) factors about the project that were independent of the ENvest[SCE] program, such as economic uncertainty or the timing of other projects, did not permit ENvest[SCE] projects to move forward.

In addition to the above categories, there are a number of individual circumstances for not moving forward with a project - reasons that are related both to an organization's current situation as well as to the structure and implementation of the ENvest[SCE] program. For example, some customers reported that ENvest[SCE]'s apparent stringent credit policies provided a barrier to moving forward with the project. In one instance, the legal department of a company felt that the terms of the agreement were "...so onerous that they recommended no further progress on the program." In another case, a customer heard "third person" that ENvest[SCE] did not want to move forward on a project with their company due to the company's preference for a particular vendor.

Customers who decided not to pursue the ENvest[SCE] program further did find a number of the program features attractive, including:

- Financing of energy efficiency investments through savings in energy costs;
- Financing of energy efficiency investments over several years as credits against utility bills;
- Providing technical oversight; and
- Providing a turnkey service.

In terms of attributes of the program which were felt to be disadvantageous, the most commonly cited concern was that the "interest cost [rate] is way too high".

PREVIOUS INVESTMENTS IN ENERGY EFFICIENCY

More than half the respondents indicated that they had previously taken advantage of utility energy efficiency rebates when they were appropriate for their needs - lighting was frequently mentioned.

One private business indicated that as a practice, his firm puts in energy efficient equipment at the time of replacement. In one of the federal facilities, the lack of management attention to the utility rebates was the reason not too many utility rebate programs were pursued (this is changing now with a change in management).

When asked their preferences among rebates, ENvest^{SCE}, or another option, nearly all the active customers who responded to this question indicated a preference for the ENvest^{SCE} program. It would appear that no up-front capital is an important feature of the program as long as there is a reasonable payback or a positive cash flow for the investment. Private businesses tend to have the shortest payback period (less than 18 months to three years). Schools and municipal governments indicated their preference for a positive cash flow and savings on their energy bill.

The majority of inactive customers in the ENvest^{SCE} program reported having undertaken energy efficiency improvements - either through electric or gas utility rebate programs or without utility assistance during the past three to five years. About half of the respondents reported utilizing utility rebates. Utility financed projects tended to be technology specific, such as lighting improvements or changing pumps.

For those projects that did not involve a utility, customers reported using individual service providers (i.e., HVAC contractor) or their own internal staff rather than an ESCO. This does not mean that customers are not being contacted by ESCOs. On the contrary, many customers report being contacted by many different ESCOs. However, it would appear that these contacts are not resulting in business for the ESCOs, since the same respondents reported not completing projects with an ESCO for many of the reasons cited earlier.

For those inactive customers who have invested in energy efficiency projects, utility rebates have been either very important or somewhat important for more than two-thirds of the customers interviewed. Many of the same customers tended to use internal financing for their energy efficiency projects compared to active customers who indicated being cash short. According to these customers, rebates are useful in bringing those projects above the financial threshold of acceptability for investment.

FACTORS INFLUENCING CUSTOMER DECISIONMAKING

"We were tired of doing piecemeal projects, which turn out to be mostly lighting; the bill repayment feature was particularly desirable because we don't have to set up separate

accounting tracking procedures; and we were comfortable dealing with SCE because it is a regulated utility." - Federal customer

Active Customer Responses

The Project Team asked customers to indicate the primary factors that influenced their decision about whether or not to participate in ENvest[SCE]. To provide a context for that discussion, customers were first asked to identify any barriers, if they existed, that prevent their firm from investing in energy efficiency improvements.

Several customers discussed barriers to investments in energy efficiency at length. These include inadequate staffing resources, difficulties in paying for up-front feasibility assessments, and, for federal customers, requirements of the Federal Acquisition Regulations (FARs). Specific barriers were:

- Severe staffing constraints - The energy manager for the General Services Administration indicated that his staff of two people had very limited time to prepare or evaluate RFPs for energy efficiency projects for the 1,100 buildings that they were responsible for managing in a multi-state region of the Western United States.

- Access to capital - ESCOs often request reimbursement for feasibility audits

- Several federal customers complained that the FARs were a hassle to comply with and that "the low bid requirement means that a quality performer is not always selected."

Furthermore, the Federal Energy Management Program (FEMP) recently announced Energy Savings Performance Contract (ESPC) procedures and methods that provide for installation of energy conservation measures financed with private sector funds which are repaid out of the resulting energy cost savings over a period of time[2]. However, several Federal customers noted that the transaction and administrative costs for their agencies are substantially higher with an ESPC approach compared to the services offered by ENvest[SCE]. To illustrate, they estimate that it costs about $100,000-$150,000 to develop and evaluate an RFP which solicits proposals from ESCOs.

[2] The ESPC procedures substitute for certain provisions in the Federal Acquisition Regulation which are inconsistent with section 801 of the National Energy Conservation Policy Act (Title VIII) and gave federal agencies additional flexibility to meet goals established by the Energy Policy Act - reduction energy consumption per gross square foot by 30% by 2005 compared to 1985 usage.

Reasons for going with ENvest[SCE] included the no-cost, pay through your bill option using the savings from the energy investment project and the available capital. Also, nearly all customers interviewed indicated a trust in the SCE name and an expectation that the utility would be around. Table 6-2 presents additional factors influencing customers' decisions to participate in ENvest[SCE].

Table 6-2 Factors Influencing Active Customers Decisions To Participate In ENvest[SCE]

Factor	Federal Customers	Non-Federal Customers
SCE Affiliation	6	9
Financing		
No Money Down	3	3
Over Long Period	none identified	2
Keep % Savings	1	2
Through Bill	3	
Ratepayer Money Included	1	none identified
Staffing Constraints	none identified	1
Guarantee Savings/Performance	1	1
Avoid Procurement Hassles and Save Money	2	none identified
Turnkey Service	1	none identified
Comprehensive Services	3	none identified

Inactive Customer Responses

Inactive customers were asked a number of questions about their decisionmaking criteria for investments in energy efficiency, such as a firm's financial criteria for investing as well as non-financial investment criteria. In addition to the factors influencing decisionmaking, the Project Team was also interested in the barriers customers faced when making investments in energy efficiency.

Both Active and Inactive Customer Responses

The inactive customers the Project Team interviewed identified a number of traditional barriers to investment in energy efficiency products and services. Among the barriers cited by customers were

(1) lack of capital; (2) short payback requirements; (3) budget constraints; and (4) timing of the project compared to other projects (not related to capital but also related to limited human resources)

When asked what assistance would be the most helpful in encouraging their company to invest in energy efficiency improvements, inactive customers replied that information regarding product availability, assistance in arranging installation of equipment and measures, and facility energy audits would be the most beneficial. These items were followed by financing, savings guarantee, and rebates or cash incentives. One private business customer suggested a "lease tied to energy provider (SCE) billing process."

Nearly all respondents indicated that payback and energy savings were important criteria for making investments in energy efficiency, providing that the budget for such expenditures existed. The reported time frame for payback on an investment ranged from 18 months to three years -- smaller projects would have a shorter payback of one year with larger projects having a longer payback, perhaps as much as three years.

Respondents pointed out that while energy savings were critical requirements for investments in a particular project, non-energy savings also played a role in investment decisions about a project. Environmental and productivity benefits were most often cited as attributes that would be considered in addition to simple payback from energy savings.

OVERALL CUSTOMER COMMENTS AND SUGGESTIONS

"[The] *future needs programs like ENvest[SCE]. Money is not available for investment by the government.*" - Federal customer

"If ENvest[SCE] is to be a feasible private business, they must act far more like a business and be far more proactive. The idea behind ENvest[SCE] offering financing and technical expertise to commercial and industrial customers is fantastic; however, they must follow through on projects to make it successful." - Private Business customer

"I think it is ridiculous that after a year since the initial contact we really have no clear idea of what ENvest[SCE] can do in a specific proposal for the City." - Municipal customer

Active Customer Responses

Active customers were asked to identify the program's strengths and weaknesses. In general, those customers who are actively participating in the ENvest[SCE] program feel the program is good and is meeting their needs. Name recognition and financing are the main program strengths. Some customers felt that problems encountered were due to a lack of experience - both programmatic and technical (especially for larger, more comprehensive jobs). The following customer quotes highlight the praise and areas of concern for the pilot.

> *"Compared to using Energy Savings Performance Contracts that FEMP is promoting, ENvest[SCE] is easier, faster, cheaper, and gets projects done which we would not be able to do given limited resources."* - Federal customer
>
> *"Very satisfied - view it as a long-term relationship"* - Federal customer
>
> *"SCE should improve communications with customers"* [cited confusion over amount of ratepayer funding] - Federal customer
>
> *"Excellent, who ever proposed was customer oriented."* - Municipal customer
>
> *"Lack of history, slowness, plan time too slow."* - School customer
>
> *"ENvest[SCE]'s financial performance criteria is almost impossible to deal with."* - Private Business customer
>
> *"ENvest[SCE] is doing well-as long as SCE upper management continues to back the program."* - School customer

Inactive Customer Responses

Inactive customer comments and advice to the Commission can be summarized in the following: keep it simple and allow customers to participate in the progress of a project (e.g., actively participating in the selection of contractors). Other customers cited the need to design a program that helped focus the program on smaller users with less resources. Other comments from customers included:

- Come up with simple explanations of the program and the definition of payback;

- Don't handicap the program with numerous regulations and paperwork;
- Don't forget the smaller customers who are strapped for money;
- Process should be simple, results should be trackable, and costs should be financed by energy savings;
- Provide incentives for undertaking smaller projects (ESCOs do not want small projects), which are easier to obtain approval for in a company. Work with a customer to undertake several projects in a year tied to a customer's corporate budget process;
- Provide a variety of energy efficiency programs to choose from;
- Take the demand-side reductions program away from the utility companies. They are not set up to implement this type of program - private leasing is more appropriate;
- Minimize the uncertainty associated with such a project (especially for technically unsophisticated); and
- Provide rebates or tax credits.

B. SECOND SET OF CUSTOMER INTERVIEWS IN MAY, 1996

Overview

In this section the Project Team presents the results of follow-up phone interviews conducted with a number of customers who have an ENvest[SCE] project underway or completed. The interviews were conducted in May, 1996, after more experience was available from the implementation phase of the pilot. The Project Team's purpose in conducting the follow-up interviews was to determine customer satisfaction with the services provided through ENvest[SCE] and to document customer suggestions for future energy efficiency programs appropriate for their particular needs.

Approach

The Project Team attempted to contact all 13 customers which ENvest[SCE] defined as "Completed and Under Construction" as of April 12, 1996. The Project Team conducted the phone survey campaign during mid-May 1996. The telephone interview protocol used by the Project Team is found in Appendix B.

The breakout of customer projects ENvest[SCE] classified as either underway or completed, along with the number of interviews which the Project Team completed is listed in **Table 6-3.**

Table 6-3 ENvest[SCE] Customer Projects Underway or Completed, Number of Phone Interviews Completed

Category / Type of Customer	Number Contacted	Number Interviewed
School District	7	6
Municipal Government	3	2
Federal Government	3	1
Total Number of Customers Completed & Under Construction	*13*	*9*

The following summary provides the results of the phone interviews, in particular discussing the status of customers' projects, factors which influenced customers to participate in the ENvest[SCE] offering, how satisfied customers are with the services they have received from ENvest[SCE] to date, and customers' recommendations to SCE and the CPUC regarding ENvest[SCE] and future energy efficiency programs. The Project Team has made an effort to distinguish comments by customer type--school districts, municipal government, federal government--where there is a difference in response from different customer types.

Status of Customer's ENvest[SCE] Project

School Districts

Two of the six school districts interviewed indicated their ENvest[SCE] projects are complete. The other four said they are either in the midst of the project, or the equipment is installed and awaiting final sign off. All six of the school districts interviewed said their projects involved lighting retrofits. Two of the six said the project also incorporated HVAC system upgrades, and either the installation or retrofit of energy management systems for school facilities. The estimated value of the projects ranged from $200,000 - $7.5 million, with an average project value across the six projects at $2.5 million per school district.

Municipal Governments

The two municipalities interviewed indicated their ENvest[SCE] projects included HVAC and energy management system retrofits and lighting retrofits. The average dollar value for the municipalities' projects is $1.5 million per municipality. Both projects are still underway.

Federal Facilities

The federal customer interviewed indicated their ENvest[SCE] project is defined in two stages. The first stage involved lighting retrofits and is now complete. The second stage involves a broad feasibility study of approximately 60 facilities and will go beyond lighting and electric end-uses. The project was organized in this manner so the customer could work out the contractual mechanisms and issues with ENvest[SCE] before launching into the broader facility study.

Factors Influencing the Customer Decisionmaking Process

To determine customers' perceptions of the differences between ENvest[SCE] and other energy service providers, the Project Team asked customers whether other service providers had marketed services which were similar to those ultimately selected through ENvest[SCE], and if so, why the customer choose not to contract with other service providers.

School Districts

As described in the quotes below, several of the school district representatives noted their primary reasons why they choose not to contract with energy service providers, especially larger ESCOs, include the fact that working with an ESCO typically requires a greater deal of their staff time to write bids and review specifications, ESCOs' reputation for not delivering on savings, and the fact that many ESCOs were not staying in business long enough after a project was completed to back up their work should a future problem arise. Some quotes from the interviews with school district representatives include:

> *"We had many companies market to us. In a broad sense, they offered the same type of services compared to ENvest[SCE] for example a purchase/lease agreement. However, we had a very low level of confidence that these other firms would be around. Most of these firms were very slick. When I tried to pin them down to some details, I got lost with their talk. My feeling was to go with ENvest[SCE]. I knew ENvest[SCE] would not scam me."*

> *"Yes, we had a couple of companies market to us. They wanted us to use third party financing which we were not comfortable with. From discussions with other schools, we learned some ESCOs were not delivering on savings. There was something about ENvest[SCE] s tie to SCE that lent respect to the project and to get our staff and Board to accept the project. The feeling was that ENvest[SCE] was not just another outfit trying to make a commission."*

"Enough of these providers approached us over the past few years. Some of the reasons why we did not go with them include the evidence of spectacular failures involving third party financing, the fact we tend to spend a great deal of time with them specifying equipment and bidding, and the fact that a good deal of ESCOs are tied to equipment manufacturers which we try and stay away from."

"I heard about other providers, but I really choose ENvest[SCE] based on a recommendation from another school district which had an ENvest[SCE] project underway. I attended an ENvest[SCE] presentation at the other school, liked what I heard, and went with them without looking any further."

"Yes there are some providers with similar services, but no they don't compare to ENvest[SCE]'s offer. ENvest[SCE] takes a much closer supervisory role, and therefore my staff is not tied up in the details of the project. Our staffing is dropping, while school enrollment is increasing, therefore our staff time is becoming increasingly limited. Also, I was concerned with using an ESCO. There are several lawsuits currently pending between school districts and ESCOs. Apparently the ESCO's projects were not delivering on savings. We did not want to get involved with that mess."

"We have used other providers in the past. The main things which ENvest[SCE] offers that others do not is 1) an additional layer to protect the school district from litigation, and 2) access to the final incentives (co-investment) offered from the utility. Traditionally a Honeywell or other provider requires the school district to write the contracts with subcontractors. If the subcontractor makes a claim, the claim is directed at the school and not Honeywell. ENvest[SCE], with its Service Provider Network, acts as intermediary between the contractor and school, which from a legal standpoint was perceived as a benefit."

Municipal Government & Federal Government

The three customers interviewed indicated they too were concerned with ESCOs' reputation in general, or due to direct experiences they have had with ESCOs in the past. Some of these customers' comments include:

"Yes we had a number of ESCOs market services. We have had several poor experiences working with private ESCOs in the past, namely cream skimming, only looking at lighting, poor contractual arrangements."

"We compared proposals. The main reason we did not go with the other providers is due to the type of chiller system and configuration they proposed. Secondly, we thought a project tied to SCE would be easier to sell to our City Council."

To gauge the reasons why customers decided to complete a project managed by ENvest[SCE], the Project Team asked customers what were the primary factors which influenced their decision to participate. Two reasons which appeared consistently across all three customer types include: 1) ENvest[SCE] had both the staff and time to properly manage a project from start to finish, and 2) ENvest[SCE] did not require any up-front capital to complete the project. Some of the specific comments from the customers interviewed include:

"The bottom line is the school district could not afford to make capital improvements needed. ENvest[SCE] offered us a way to complete these capital improvements, while getting the side benefit of energy savings."

"Several items including the fact ENvest[SCE] took all the responsibility for bidding the project, managing it from start to finish, allowing my staff to only approach our Board once rather than multiple times, and the fact that financing was available, and we could pay for the project through our utility bill."

"We were able to get a single agency to execute and manage the project from birth to death. Also, there was no up-front capital required, and the method of repayment (through the SCE bill) was extremely easy."

"Positive cash flow which paid for the entire project without any out-of-pocket expense and the option to pay for the project through our utility bill. The tie to SCE was a factor also, but the main factors were the positive cash flow and repayment option."

"Three reasons: 1) availability of money, 2) the fact that we did not have to book the cost of the project as a long-term debt on our books. Since we pay for the project each month through our utility bills we get around the accounting problem which likely would have been a barrier for the project to move, and 3) SCE and the school district have a very close relationship. SCE is a very big supporter of the school district."

"Really three things: 1) ENvest[SCE] provides another layer to avoid litigation against the school, 2) the affiliation with SCE, a regulated body which still has to answer to the

PUC, and 3) opportunity to capitalize on the last pool of incentive dollars available from the utility."

To determine what difference ENvest[SCE] has made in the market for energy efficiency services, the Project Team asked customers whether they would have completed the same project if ENvest[SCE] were not available. The majority of respondents indicated they likely would have gone ahead with the project, however they believe the timing of the project would have been delayed and the scope would likely not have been as broad when compared to the project currently underway or completed through ENvest[SCE]. Some specific comments include:

"Absolutely not. We would not have the funds, and we would not have got involved with third party financing"

"We would have done the project, but not the scope which we currently have underway. There is no way we could fund the project nor have the staff time to manage it."

"Yes, but the timing would be different, likely later."

"ENvest[SCE] accelerated the decision to act on this project by several years. The only other option for funding was FEMP funds or out-of-pocket."

Customer Satisfaction

Experiences with Service Provider Network

The overall response to the question about customers' experience with ENvest[SCE]'s Service Provider network was positive. The overwhelming majority of customers interviewed said they are pleased with either their choice, or ENvest[SCE]'s recommendations on the service provider who completed or is working on their project. All customers interviewed, except two discussed below, said their contractors were extremely professional and delivering on time. Some customers indicated there were some difficulties given the size or type of project, but this was not unusual and ENvest[SCE] kept their projects moving forward. One comment which summarizes the majority of customers's experience with the ENvest[SCE] staff and Service Provider Network includes:

"All the ENvest[SCE] staff I have been in contact with and the service providers working at our facilities are the tops, very professional, really know their stuff. Our ENvest[SCE]

project manager was very good. She stayed on top of the project's progress, and ironed out problems as they arose. We were very pleased with her."

There were two negative comments from two separate customers regarding their experience with contractors who either completed, or are in the midst of completing a project. One of the customers reported they felt the quality of installation was poor. The other customer said their contractor was not standing behind a warranty at the end of the project. Specific customer comments include:

"Our HVAC contractors are good, however on the lighting side the jury is still out. Seems as if the contractor is doing the bare minimum, which is requiring almost constant oversight by our staff. We have a meeting with ENvest[SCE] planned to discuss contractor and an issue with lighting savings estimates. I'll have more to say at that point."

"We were not thrilled with our lighting vendor. We had a high failure rate of ballasts and he was not timely in delivering and installing replacements."

Overall Assessment

Overall customers are pleased with the services they have received through ENvest[SCE] to date. Several customers said that ENvest[SCE]'s complete, turn-key project management service is a great asset to those organizations with have limited staff. Another positive aspect of the ENvest[SCE] program which several customers noted was the opportunity which ENvest[SCE] provides to complete a project with no up-front capital, and positive cash flow financing arrangement through utility bill. Some specific comments include:

"We are very satisfied with ENvest[SCE] and their complete package of services. We would like to work with ENvest[SCE] on other projects. ENvest[SCE] has really got us going in the right direction. One example of a huge benefit we receive through ENvest[SCE] dealt with scheduling flexibility. ENvest[SCE] was already geared up for crews to complete work after school hours so as not to disturb classes. If we had to arrange this on our own, we would have had to pay quite a premium. Since ENvest[SCE] had such a large network of contractors and a huge amount of work for them, they had the pull to get the contractor to complete the work at a reasonable rate. We were able to get the work done off hours at an affordable rate."

"ENvest[SCE] provided the appropriate level of assistance with our project. Lighting was our major area of concern to improve the classroom environment. ENvest[SCE]'s strength

is that it provides project management from birth to death. For someone in the public sector, this is extremely helpful, and the fact that the program is not fee based. I know we are paying for ENvest[SCE]'s management services somewhere, however, it is not up-front which would be an obstacle for us."

"Overall I think ENvest[SCE] provided good service. We more or less scoped the project, then asked for ENvest[SCE] management. The projects moved along on schedule. However, our only concern now is closure. There are some small items to resolve which are delaying the final sign-off. Also, up front there was a lot of time involved with getting this project off the ground. I chalk this up to the fact we got involved when ENvest[SCE] was starting up, and their staff were on a learning curve. I would be interested in going with ENvest[SCE] again, but would hope the project would get a quicker start, and could be signed-off in a more timely manner."

"I would like to defer my overall assessment until find out what is happening with the lighting aspect of our project. Presently I would say we are satisfied, but I am somewhat concerned with the reliability of some savings estimates. Overall I think if there is a problem, ENvest[SCE] will stand up and take responsibility. This is quite different than what other providers might do. This is a positive of ENvest[SCE]."

"I think it's too soon to provide an overall assessment. We need to get to measurement and verification points in the process. I think we will provide ENvest[SCE] another opportunity to bid on a second project in the future. We really like our ENvest[SCE] project manager. In the end, the choice of project manager was one of the reasons why we went with ENvest[SCE]. We could have got more attractive financing elsewhere, but ENvest[SCE]'s packaged project management was good enough to outweigh a more attractive interest rate."

"ENvest[SCE] is a good organization, and overall we are pleased with our project. However, they need to concentrate more on closing the deal. There are small, yet important pieces of our project which are not completed. I don't see ENvest[SCE] really pushing the service providers to get these pieces tied up so we can close the book on the project."

Customer Recommendations

Having some experience with the ENvest[SCE] program, the Project Team asked customers what recommendations they might provide SCE and the CPUC about future energy efficiency services appropriate for customers like themselves.

School Districts

School districts recommended overall that ENvest[SCE], or a similar program is needed and appropriate in the marketplace. The school district representatives indicated they are really having difficulty dealing with massive budget and staffing cuts. The only way to get a capital and/or energy efficiency project to move is using an outside source such as ENvest[SCE], both for staffing time as well as the ability to finance improvements. Some specific comments from schools included:

> *"ENvest[SCE] provided a prudent way for California schools to promote capital improvement and to achieve energy savings. In our case, ENvest[SCE] was really the only answer to help an under-funded school district deal with required capital improvements."*

> *"ENvest[SCE] really is a godsend....allowed us to get a project off the dime rather than talk about it."*

> *"From the perspective of public education in California, ENvest[SCE] is extremely helpful. The shortfall in funding for California public schools is really a problem. ENvest[SCE] helps by allowing us to get projects underway and finance them. My ENvest[SCE] representative was really aggressive, and made sure I was clear on the scope of the project, and that the project met state codes for energy work. To date, ENvest[SCE] has really been a good program for our school district."*

> *"My only advice is for ENvest[SCE] to continue hiring and/or employing the type of people they currently have on staff. A professional project manager, like the one assigned to our project, really makes the difference in how a project turns out."*

> *"ENvest[SCE] provides a good solution to the problem of managing, completing and financing energy / capital improvement projects for schools. My question is whether a deregulated electric utility environment will support further activities such as ENvest[SCE]. I see a need for ENvest[SCE] type services, and would like ENvest[SCE] to complete a resource audit of our facilities on an annual basis. Now that these services are no longer included*

in the utilities rate base, the question is whether other schools and businesses will think the payment that is required is worth the service. Meaning, now that you "see" these costs outside of the utility's rate base, will these service be purchased?"

Municipal Government and Federal Facilities

One municipal customer said that ENvest[SCE] is an appropriate service which allowed their energy improvement project to get underway, mainly because ENvest[SCE] did not require any up-front costs and because the municipality could finance the project over time and therefore not book the costs as a long term debt. The representative recommended these features should be part of an efficiency program offering for municipal customers, because these are two main obstacles for getting project underway. The federal customer also indicated ENvest[SCE] is a useful service due to its convenient project management and lack of an up-front capital expense. This customer recommended ENvest[SCE] review its financing package, and consider securing financing which will be more attractive to private commercial and industrial customers.

C. SUMMARY OF CUSTOMER INTERVIEWS CONCERNING ENVEST[SCE]

Both sets of customer interviews yield some information and perceptions about the effectiveness of ENvest[SCE]'s general design and implementation. The primary conclusions that can be drawn from customer information are:

- The "one stop shop" design of the pilot was particularly attractive to schools, municipalities and the federal government. A particularly attractive feature of the bundled design was the overall management oversight provided by ENvest[SCE]. This single point of oversight typically made customer contact easier and mitigated the need for a customer to use scarce resources to develop and manage the implementation of a project, which requires time, available resources and technical/project management expertise. The ability to rely on ENvest[SCE] as an intervening supervisory and legal layer between the customer and implementing service providers was a highly valued attribute by most public sector customers.

- Based on customer responses from all segments, a number of other program design attributes were very important influences in a customer's decision to participate in the pilot. ENvest[SCE]'s affiliation with SCE was the most frequently cited influential program feature identified by both federal and non-federal active customers in the program. According to customer responses, they "trust SCE" and are "...confident it won't go away and be a fly-by-

night operation." Another significant program attribute that influenced customers to participate in the pilot program included the financing options (i.e., no money down, long time frame to pay back the investment, ability to pay through the bill, and the ability to keep a percentage of the savings). Financing options were important influences to the schools and municipalities. The federal customers found the financing helped their budget management as well, but additional features that influenced them included the reduced procurement hassles and comprehensive services.

- Of the ratepayer funded benefits available to customers, the most attractive to customers was the ratepayer co-investment which either reduces the cost to the customer of a project or allowed a customer to enlarge the scope of a project without having to sacrifice bill savings. The ability to repay through the utility bill was also attractive to many public sector customers due to ease of repayment and the ability to indicate to public authorities that the projects would be repaid out of savings (more like an operating expense repayment than a debt investment).

  Federal customers in particular reported liking the ENvest[SCE] pilot. Key benefits to this customer group included the availability of ratepayer funds, reduction in procurement time and costs due to the special tariff arrangement, and the ability to pay back the investment on the utility bill.

- While the public sector customers liked the "one stop shop" design of ENvest[SCE], most participating customers indicated that they would have pursued similar projects without ENvest[SCE], although probably not within the same timeframe or of the same scale or scope.

- Based upon customer responses, the most frequently cited drawbacks to the program that prevented customers form participating included: (1) significant financial hurdles and complex paperwork requirements; (2) lack of technical expertise for more complicated systems and therefore the appearance to some customers of a hesitancy on ENvest[SCE]'s part to become involved in larger, multi-system projects; and (3) slow response and customer feedback, resulting in poor communications with customers.

  For nearly all the private customers who responded, the drawbacks cited in the previous paragraph were significant barriers to them. Commercial and industrial customers reported feeling that the stiff financial hurdles and complicated, time consuming paperwork processes contributed to their decisions not to move forward with a project. Additionally, for the larger customers, they often cited a preference to use their own in-house expertise - ENvest[SCE] was

not a needed technical resource for them. Also, the cost of financing for this group was not perceived as competitive with other sources available to them, including their own internal sources of funds. The bundled nature of the ENvest[SCE] package of services was perceived as too inflexible to meet these customers' needs.

- The ENvest[SCE] name in association with the SCE name, according to the interviews, plays an important, in some cases pivotal role in a customer's willingness to proceed with a project. Without this affiliation, several of the municipals and schools may not have moved forward with a project. ENvest[SCE] would be like any other ESCO to them. Public organizations indicated their lack of trust of ESCOs and perceived ENvest[SCE], due to its affiliation with SCE as an acceptable alternative to the potential risks posed by other ESCOs.

  The commercial and industrial customers identified name recognition as important, but also recommended that the program be streamlined (keep it simple and flexible), unbundle services giving customers more options to choose from, and reduce the very high financial criteria.

- Participating customers have been satisfied with the actual implementation efforts undertaken by ENvest[SCE] and its qualified service providers. While there have been some problems (which can be expected with many large scale comprehensive projects), most participating customers perceive that they have received the benefits from participating in the ENvest[SCE] pilot that they anticipated.

The customer interviews also reinforce two important facts that have significant implications for future program designs. First, most of the customers interviewed expressed an interest and potential willingness to pursue cost-effective energy efficiency projects. However, these customers also emphasized the diverse customer barriers that limit their ability to or interest in actually developing and implementing such projects. This fact suggests that substantial opportunities for such projects still remain even in areas such as the MUSH market in which traditional ESCOs and service providers employing utility rebates have long been active.

Second, the customer interviews highlight that different customer segments face a diversity of different types of barriers. The bundled "one stop shop" ENvest[SCE] program design responded to needs of public sector and MUSH-type customers, but was uniformly unattractive to large commercial and industrial customers (especially because of the high creditworthiness standards and high financing costs).

While market segmentation has been a familiar component of utility DSM implementation, the ENvest[SCE] pilot points out the degree to which the energy services marketplace is really a diverse collection of smaller niche markets in which customers want different types of offerings to overcome market barriers or to increase the value of a project to the point that it is worth the cost and perceived risk.

Participating public sector customers have found the ENvest[SCE] pilot to be a valuable answer to overcome the lack of expertise, resources and access to financing barriers that have limited their ability to develop and implement energy efficiency, modernization projects. It has also responded to those public sector customers who are concerned about potential risks of dealing with other ESCOs by providing an "ESCO" affiliated with a well-known regulated utility. However, the same design has not been perceived as valuable, as offered, by large commercial and industrial customers.

7. ENERGY SERVICE PROVIDER PERCEPTIONS OF ENVEST[SCE]

OVERVIEW

WECC performed two sets of interviews/surveys with service providers to assess service provider perceptions: (1) the process to qualify for, and the operation of the ENvest[SCE] Service Provider Network, and (2) the pros and cons of the ENvest[SCE] pilot design for the development and competitiveness of the energy services market. In addition, recommendations to either more effectively overcome customer barriers and/or to improve the competitiveness of the market were solicited.

The first set of interviews and surveys were conducted in July and August, 1995 when the Project Team surveyed five categories of ENvest[SCE] qualified service providers. As defined by ENvest[SCE], the Service Provider categories are: (1) Full Service Providers, (2) Engineering/Design Firms, (3) Design/Installation Firms, (4) Manufacturers and Distributors, and (5) Measurement and Evaluation/General Consultants. Section A of this Chapter provides a summary of the perceptions of these five service provider groups to the concept and operation of the ENvest[SCE] pilot.

Section B of this Chapter sets forth the results of follow-up interviews with a sample of qualified service providers who had participated in ENvest[SCE] projects in May, 1996. The focus of these interviews were to gain service provider's perspectives on the implementation of customer projects as well as to reassess service provider attitudes toward the ENvest[SCE] pilot. Section C summarizes the perceptions of service providers from the information provided in these two sets of interviews/surveys.

A. FIRST SET OF SERVICE PROVIDER INTERVIEWS IN JULY/AUGUST, 1995

Approach

The Project Team sent the 176 members of the ENvest[SCE] service providers network a letter informing them of the ENvest[SCE] independent evaluation and requesting that they participate in either a mail or telephone survey. Immediately following this mailing, the Project Team initiated telephone surveys with the 27 Full Service Provider firms, of which 15 interviews have been completed at the time of this report. The telephone survey protocol is found in Appendix B. The

149 firms comprising the remaining categories of the service provider network were mailed a survey.[1] The mail survey is found in Appendix B. Table 7-1 reports the number of telephone interviews and mail survey responses by service provider type.[2]

Table 7-1 Service Provider Responses

Qualified Service Provider (176 Firms in Total)	Number	Completed Surveys	Percent Complete
1. Full Service Providers	27	15	55%
2. Engineering Design Firms	36	21	58%
3. Design/Installation Firms	63	22	35%
4. Manufacturers & Distributors	13	4	31%
5. Measurement / General Consulting	37	14	38%
Totals	176	78	44%

EXPERIENCES WITH ENvest[SCE] NETWORK

From the interview and survey responses, the Project Team summarized the information which the service providers conveyed based on several ENvest[SCE] pilot program design and implementation issues. These issues include the provider's perceptions of:

- Reasons for participating;
- The ENvest[SCE] service provider application and selection process;
- How its energy efficiency services and products are marketed independently of ENvest[SCE] and through the program;
- Work received;
- Perceptions of ENvest[SCE]; and
- The recommended role for ENvest[SCE] in the energy efficiency services marketplace.

[1] At the request of two firms who are in the service provider network but not a Full Service Provider, the Project Team completed telephone interviews rather than mail surveys.

[2] To respect the confidentiality of respondents' comments, the Project Team attributed specific comments and quotes to two categories of providers including: (1) Full Service, or (2) Non-Full Service Providers. Unless noted, Non-Full Service Provider comments are representative of the four provider categories including Engineering Design, Design/Installation, Manufacturer & Distributors, and Measurement & Evaluation/General Consulting firms.

Service Provider Network Application and Selection Process

Reasons For Participating

The overwhelming majority of service providers across the five categories said they applied to the ENvest[SCE] service provider network to increase their overall sales. In addition, some non-full service providers cited the following reasons why they were interested in participating in ENvest[SCE]:

> *"We wanted to get involved with the utility's flagship efficiency program, be part of a successful venture"*
>
> *"ENvest[SCE] eliminates bidding with a lot of other companies for large jobs. ENvest[SCE] projects tend to be larger and more profitable"*
>
> *"ENvest[SCE] provides a level of honesty and accountability not available from "normal" ESCOs. This looked like a good opportunity for marginal projects to be installed without a lot of fear on the owner's part"*

Three non-full service provider firms said they became involved with ENvest[SCE] because they saw a customer trend toward purchasing comprehensive service packages. These firms see ENvest[SCE] as a way to expand alliances and be able to offer more options to their customers.

Of the 15 full service providers interviewed, four said they thought they would receive one to three projects over a two year period, five thought they would receive some work, four stated they wanted to at least respond to solicitations, and two reported they thought the program would provide access to SCE's customer base.

Application Process and Qualifying Criteria

The majority of service providers across the five categories said the ENvest[SCE] Service Provider application process and qualifying criteria were reasonable. However, some providers saw important flaws in the process:

- Several firms across the service provider categories noted the process was lengthy considering they have not been able to generate any work through the program.

- Two non-full service providers questioned ENvest[SCE]'s requirement for extensive company financial information; one of these firms did not feel comfortable disclosing so much financial information to an organization which the firm viewed as a future competitor, and the other noted the required financial information was not as common among private companies, especially since the providers would not be responsible for project financing.

- A full service provider noted that the ENvest[SCE] service provider application appeared to be more interested in how the ESCO industry worked and operated than in the relative capacity of the companies completing the application.

- Other full service providers felt the application process required them to provide too much information to ENvest[SCE] regarding how they worked in the energy services industry and would not have provided such information if they had believed that ENvest[SCE] would be a competitor in the future.

- Other non-full service providers expressed their dissatisfaction in the ENvest[SCE] Service Provider selection process. Two firms noted that ENvest[SCE] was too lenient when selecting providers, and that they had not heard of any firm which had been turned down. Several other providers across the categories stated they wished they were in with better company. For example, one provider noted that based on his experience selecting subcontractors, he did not think ENvest[SCE] thoroughly investigated the required state licenses of some providers.

Marketing

Marketing Independent of the ENvest[SCE] Program

Service providers indicated they market their services and products in a variety of ways independent of the ENvest[SCE] program. The Engineering Design, Design/Installation Firms, and Manufacturers and Distributors primarily sell energy-efficiency services by way of interested customers contacting the firm. This group of providers' second most common method of selling services is done by marketing to clients regardless of whether they are pursuing an energy efficiency retrofit or not.

Similarly, the Measurement and Evaluation/General Consultant Providers also stated a primary means of selling is by marketing directly to customers whether they know a retrofit is underway or not. However, this group also indicated an equally used means of marketing is through utilities which request an analysis and identification of potential savings opportunities.

Full service providers said they market directly to customers and try to differentiate their services from other energy service firms based on the following selling points: fuel neutrality, turnkey services which can be applied across multiple customer facilities (internationally for some companies), and the ability to provide guaranteed savings contracts using third party financing.

Marketing Through ENvest[SCE]

With regards to identifying prospective ENvest[SCE] customer projects, a number of full service providers originally considered introducing ENvest[SCE] to their existing customers. However, all of these firms indicated they are leery of continuing to do so because: (1) there is no guarantee they will retain their customers or (2) ENvest[SCE] staff declined the prospective customer lead if the Provider would not relinquish all project management responsibility to ENvest[SCE]. Some comments explaining Full Service Providers concerns of marketing their services and products through ENvest[SCE] include:

> We did market ENvest[SCE] to our customers *"but stopped when we found out that ENvest[SCE] was calling on our clients and trying to become an ESCO"*

> We did not market ENvest[SCE] *"given the rules were set up so that there was no guarantee that we would keep our customer, we decided against bringing customers to ENvest[SCE]"*

Once a contact has been made and a study underway, a number of service providers across the five categories said it is difficult to sell a project beyond the initial audit or feasibility study since they are removed from direct communication with the customer. Some firms indicated they did not feel that ENvest[SCE] could fairly present their proposals to the customer, and essentially, as one full service provider explained, *"the process puts the utility between the customer and the provider's intellectual property"*.

A number of non-full service providers explained their belief that the program has not been actively marketed, and ENvest[SCE] staff has not included them in the sales process. Several of their comments explain:

> *"A partnership is not a one-way street. ENvest[SCE] is very protective (secretive) about information on client activity"*

> *"ENvest[SCE] has not responded to my inquiries regarding project status or upcoming work"*

"One of the worst aspects of the program is being kept at a distance from the customer, so we are unable to discuss and evaluate design alternatives and the sales process"

One of the worst things about ENvest[SCE] is *"there is no one-on-one customer relationship"*

One non-full service firm expressed a positive opinion regarding the issue of marketing through the program without direct customer contact, viewing ENvest[SCE] as means of minimizing his sales cycle since ENvest[SCE] staff are responsible for the initial customer contact and sales effort. The only drawback is the fact the firm can not make a bid presentation to ENvest[SCE] staff. The provider noted, an ENvest[SCE] marketing presentation is necessary so staff "can hear and see" the pros and cons of a particular approach to help differentiate one bid from another.

Work Received

Overall, service providers across the five categories are disappointed in the level of work which has been generated through ENvest[SCE]. To gauge provider's perceptions of the new work opportunities which ENvest[SCE] has and will generate, the Project Team asked non-full service providers whether their participation in the ENvest[SCE] service provider network will increase their firm's ability to market energy efficiency products and services. For those firms that responded to this survey question five said "greatly," ten said "somewhat", 11 said "a little", and eight stated "not at all". Some of the supporting comments provided by the firms include:

"We may gain some client contacts that we would not otherwise have gotten"

"There is an abundance of service providers for the limited number of projects distributed"

"We had some expectations, but still no work"

"We expected to look at many more ENvest[SCE] projects and at least be given the chance to compete. This did not happen"

"We are hoping to achieve more business, but at this point ENvest[SCE] is not proactive"

"We have not received one request from SCE or outside sponsor to bid on or be involved in any projects. I know of no direct marketing benefit we have received"

Of the five firms that said ENvest[SCE] would "greatly" improve their ability to sell energy efficiency products and services, two firms qualified their response by saying:

> *"...only if SCE actively markets the program and includes us in their process".*
>
> *"As a well organized entity with substantial resources and a name tied to SCE, ENvest[SCE]'s market capture rate is far greater than our firm's with its limited resource base and relatively unknown name"*

Other comments focused on the reason why there is limited work for providers. One non-full service firm explained: *"because of the regulatory status, ENvest[SCE] is trying to spread projects around rather than select most qualified firms for the work. This way, they stop marginal firms from complaining to the PUC".*

The providers who said they have work underway provided some perspectives on how the ENvest[SCE] project(s) has proceeded to date. In general, the working relationships and project interaction have been good but there have been a few instances involving:

- Poor communication between ENvest[SCE] staff, the customer, and providers during early projects, leading to delays and changes in the scope of work agreed to by the customer.
- Difficulty in getting work underway because of contractual problems, such as service providers assuming all liability associated with a project without having control over the job or customer relations.

Other non-full service providers working on ENvest[SCE] projects said it is too early to determine if ENvest[SCE] will generate a large amount of new work, but say they are encouraged since projects with traditionally harder to reach federal and municipal customers are underway[3]. The critical factor will be how the initial projects move to construction and are fully completed. If these projects are successful, ENvest[SCE] may gain credibility in the energy services industry and be able to generate more work.

[3] Some providers qualified their "hard to reach" statements, saying municipal projects are frequently defined, but few actually get underway due to customer indecisiveness.

PERCEPTIONS OF ENvest^{SCE} AS A FACILITATOR OR A COMPETITOR

Distinctions Between Types of Service Providers

To gauge perceptions of ENvest^{SCE} as a facilitator, the Project Team asked service providers whether ENvest^{SCE} is achieving what the organization set out to do: expand the market for energy efficiency services in the SCE territory by acting as a facilitator. Of the 50 firms across all five provider categories which responded to this survey question, 19 reported "Yes", 23 said "No" and eight specifically said they did not know.

Some of the individual non-full service provider's comments supporting the "Yes" response include:

"ENvest^{SCE} has the expertise, confidence of the marketplace, and the financial sources to bring projects to life that otherwise would never move ahead"

"ENvest^{SCE} appears to be signing relatively long payback projects"

"It is a nice plan with easy payback and financing terms. This is a great incentive for customers to make changes."

"Yes, but only marginally. ENvest^{SCE} needs to be more efficient, aggressive, business like."

"ENvest^{SCE} offers services that some will not/cannot offer. Their main strength is that they have a great deal of capital to invest."

"Mainly in the government sector. ENvest^{SCE} has the ability to struggle through the federal paperwork and time-delay nightmare, and will succeed where others have failed."

Some of the individual non-full service provider's comments supporting the "No" responses include:

"ENvest^{SCE} has not expanded the market, but rather taken a piece of it for themselves...There is already a market [for energy-efficiency services and financing] *which can meet the needs of* [commercial/industrial] *customers and the utility is not the critical link that it thinks it is."*

"Results will only be as good as the service providers ENvest^{SCE} selects."

"Very little activity for that size market."

"Have they completed any projects?"

"I do not know if enough people know about the program. More customers may need to hear so it can take off better."

"Not at this time. There is very little understanding of what ENvest[SCE] is and what it does."

Full service providers offered some of the strongest comments regarding ENvest[SCE] as a facilitator or competitor in the energy service market. The majority of full service providers said that ENvest[SCE] has not been marketed according to how SCE initially presented the program. Full service providers said they were misled to believe ENvest[SCE] would facilitate projects rather than gathering information to learn the business and start its own ESCO. Some of the individual full service firms provided the following comments regarding ENvest[SCE] as a facilitator or competitor in the SCE energy service market:

"SCE is providing a redundant service, gets in the way, and is a hindrance to developing projects"

"It is wrong to start as a regulated ESCO and then attempt to form an unregulated energy services subsidiary in your own territory"

"At this point we view the ENvest[SCE] program as a competitor which has market advantages through its direct connection to the major utility in the service territory... ENvest[SCE] has precluded growth by taking customers via their regulated utility parent."

"ENvest[SCE] has used ratepayer dollars to hire a staff and build a business, and what do the ratepayers have to show for it?...ENvest[SCE] has not ruined the market but just muddied the waters and disrupted work"

"ENvest[SCE] is a facilitator for providers/contractors and not ESCOs"

"If SCE continues to be an ESCO, then there isn't much role for other ESCOs in the SCE area."

Nature of Services Offered By ENvest[SCE] and Service Providers

A small number of non-full service providers specifically indicated they believe ENvest[SCE] is or will be a competitor in the near future. However, numerous providers across the Engineering Design,

Design Installation and Measurement and Evaluation/General Consulting categories expressed concerns should ENvest[SCE] decide to keep work in-house rather than bidding projects to providers, especially in light of the competitive advantages which many of the non-full service providers believe ENvest[SCE] possesses.

The Project Team asked non-full service providers if there are features which ENvest[SCE] possesses to induce customers to act that are not available to other providers. **Table 7-2** lists responses by service provider category.

Table 7-2 Service Providers Perceptions of ENvest[SCE]'s Competitive Advantages

Does ENvest[SCE] offer some features to induce customers to act that are not available to other providers?	Yes	No
2. Engineering Design Firms	4	3
3. Design/Installation Firms	5	6
4. Manufacturers & Distributors		1
5. Measurement and Evaluation/General Consultant	11	1
Totals	20	11

For Providers answering "Yes" to the above question, **Table 7-3** reports their perceptions.

Table 7-3 Service Providers Perceptions of ENvest[SCE] Marketing Features Not Available to Other Providers

ENvest[SCE] Features Not Available to Other Providers		Responses
1.	SCE affiliation, credibility and stability of utility	9
2.	Rebates, and co-investment funded through ratepayers	7
3.	Administrative oversight of project and free technical support	2
4.	Honest ESCO perception	2
5.	Financing	1
6.	Turnkey, one-stop shopping	1
7.	Ability to showcase new technologies through SCE/ENvest[SCE] technology center	1

Full service providers believe their package of services is very similar when compared with the ENvest[SCE] program offering. These providers offer engineering study, design, project management, and financing services. Two differences which one full service firm noted between ENvest[SCE] and their offering were that (1) ENvest[SCE] projects are not backed by a full savings guarantee and therefore not accountable for energy savings and (2) the program does not necessarily provide on-going service to ensure continued energy savings.

While full service providers said they offer the same services, they also listed competitive advantages which they believe ENvest[SCE] possesses. The major items noted include:

- Ability for customers to finance a project through their SCE bill;
- Ratepayer funding used for co-investment;
- SCE name recognition and sense of legitimacy;
- Customers are introduced to ENvest[SCE] through existing relationship with SCE customer representatives;
- Access to SCE's customer databases without a cost for this information; and
- Ability to finance huge projects with SCE capital.

Project Disaggregation for Bidding

Overall, service providers across the five categories expressed several concerns regarding the ENvest[SCE] bidding process. The central concern expressed by many providers is their lack of understanding how ENvest[SCE] determines which firms will bid on a project and how projects are awarded.

One full service firm complained the bidding process is unclear, and unfair in that firms that specify work for a customer study or construction project are allowed to bid on the project implementation. Other Full Service Providers said that ENvest[SCE] unbundled turnkey proposals and then had different contractors re-bid selected portions of the job. One provider's feeling is that ENvest[SCE] wants to become the ESCO and merely subcontract with technology and service companies.

Other non-full service providers noted concerns of bidding professional services, not being kept informed about any of the ENvest[SCE] projects, and the bureaucracy of the bidding process. Non-full service providers offered the following comments regarding the bidding process:

"We are not informed of projects and therefore can not pursue the most suitable ones"

The worst aspect of ENvest[SCE] for my firm is *"a lack of clear understanding of project and vendor decision criteria"*

"Not only do providers not know the status of projects, they also don't know why they were selected or passed up on a project"

"Professional services such as engineering should not be bid - they should be selected based upon qualifications"

Recommended Role for ENvest[SCE]

The Project Team asked the four categories of non-full service providers--including Engineering Design, Design/Installation, Manufacturers and Distributors, and Measurement and Evaluation/General Consulting firms--if they had to choose between having a utility provide customer rebate programs or an ENvest[SCE]-type program, which would they prefer. The responses are found in **Table 7-4.**

Table 7-4 Service Providers' Preference Between Rebate Programs and ENvest[SCE]-type Programs

If you had to chose between having a utility provide customer rebate program or an ENvest[SCE]-type program, which would you prefer?	ENvest[SCE]	Rebate	Neither
2. Engineering Design Firms	2	7	1
3. Design/Installation Firms	8	10	1
4. Manufacturers & Distributors		1	
5. Measurement / General Consulting	4	3	1
Totals	14	21	3

The reasons behind providers' responses offers some insight into their recommended roles for the ENvest[SCE] program. The providers who chose ENvest[SCE] cited reasons including:

- Program flexibility;
- ENvest[SCE] catalyzes a customer to make a more timely decision to move or drop a project;
- The program appears to be expanding the market by getting projects with longer paybacks underway; and
- ENvest[SCE] is more efficient and will not require as much PUC oversight and evaluation.

The reasons for selecting rebates include:

- Rebates are simpler to apply and can benefit both small and large users to increase market saturation;
- Financing is in the market and innovative customers are already pursuing projects through ESCOs and lending institutions;
- ENvest[SCE] does not allow providers to earn a fair margin. Providers would rather compete in an open market with or without rebates;
- ENvest[SCE] has stepped into many business deals with providers' existing customers and done nothing more than "muddied the waters"; and
- Business with rebates was far more extensive, and many firms who did work under the rebate program have not had access through ENvest[SCE] yet.

Full service providers offered several suggestions for the role the ENvest[SCE] program should play in a competitive energy service market. In essence, full service providers view ENvest[SCE] as a competitor and believe it is improper for a regulated business with clear competitive advantages to use ratepayer financing to develop a business. When prompted for a suggested role for ENvest[SCE], full service providers responses included:

- Eliminate the program because the market forces are already in place;
- Modify the program so that ENvest[SCE] forms strategic alliances with a limited number of firms (five to ten) and creates partnerships based on what each brings to the table;
- Modify the existing program and use a Request For Proposal process to allow ESCOs to market directly to customers; and
- Allow ENvest[SCE] to compete, but level the playing field.

Some of the specific suggestions which full service providers offered for leveling the playing field include:

"If a utility wants to enter the business, then they should seed it with their stockholder dollars, take the risk and not use ratepayer dollars."

"SCE should be allowed to create an ESCO to diversify offerings. They should not, however, have the ability to operate those ESCOs in their own service territory...Allowing such operation reduces, not increases, competition in the market."

"If ENvest[SCE] is allowed to go private, the CPUC needs to level the playing field with regards to obvious competitive advantages including ratepayer funding of administrative costs, access to SCE customer information, financing through utility billing."

"ESCOs should be allowed the opportunity to finance their projects through utility billing. We would be willing to pay a fee."

B. SECOND SET OF SERVICE PROVIDER INTERVIEWS IN MAY/JUNE, 1996

Overview

The Project Team completed 10 follow-up phone interviews with a random sample of ENvest[SCE] service providers who have had the opportunity to bid on an ENvest[SCE] project. This chapter provides a summary of the results of these phone interviews. The Project Team's intent was to gauge service provider's perception of the ENvest[SCE] program now that these providers have had additional experience working with ENvest[SCE].

Approach

The Project Team randomly selected firms from the "Edison ENvest[SCE] Service Provider Business Opportunity Report." This report prepared by ENvest[SCE] provided information about which service providers have had the ability to bid on an ENvest[SCE] project, and which providers have been awarded a contract(s). The Project Team conducted the phone survey campaign during mid-May 1996. The telephone interview protocol used by the Project Team is found in Appendix B.

This summary provides background on the types of services which the providers interviewed offer, involvement with ENvest[SCE] to date, perceptions of competitive issues with ENvest[SCE], and providers' overall impression of the service, including suggestions for future services which might be structured similar to ENvest[SCE].

Background on Service Providers Interviewed

The 10 service providers interviewed all said that ENvest[SCE]'s services are very similar when compared to the types of services which their firm offers. ENvest[SCE] has the capability to contract with firms which provide feasibility study, design, construction management, and measurement and verification services. The main difference according to four of the 10 providers interviewed was the

fact their firm does not get involved with financing of energy improvements. The other six providers said they have the capability to offer some type of financing to their customers.

Experience with ENvest[SCE]

Service Provider Network

The Project Team asked several questions that relate to providers' experience as a member of the ENvest[SCE] Service Provider Network. All 10 service providers interviewed said they have at least bid on one ENvest[SCE] Project. Of these 10, eight service providers have completed work on an ENvest[SCE] project, one bid on two projects and was not selected for either, and the remaining provider indicated his company has submitted ENvest[SCE] project proposals which are currently pending.

As outlined in **Table 7-5**, six of the 10 service providers interviewed said they have had four or more opportunities to bid on ENvest[SCE] projects. Two other service provider have bid on two projects, of which they are each working on one. One service provider bid on two projects, for which the firm was not selected for either. The remaining provider said they had only bid on the one project which they were awarded, and have completed.

Table 7-5 Opportunities to Bid on an ENvest[SCE] Project

Number of Opportunities to Bid on an ENvest[SCE] Project	Number of Service Providers Interviewed
Bid on 4 or more	6
Bid on 2 - 3	3
Bid on 1	1

Comments on How ENvest[SCE] Uses Service Providers

The Project Team asked service providers if they had any comments on the way in which service providers are used in the ENvest[SCE] program. The general comment from providers was that ENvest[SCE] is fair in selecting contractors to work on projects. Two service providers noted the number of providers in the service provider Network is too large.

Another issue raised by three other providers revolved around ENvest[SCE] management showing favoritism in selecting service providers for projects. These providers questioned the objectivity of

ENvest[SCE] management during the organization's first year of operation; two of the three providers who expressed this concern said they believe any favoritism has subsided since ENvest[SCE] made an interim management change.

Other comments from providers were mixed, as indicated in the following quotes:

> *"We like the idea of a credible agent pulling together a team for the customers. ENvest[SCE] is backed with the credibility of the utility, and customers perceive that the accuracy of ENvest[SCE]'s savings estimates are beyond reproach."*

> *"It seemed to take an excessive amount of time to get the project underway. However, once ENvest[SCE] felt comfortable with us they (ENvest[SCE] staff) pretty much let us get the project done without as much of their involvement. I thought our interaction improved after the first year. They finally came to understand our capabilities. They were definitely on a learning curve the first year of operation."*

Two providers said they have had difficulty preparing requested bids for ENvest[SCE], mostly due to a lack of specificity from the proposal:

> *"Overall ENvest[SCE]'s process for selecting which service provider will work on a project seems fair and understandable. However, ENvest[SCE]'s criteria when asking for a bid on a project is too broad brush, there are no specifics. ENvest[SCE] says: the customer needs a new lighting system, without any parameters for what the lighting system should contain. One suggestion for improving the way service providers are used is for ENvest[SCE] to work with the customer a bit more up front to narrow down the options. Then the service provider can better tailor a proposed system and the customer can compare apples to apples when reviewing bids. Otherwise the customer only looks at cost, and does not understand the specifics of a proposal."*

> *"ENvest[SCE] requires a lot of time from contractors, especially up-front when bidding on a project. I continue to be concerned with the lack of specifics when ENvest[SCE] asks a contractor to bid on a job. Contractors have to provide an enormous amount of work, really pre-engineering a project to submit to ENvest[SCE]. ENvest[SCE] staff need to realize these bids require a huge amount of time. A better arrangement would be for ENvest[SCE] to do the pre-engineering, and then let a bid which has some specifics to it."*

One provider said that ENvest[SCE] misused the information which providers delivered during the qualification process. This provider explained:

"ENvest[SCE] went out to every ESCO, gathered information on how we do business, and then used this information to compete with us. From my standpoint they misused the information provided, and is the basis for a lawsuit if we were inclined to act upon it, which we do not intend to do."

Another provider voiced his concern over the relationship ENvest[SCE] has built with its service providers. The provider noted that ENvest[SCE] is constantly pitting service provider against service provider to get the lowest price on a project. From this service provider's perspective, this has not allowed ENvest[SCE] to create a good relationship with providers. Rather than ENvest[SCE] turning to a firm which they have experience with and believe is qualified for a project, they are always asking the provider to sell themselves for every project they work on. The service provider explains:

"We have worked with several utilities. ENvest[SCE] is not very cooperative with its service providers. We worked hard to submit the original response to ENvest[SCE] and believe we are eminently qualified to complete the type of work we have for the past 15 years. ENvest[SCE] (staff) really makes service providers jump and go out of the way in preparing proposals. We are always in a sales mode when dealing with ENvest[SCE] (staff) and customers, which can be a drawback. At some point this hinders the project and creativity. You want to be talking business (details of the project) but don't know if you can because you're constantly selling your firm."

Service Provider Perceptions of the ENvest[SCE] Program

ENvest[SCE] Program: Service Providers' Understanding of Objectives

To determine service provider's perception of ENvest[SCE] as a facilitator or competitor, the Project Team asked several questions including what service providers understand the objectives of ENvest[SCE] to be. Provider's generally responded that ENvest[SCE]'s objective is to provide turn-key services to help customers become more energy efficient. Most service providers said ENvest[SCE] is meeting this objective, especially with public sector customers. However, some providers noted ENvest[SCE] seems to be moving very slowly. Comments about ENvest[SCE]'s objectives from service providers include:

"To stimulate energy efficiency projects by way of the utility's name and leverage."

"ENvest[SCE]'s purpose is to serve as a facilitator for the performance contracting market, to lend some credibility to a market which customers perceive as very confusing."

"A method to promote energy efficiency projects, and provide incentives beyond the standard rebate which SCE offered in the past."

"ENvest[SCE]'s stated objective is to implement energy efficiency projects and facilitate the modernization of facilities. I think their true objective is to simply make money. I say that because my experience with the organization's upper management suggests that they are not committed to true customer satisfaction and service."

"To build relationships with their (SCE) customers, serve as a technical resource, turn to the outside market and retain expertise for dealing with customer projects"

"ENvest[SCE] is trying to capture the longer-term ROI projects in the market, those which other service providers cannot get."

Service Provider Perception of Whether ENvest[SCE] Has Expanded the Market

As described in **Table 7-6**, five of the 10 service providers interviewed said that ENvest[SCE] likely has expanded the market for comprehensive energy efficiency services in SCE's service territory. Three other providers said no, and two others said they don't know.

Table 7-6 Response to the Question: "Has ENvest[SCE] Expanded the Market for Comprehensive Energy Efficiency Services in SCE's Territory?"

Response	Number of Responses (of 10 Providers Interviewed)
Yes	5
No	3
Don't Know	2

Some comments from those providers who said ENvest[SCE] has expanded the market include:

"Yes, but that might be pure conjecture. ENvest[SCE] certainly seems to be getting customers to move faster on projects then they may have."

"Yes, probably. ENvest[SCE] may have helped open up some markets."

"Yes. They (ENvest[SCE] staff) certainly have been open and provided leads (to service providers)."

One comment from a service provider supporting his belief that ENvest[SCE] has not expanded the market includes:

"The fact that ENvest[SCE] has completed very little work in the private sector is revealing. The military customers went with ENvest[SCE] because they thought they were getting something for nothing (referring to no up front costs). I would suggest, if these customers take a close look at their ENvest[SCE] financing rates they would realize they certainly are paying a premium for ENvest[SCE]'s services."

Perceptions of Whether ENvest[SCE] is More Appropriate for One Customer Type

Five of the 10 service providers interviewed said ENvest[SCE] appears to be more appropriate for public-sector customers. Three other providers said they don't know if ENvest[SCE] is appropriate for one customer over another, but noted that ENvest[SCE] has concentrated on public sector and government customers. Another two customers felt ENvest[SCE] could work for any type of customer. Several service providers said public sector customers, who don't have easy access to more affordable financing, view ENvest[SCE] as a convenient and affordable way to complete a project, while commercial and industrial customers can secure more affordable financing, and therefore are not viewing ENvest[SCE] as very beneficial.

One provider noted that he thinks ENvest[SCE] is targeting the public sector and government customers because this is a "safer" market. The provider explained:

"There is a huge commercial / industrial market in Southern California but ENvest[SCE] has not done much there. I think they are going after the more secure customers, those that are inevitably going to be around over the next 10 to 15 years to pay their bills."

ENvest[SCE]'s Program Design Aspects Which Influence Customers

The Project Team asked providers, based on their experience working with participating customers, what were the significant factors and/or program design features that convinced customers to participate in the ENvest[SCE] program. All 10 providers said the credibility of the utility backing the organization is a major selling point. Other comments from several providers include ENvest[SCE]'s convenience with regard to project management, and the fact public customers did not have to go out to bid. Some supporting comments include:

"Two things attracted customers: the utility's 20% co-payment and the big name of the utility backing the offering."

"SCE's credibility backing ENvest[SCE], and ENvest[SCE]'s single point of contact for the customer to deal with were the main drivers from my standpoint. The fact that ENvest[SCE] did not require any money down helped. Some others energy service providers offer a similar arrangement, however the customer sometimes construes that offer as a slick sales pitch, too good to be true. ENvest[SCE] pulls it off because they are backed by the credibility of the utility."

"From my experience, the main reason is because the customer did not have to go out to bid on the project. Working with ENvest[SCE] allowed them to get around that requirement."

"ENvest[SCE] provides an objective view, is competitively priced, and customers have a high level of trust."

"Several aspects contribute to customers decision: the backing of the utility, ENvest[SCE] has a good sales force, the co-payment, and utility bill repayment option helps."

Competitive Issues

The Project Team asked service providers if any of ENvest[SCE]'s program features, particularly those that involve ratepayer support, had significantly disadvantaged their firm. Five of the 10 providers said they do not feel ENvest[SCE]'s advantages significantly disadvantages their firm. Some comments:

"No. We work with utilities all over the country. Regardless how customers badmouth their utility, the customer still has a high degree of confidence in their utility. From our perspective, utilities help us get business rather than competing with us for that business."

"I would say no. I know of several projects where ENvest[SCE] competed against private ESCOs and lost the job. Therefore I would say this (utility affiliation) is not a significant advantage for ENvest[SCE]."

Five other service providers noted that ENvest[SCE] has the potential to place them at a significant disadvantage, simply because of ENvest[SCE]'s ability to offer the SCE co-investment and use of the utility's name. These providers said that SCE can command a large piece of the local market for energy services. Some of the comments from this group of five service providers include:

"If a service provider is not liked by an ENvest[SCE] project manager, they can count on not getting any piece of that market."

"We are not an ESCO, but I want to make the point that ENvest[SCE] definitely has a leg up on the private ESCOs due to the utility name and co-payment options. The more aware customers will understand exactly what they are paying for ENvest[SCE]'s services. For those customers, the private ESCO can compete, just because ENvest[SCE] has that extra layer of management which commands a fee."

"The two things that really hurt us include the utility's co-payment option, and the fact that ENvest[SCE] is marketed through SCE representatives. You look at other utility subsidiary offerings, and there is an arm's length arrangement. You don't see utility reps marketing the subsidiary's offerings."

The Project Team also asked service providers if they thought that ENvest[SCE], as structured allowed the energy efficiency services market to develop and operate in a competitive manner. Aside from the co-investment subsidy which ENvest[SCE] provided during the pilot, the majority of service providers said that ENvest[SCE] allows competition. Some supporting comments:

"Yes. As a company we needed to prove ourselves. We have a good reputation and the credentials to back up our name. ENvest[SCE] seems to have done a good job screening firms for the network, and understands the problems inherit with going with the lowest bidder. I think ENvest[SCE]'s rigorous screening of firms in the network allows fair competition."

"The market for energy services is huge. ENvest[SCE] only has a small piece of the market. Honeywell is much larger than SCE on a national scale. I hardly think that ENvest[SCE] has cornered Honeywell or others. I think saying ENvest[SCE]'s relationship with SCE is anti-competitive is really a stretch."

"A very aggressive ENvest[SCE] in SCE's territory is unhealthy. An ENvest[SCE] that tries to shut out other ESCOs, in my opinion, will freeze the market. An ENvest[SCE] that goes after the most reliable, low risk customers might not be healthy either."

"Yes, ENvest[SCE] allows competition. From my perspective the SCE name gets ENvest[SCE] in the door. From that point they need to compete just like any other firm out there."

"Our business in the SCE territory has dropped off significantly. I don't know if this is because we are being squeezed out by ENvest[SCE] / TEEM, or by Orange County's financing problems. I would venture to guess ENvest[SCE]/ TEEM are influencing customers due to the name recognition and tie to utilities. This could be somewhat anti-competitive."

Another provider indicated ENvest[SCE], as structured is anti-competitive, primarily due to the co-payment option. He explained:

"Without the co-payment option and close tie to the utility, ENvest[SCE] is not a threat to us, or I should say what ENvest[SCE] is evolving into. We are not worried about competing with Source.[4]"

General Assessment of ENvest[SCE] Implementation

The majority of service providers interviewed said that ENvest[SCE] has greatly matured as an organization since its first year of operation, and is providing a good service from their business standpoint. Several providers noted they are disappointed with the amount of work they have captured through ENvest[SCE] given the significant amount of time required to apply for the Service Provider Network. As noted above in the "Competitive Issues" discussion, five providers noted their concerns with the potential for ENvest[SCE] to have significant advantages. Other comments from providers when asked about their overall assessment of the program include:

"ENvest[SCE] has got much better since its management changes. They are looking at projects more realistically with regard to what is achievable, what they can expect of service providers."

"ENvest[SCE] was slow in getting started and recognizing our abilities. They have greatly improved over the first year, are good in payments to us and accepting our recommendations on projects."

"ENvest[SCE] is a very good program, run well. ENvest[SCE] staff is open, treats providers well. I don't feel that ENvest[SCE] has significant competitive advantages due to utility affiliate.

One provider explained his concern that ENvest[SCE] has not expanded, but rather stalled the market for comprehensive energy efficiency services. He explained:

[4] SCE's current entity providing unregulated services to customers.

"ENvest[SCE] has completed a couple of projects, but given all their advantages, I don't believe they have been successful. In fact, they have worked against their goal of expanding the market. A case in point: several of our customers who would have moved on projects put their projects on hold until they understood what SCE/ENvest[SCE] had to offer (incentives). Given the long delays in getting ENvest[SCE] up and running, some of these projects were never acted upon. In these cases ENvest[SCE] did more harm then help to the market. These customers would have acted with a private ESCO."

One of the 10 service providers, who has worked on multiple projects, believes ENvest[SCE] overall is not providing valued services to customers. This provider explained:

"ENvest[SCE] is a disaster waiting to happen. My feeling is ENvest[SCE] is heading on a path toward failure because they are not paying attention to technical details. I have encountered projects where equipment specifications are blatantly wrong and the equipment will not perform as promised to the customer. What's worse is that ENvest[SCE] and SCE staff are not learning from mistakes made on other projects, and not looking toward the industry to better understand how to manage projects so as to avoid the technical blunders which I anticipate customers will realize in the near future."

Finally, the Project Team asked service providers for their single most important piece of advice that they could provide SCE or the CPUC on future programs with designs that are similar to the ENVESTSCE Pilot. Three service providers noted that ENvest[SCE] is a reasonable program for promoting energy efficiency. For such a program to operate competitively, the Commission should ensure all providers are allowed access to any benefit which the utility offers, for example ENvest[SCE]'s co-payment, or do away with this offering entirely.

Other pieces of advice from service providers include:

"DSM promoted technologies which were not readily available, or newly introduced to the market. ENvest[SCE] does the same thing. The difference, rather than focusing on a technology, ENvest[SCE] focuses on performance contracting, trying to move the market for these services. Clearly ENvest[SCE] is a positive organization in the market."

"I guess my recommendation is to ensure you have experienced people running programs, and to fully understand energy efficiency programs. Project managers need to have technical knowledge of projects. ENvest[SCE] has this now, but they did not have it at the start."

"ENvest[SCE] did not operate on a level playing field due to 20% ratepayer co-funding. They are providing the same service as an ESCO, therefore it is difficult for us to compete with them given this subsidy. If a utility affiliate is to run a fair business such as TEEM and ENvest[SCE], there needs to be a very clear separation between the regulated and unregulated entities: minimal name recognition, no use of utility field reps. This is the only way which ESCOS will have a chance to compete with TEEM/ENVEST on a level playing field."

"The organization needs to learn from its previous mistakes, and seek expertise from the outside, particularly for construction management. I believe ENvest[SCE] must take a firmer stance on managing a project from the start, with an eye on mitigating potential technical problems during the construction phase. Right now ENvest[SCE] staff is dumping too much of this responsibility on commissioning agents. My point is ENvest[SCE] could keep project costs down if they managed projects more closely during design and construction. This is not occurring now from my viewpoint."

"In the future, an ENvest[SCE] type program should have less hype and fancy meetings. ENvest[SCE] really expects a lot from service providers--constantly pitting firm against firm--to get the lowest price on a job without ever really developing a healthy business relationship with your company. This makes it very difficult for us. My main suggestion is for an ENvest[SCE] to work cooperatively with service providers, to really treat providers as part of the team, get to know firms rather than putting them in a pseudo-entrepreneurial environment where providers are constantly reselling their services to them."

"A problem with ENvest[SCE] has been the large number of service providers for too few projects. After ENvest[SCE] qualified firms, we saw a lot of out of state providers opening offices in Southern California. I guess my concern is that there is too few jobs to spread around the network. Next time maybe a scoring process could be used to limit the pool to the top 40% of qualified firms. Otherwise its hard to justify spending so much time to qualify for a program where you get so few projects."

"Let the competitive market run its course. There are enough private companies out there to continue building the market for energy efficiency."

C. SUMMARY OF SERVICE PROVIDERS' PERCEPTIONS OF THE ENVEST[SCE] PILOT

Both sets of service provider interviews/surveys indicate basically three categories of responses from service providers about the ENvest[SCE] pilot. These three categories strongly correspond to : (1) service providers who have received work during the ENvest[SCE] pilot; (2) service providers who have been qualified but have not received a significant increment of work from the pilot; and (3) service providers who perceive ENvest[SCE] as a competitor who can unfairly compete due to access to ratepayer funds and unique information resources.

As might be expected, the first category of service providers is generally quite favorable to the design and implementation of the ENvest[SCE] pilot. The second category generally included providers who have different degrees of expectation and interest in receiving additional work generated from ENvest[SCE]. The overall attitude in this category ranges from a patient understanding that it takes time to ramp-up a pilot to less patience about not having received work from the pilot (at least to this point). The third category of provider comments have voiced concern about how the ENvest[SCE] pilot has been implemented. Generally, some full service providers fall into this category because of their view that ENvest[SCE] has evolved into a direct competitor to them, rather than a means to expand their business opportunities, which primarily involved overall project development and oversight.

It is important to recognize the distinct perspectives of these three different categories when summarizing service provider comments concerning the ENvest[SCE] pilot.

The primary information from the comments made by service providers concerning the ENvest[SCE] pilot are:

- The majority of service providers qualified for the pilot as a means to increase overall business. This was of particular concern as SCE phased down its traditional customer rebate programs which service providers had used to market and sell their own projects.

- The majority of providers feel that the qualification process was reasonable and the qualifying criteria applied fairly. Indeed, some qualified providers believe that ENvest[SCE] qualified some firms that should not have been, in an effort to be all-inclusive. While many service providers believe that criteria to be selected to bid on projects and project bid criteria could have been clearer, most providers believe that ENvest[SCE] has fairly provided opportunities to qualified providers.

- Some full service providers feel that ENvest[SCE] has assumed a role as overall project developer and manager that is in direct competition with their firm. Indeed, the majority of providers said that they would have liked a greater ability to work directly with customers to avoid the communications problems experienced on earlier projects and to allow providers' experience to be utilized better in marketing projects.

  Full service providers clearly felt misled by providing a great deal of information to SCE only to have SCE start what they perceive as its own competing ESCO. Full service and some non-full service providers who have partnered with other firms to offer turnkey services believe ENvest[SCE] as an ESCO provides redundant service, and has numerous competitive advantages in the SCE territory due to the existing utility relationship.

- A significant number of service providers are disappointed with the amount of work generated through ENvest[SCE] given the amount of money spent on the pilot and the time providers spent completing the service provider qualification process.

  Most providers believe that the ENvest[SCE] service provider network is too large, there is limited feedback regarding project status and the criteria for being selected for the opportunity to bid on a project has remained too vague. As a result, the majority of providers in the pilot feel that ENvest[SCE] would have provided their firm only marginal additional business if it had been continued as it was operated during the pilot.

- Most service providers (whether they have received work or not) do not perceive that the ENvest[SCE] pilot expanded the energy services market, (except for the federal government sector) although most believe that ENvest[SCE] did affect the timing and scope of customer projects.

- Some qualified service providers feel that ENvest[SCE] has been too intent on pitting providers against one another to lower prices and increase value for customers. While providers recognize these benefits of competition, some believe that this has led to a greater emphasis on marketing to ENvest[SCE] than on creativity in customer project implementation. In addition, some providers believe that a closer partnership between service providers and ENvest[SCE] would be more productive (similar to typical full service ESCO and service provider relationships) than a "pseudo-entrepreneurial" environment.

- Most service providers believe that ENvest[SCE] had the potential to be attractive to certain types of customers, primarily because of: (1) its affiliation with SCE and (2) the ratepayer

funds that could be used for co-investment. Some full service providers characterize these features as unfair competitive advantages for ENvest[SCE] that are not equally available to independent ESCOs to develop similar projects.

Most service providers felt that the ENvest[SCE] design was attractive to public sector customers due to its bundled, "one stop" financed design. However, most providers (although not all) believe the design was unattractive to large commercial and industrial customers because it was inflexible and contained a high cost for financing.

- Small or specialized (e.g., one type of measure) service providers tended to consider ENvest[SCE] a favorable model because of its role in pulling together a team of providers to provide large projects to customers. By being able to participate as a member of a larger team, these providers saw a way to increase potential business by enjoying the association with ENvest[SCE] as well as the greater overall project management and "deep pockets" capabilities of ENvest[SCE].

- The majority of qualified service providers participating in ENvest[SCE] projects feel that ENvest[SCE] has matured as an organization since its first year of operation and is providing a good service from a business standpoint. The key to continuing this good service is to have competent, experienced people in charge of the construction and implementation phases of a project.

- Service providers generally split by type as to a recommended role for future ENvest[SCE]-type undertakings. Some full service providers suggested that ENvestSCE be: (1) eliminated or (2) modified to level the playing field and allow other service providers to fairly compete. These full service providers said that ENvest[SCE] should not be allowed to compete with the organization's numerous competitive advantages as this would limit fair competition in the SCE service territory.

  Other service providers split on whether they prefer to work with ENvest[SCE] and/or revive a rebate-type program to help facilitate more energy efficiency projects. Those non-full service providers who chose ENvest[SCE] said the program allowed some marginal projects with traditionally hard to reach customers to get underway. However, the work to date has been substantially concentrated among a few firms. The firms which had previously received work through SCE's rebate program are concerned that the withdrawal of traditional rebates will preclude their participation in the evolving energy efficiency market.

Overall, service providers perceptions have been split among:

(1) Non-comprehensive providers who viewed ENvest[SCE] as having the potential to increase their business; and

(2) Full service providers who wished ENvest[SCE] would lend its affiliation to SCE and ratepayer funded benefits to allow the development of independent ESCO projects, rather than projects in which overall management and contact with the customer was retained by ENvest[SCE].

The first group of providers tend to believe that ENvest[SCE]'s attributes could generate additional business, even though the pilot did not do so for many providers due to the significant number of qualified providers compared to available projects in the pilot. The second set of providers tend to view ENvest[SCE] as a competitor with special advantages conveyed by regulation that are not available to their firms. Thus, while there is an overlap of agreement that the ENvest[SCE] design was attractive to certain public sector customers, there is a disagreement over how that design has been implemented in terms of its impact on the competitiveness of the energy services marketplace.

8. CUSTOMER PERCEPTIONS OF TEEM

OVERVIEW

In this chapter the Project Team provides the results of telephone interviews conducted with a variety of customers who have been involved or are currently involved with the TEEM pilot. The Project Team interviewed customers in the following three categories (as defined by TEEM staff):

1. Active, Signed - customers with a TEEM project underway or completed,
2. Proposal Active - customers who have or are awaiting a proposal from TEEM, and
3. Proposal Inactive - customers which declined to move forward with a TEEM project.

This chapter provides information on customers' previous experiences with energy efficiency projects, current perceptions of the TEEM program, and an overall assessment of the program for TEEM and CPUC staff consideration in planning future energy efficiency programs. The Project Team has attributed responses to one of the three customers categories described above. Where responses are significantly different, these categories are further divided by the following customer types: 1) industrial/commercial, 2) college/medical facilities, 3) municipal government, 4) school district, and 5) federal government.

APPROACH

During May 1996, the Project Team contacted a random sample of customers across the three classifications. The Project Team used two telephone interview protocols, one for the Active, Signed and Proposal Active Customers, the second for the Proposal Inactive Customers. Both protocols are found in Appendix B. The number of TEEM customers contacted and interviewed is found in **Table 8-1.**

Table 8-1 TEEM Customer Phone Interviews

Type of Customer	Number Contacted	Number of Responses
Active, Signed Customers	3	3
Proposal Active Customers	21	9
Proposal Inactive Customers	14	4
Total Number of Customer	*38*	*16*

CUSTOMERS' PREVIOUS EXPERIENCE WITH ENERGY EFFICIENCY PROJECTS

The Project Team asked a variety of questions to determine customers' previous experiences completing energy efficiency projects. Questions included what experience customers have had working with energy service companies, how customers typically finance projects, what criteria the customer uses to select which energy projects to implement, and what the customer perceives as the major barriers to implement energy efficiency projects.

Experience with Energy Service Companies

The Project Team asked customers what experience they have had with energy service companies (ESCOs), specifically if an ESCO marketed similar services compared to the TEEM project they currently have underway or are considering, and the reason why the customer decided not to contract with the ESCO.

Active, Signed Customers

The Project Team interviewed all three of the TEEM Active, Signed Customers which include a school district, a municipal government, and an industrial customer. All three customers indicated they have been approached by ESCOs in the past. The municipal representative said he usually chooses to work with individual service providers versus one large ESCO because he likes to solicit project ideas from a variety of providers. The school district representative also said he usually chooses to work with a variety of service providers. He explained, working with a variety of providers allows the school district staff to have more control over a project. The industrial customer indicated his company usually works with a variety of providers, mostly because the comprehensive providers' contract arrangements are typically complicated.

Proposal Active Customers

The Project Team interviewed nine Proposal Active Customers which includes: one (1) industrial customer, two (2) commercial customers, two (2) college/medical facility customers, two (2) municipal government customers, and two (2) federal government customers.

The industrial customer said his company usually prefers to complete work using in-house staff whenever possible. A commercial customer said his company typically works with individual service providers who have expertise in one area such as lighting or HVAC systems. Another commercial customer said they choose to work with multiple service providers, mainly because they want to gather as many ideas for a project as possible.

The two college/medical facility customers and two municipal government customers all indicated they prefer to use a variety of providers rather than an ESCO. One college/medical facility customers explained, as a state agency, the college is required to accept the lowest bid for a contract. Therefore the college staff seeks a variety of proposals from individual firms. One of the municipal customers said they never have worked with an ESCO, and typically prefers to work with a variety of providers because they have to go out to bid anyway. The other municipal customer indicated they never worked with an ESCO before but does like the "one stop shopping" concept, and is very interested in TEEM's offer.

One of the two federal government customers interviewed said he has had some poor experiences with energy service providers, and this is part of the reason why he prefers working directly with a utility-affiliated organization. The other customer indicated a number of ESCOs have contacted him recently, however the attorneys who review the federal contracts do not like performance savings contracts, and therefore the federal customer does not pursue ESCOs.

How Customers Typically Finance Projects

The Project Team also wanted to determine if customers typically finance projects using internal or external funds.

Active, Signed Customers

The school district and municipal customer said they finance projects internally, usually with municipal or county funds. The municipal customer indicated that county funds are becoming increasingly scarce, and therefore the reason why the municipality looked toward third party financing. The school district representative said, except for two major projects completed in the past four years, the district funds projects internally.

Proposal Active Customers

The two commercial customers interviewed said they usually fund projects internally. The industrial customer said they use both internal and external funds, such as GE Capital or other lease/purchase arrangements.

The college customer said they generally use external funds, typically relying on grants from the California Energy Commission. The medical facility customer said the facility's board of directors usually wants to fund projects internally.

The municipal customers said they use a combination of both internal and external funds, the external funds always being in the form of a grant rather than a third party arrangement.

One of the federal government customers said his agency tries to use internal funding for projects. However, Congress has not allocated funding recently, and therefore he has to consider external funds for improvement projects.

Criteria For Decision Making

To understand how customers make decisions about investments in energy efficiency, the Project Team asked customers what criteria their organization uses to determine which energy projects will be implemented.

Active, Signed Customers

The school district customer said the board's primary criteria are payback and if the project involves a maintenance concern. The municipal customer responded:

> *"We have several criteria: 1) does the project actually save energy, 2) payback, 3) amount of monthly debt, and 4) term of the financing, meaning can we spread costs over a sufficient term to minimize our monthly burden."*

The industrial customer responded:

> *"Payback is a criteria. Other important aspects in our decision include maintenance concerns, ease of operation, and what level of support is provided to us after the system is completed and operating. Support from the service provider is very important."*

Proposal Active Customers

The industrial customer and two commercial customers all indicated they look at the project's payback as a criterium. Other comments include:

> *"We look at payback and will act on a project for energy savings alone. However we also compare the energy project to other investments, and what will provide the best return, for example investing in new production capacity." - Industrial Customer*

> *"We determine if we can finance the project and what is the payback. For larger projects we are looking for around a seven year payback. For smaller projects, looking at two years, maybe more." - Commercial Customer*

> *"As part of our company's overall strategic plan, we are trying to weigh energy efficiency and modernization of facilities. We are trying to upgrade and automate our facilities to move us into the 21st Century." - Commercial Customer*

The college/medical facility customers' responses include:

> *"We don't have a fixed payback or ROI. It depends on the size and type of project. Now we are looking at shorter analysis periods because we expect utility rates, especially electric, to drop in the next few years."*

> *"No actual set criteria. We are usually looking at a two to three year payback. However our administration is flexible and will go beyond this. The bottom line is the health care industry is changing and we need to find ways to cut costs."*

The two municipal government customers indicated that maintenance and standard operation projects always takes precedence over energy efficiency projects. If energy can be combined with a maintenance or operations project, the municipal board will usually sign off on the project. However, it is rare for a project which is solely based on energy savings to be approved.

One of the federal government customers said their criteria is typically a project which can pay back in 10 years, and also those projects that can eliminate maintenance concerns. The other federal customer said they look at projects with a Savings to Investment Ratio (SIR) greater than 2.0, however this criteria will change if other non-energy benefits can be demonstrated. For example if the equipment would likely need to be replaced for a maintenance reason.

Major Barriers to Energy Efficiency

The Project Team asked customers what they find to be the main barriers to investing in energy efficiency.

Active, Signed Customers

The municipal customer indicated there are two major barriers for the municipality to invest in energy efficiency: 1) lack of funding, and 2) the California Public Contracting Code. The customer said the Code requires a municipal government to request bids for projects of $15,000 or more. The lowest bidder is awarded the contract. The customer explained:

> *"Unless we can demonstrate the lowest bidder is completely incompetent, we have to go with that outfit. That opens us up to risk which I am not willing to accept. Some ways around the these barriers are third party financing and working with an outfit like TEEM which does not bind us to the Contracting Code."*

Proposal Active Customers

The industrial and commercial customers provided a variety of responses to this question. Some of their comments include:

> *"Cost of capital, and logistical problems are the main barriers. For example, we often run into the situation where we want to act on a project, however the project requires too much downtime. Last, the project needs to payback. There is not a strict criteria, however, the projects which pay back quicker, and therefore free up funds for other investments, are the ones which get acted upon." - Industrial Customer*

> *"The only barrier is preparing the proper analytical cost justification for proceeding with the project." - Commercial Customer*

> *"There are no barriers. My company is interested in energy efficiency and modernization" - Commercial Customer*

The college/medical facility customers said that finding affordable financing, and the time required to prepare the proposal are the main reasons why they can not pursue more energy projects. The medical facility customer further explained:

"It is tough to get all required documentation to sell projects to our administration. We need analysis time, time to get quotes, and then write it all up. This requires a lot of staff time. We don't have an easy answer at this point."

The municipal customers' barriers were similar: limited availability of affordable financing and the lack of staff time required to propose and manage projects. A municipal customer also said he finds it difficult to sell projects which have to be booked as a long term debts. The customer explained:

"You're trying to sell a project with a debt over 10 years to a board member whose term is much shorter. We really need to finance energy projects in a way that does not show up on your balance sheet. TEEM may be our vehicle."

Similarly, another municipal customer who declined to contract with TEEM responded:

"We need to be more flexible in looking for innovative solutions to energy efficiency. For example cogeneration, and the ability to package cost-effective and non-cost effective improvements together. Another obstacles is city board members who are only in office for short terms. The board members often don't look at projects that have 15 year payback. Therefore we try to sell these projects on other merits such as maintenance concerns."

The federal customers both indicated lack of capital as a primary barrier to complete energy efficiency projects. One of the customers added the federal bureaucracy and rules associated with getting projects underway also served as barriers.

CUSTOMER PERCEPTIONS OF THE TEEM PROGRAM

The Project Team asked a variety of questions to determine what factors influenced customers to participate in TEEM, how satisfied customers are with the implementation of their TEEM project, and if they would have implemented the project without TEEM's involvement.

Factors Influencing Customers to Participate in TEEM

The Project Team asked customers what were the motivating factors which influenced them to participate in the TEEM Program.

Active, Signed Customers

The three customers interviewed said there were several factors which contributed to their decision to contract with TEEM. Some of these factors included TEEM's backing by a stable utility, the customers were familiar with utility staff, and the fact that TEEM allowed the customer to choose which service providers would work on their project.

One customer said other reasons why the school district decided to contract with TEEM include: 1) TEEM allowed the municipality to avoid the risk of having to contract with the low bidder as required by California Public Contracting Code, 2) school district staff would be dealing directly with a TEEM engineer versus a salesperson who does not know the details of a project, and 3) TEEM's flexibility to include maintenance improvements in addition to energy improvements with the scope of the project.

The industrial customer responded:

> *"We went with TEEM over other providers because their project proposal was more down-to-earth compared to other providers, and the payback on the TEEM project was 2.5 years compared to seven years proposed by other providers. We have dealt with the Gas Company in the past and have a good relationship with our customer service representative....that contributed to our decision to go with TEEM."*

Proposal Active Customers

The main reasons why the group of customers interviewed are interested in TEEM include the organization's stability, the Gas Company's reputation for possessing a good technical staff, TEEM does not require an up-front cash investment, TEEM's structure allowed public sector customers to avoid bidding requirements, and the fact that TEEM is fuel neutral. Some of the reasons why the Proposal Active customer have come this far with TEEM is explained in the following comments:

> *"One of the most attractive features of TEEM was the organization's stability. The type of project which we are looking at involves a great deal of liability. That is, if an improvement adversely affects our production, the remedial cost, and cost of downtime would send one of a smaller ESCOs into bankruptcy. On the other hand, TEEM, with its link to the Gas Company, is more stable. If TEEM was liable, the consequences would not put the organization out of business. They are large enough to absorb a mistake. Even through we can do this work in house for a cheaper price, we decided to allow TEEM to work with us because of the magnitude and liability." - Industrial Customer*

"We got interested for several reasons. Number one: we saved money since TEEM shared the study cost. We provided TEEM the opportunity to bid on the proposal for design / build work and financing, which they are in the midst of preparing. Secondly, the Gas Company has an excellent reputation, we feel their staff has good technical skills." - Commercial Customer

"A big benefit was the fact we did not have to go out to bid. Working with TEEM, an affiliate of the Gas Company, we got around that requirement. Second, TEEM, with Gas Company backing is credible and we know they will be around for the foreseeable future. Last, and importantly, TEEM staff scoped the project, we don't have to pay up-front, and we can save valuable staff engineering time for other critical projects." - Municipal Customer

Proposal Inactive Customers

Two of the four customers in this category said that TEEM asked if they could bid on their projects. The other customers indicated they were interested in TEEM's ability to provide new, technical alternatives, and in a comprehensive service provider that had the ability to manage and move a project along under a very aggressive time frame.

Active, Signed Customer Satisfaction

To determine customer satisfaction with the services which TEEM has underway, the Project Team first asked the three Active, Signed Customers about the current status of their TEEM projects, and how satisfied the customer is with the implementation of the project to date. The status of these three customer projects is summarized below:

Municipal Customer:	The customer said their TEEM project is complete. The project involved lighting system upgrades, and increasing the size of chillers, variable frequency drives for air and pumping, and new hot water boilers.
School District Customer:	This TEEM project has been underway since last year and spans nearly all of the customer's facilities. The lighting phase of the project is complete. The project is now focused on mechanical improvements to a number of buildings including the installation of energy management systems. The customer reported financing is in place and he is very pleased with the final deal which TEEM negotiated.

Industrial Customer:	This project is in the design engineering phase, and is scheduled for construction during late May into early June 1996. The scope of the project involves a waste water heat recovery system, including the installation of a water reclamation system and heat exchangers.

All three customers reported they are very satisfied with the implementation of their TEEM project to date. Customers reported that TEEM staff did an outstanding job at the start of the project evaluating different technical options, and has kept customer staff well informed of the project's progress. All three customers made note that TEEM staff are extremely professional and competent with regard to the details of the project.

Expanding the Market For Energy Efficiency Services

To gauge how TEEM may have expanded the market for comprehensive energy efficiency services, the Project Team asked both Active, Signed Customers and Proposal Pending Customers if they would have, or will move forward with the same project if it were not for TEEM.

Active, Signed Customers

Two of the three active customer interviewed said they would have likely went ahead with the same project without TEEM's involvement. The industrial customer noted it would have been a lot more work to manage their project internally, and felt more comfortable with TEEM managing the project given TEEM's staff experience. The school district would not have implemented the same project without TEEM's involvement, however may have implemented a smaller piece of the TEEM project currently underway.

Proposal Active Customers

Two of the nine customers interviewed--which includes a commercial customer and a medical facility customer--said they would have implemented the same project without TEEM. Two municipal customers said they definitely would not have implemented without TEEM. The remaining five customers said they likely would have implemented a project, however are unsure if the scope of the project would be as large as that proposed by TEEM.

Proposal Inactive Customers: Reasons for Declining TEEM's Proposal

For the Proposal Inactive Customers, the Project Team asked why customers declined to contract with TEEM. The four customers interviewed all had different reasons behind their decision to decline TEEM's proposal. These reasons include

- The municipal board was adverse to any type of external financing.
- The college's attorneys determined sole sourcing work to TEEM would violate contractual obligations set for state run facilities.
- The customer questioned the fact TEEM had no projects completed at the time of the proposal, and
- The last of the four customers said TEEM completely disregarded the detailed specifications outlined in the RFQ.

OVERALL ASSESSMENT

To provide an overall assessment and indication of customer's perceptions of the importance of the TEEM program, the Project Team documented several final comments from active signed customers, and Proposal Active customers as described below.

Customer Satisfaction

Active, Signed Customers

All three customers reported they are very satisfied with the implementation of their TEEM projects. Customers reported that TEEM has been in touch and did a good job up-front evaluating different options, including maintenance items for one project which were not cost-effective as a stand-alone improvement. All customers noted that TEEM staff proved to be extremely professional and competent in managing their projects. The only recommendation for improvement one customer noted was reducing the time required to complete the contractual work which needs to be cleared through TEEM attorneys.

Proposal Active Customers

Given limited experience, most customers are satisfied with their involvement with TEEM to date. Two of the nine customers interviewed said they appreciate the professionalism displayed by TEEM staff, and their patience in trying to get the project signed and off the ground. Other customers noted TEEM has assembled a professional, and technically competent staff. Some comments include:

> *"From what I know to date, seems like TEEM is a good group to work with. They are new and trying to refine their procedures. Seem to have quality people with excellent technical skills. I think TEEM has assigned some high caliber people to the program, and they will achieve their goals."*

"We are very happy. our TEEM representative is very helpful and patient. He understands this project can not be rushed, its is definitely a one to three year project. We need to do it right the first time and not look back. TEEM staff is very professional, and seem to know their business."

"TEEM's people seem professional, responsive, follow up on their proposal...very good impression of TEEM so far."

Choosing Between a Rebate-Type DSM Offering and a TEEM-Type Program

Finally the Project Team wanted to inquire into the type of energy services projects which customers might desire. The Project Team asked the three Active, Signed customers, if they had to choose between a rebate program or a program structured similarly to TEEM, which they would choose and why.

The municipal customer explained that rebates have been a very attractive offering in the past. However the customer concluded he would prefer a TEEM program over a rebate, especially if rebates were not covering a large amount of the energy improvement's cost.

The school district customer choose TEEM. He explained, in the past rebates served as a good incentive and public relations pieces. However, the rebate would not allow the district to complete the projects which they are currently implementing through TEEM, specifically joining energy and maintenance projects which overall provide a cost-effective package of improvements.

The industrial customer said he would choose a TEEM-type program, assuming the TEEM project's return is within the same range as a comparable project for which the company received a rebate. Even if the TEEM project's return was slightly less than a similar project with a rebate, the customer said he would still choose TEEM. He explained:

"once you get your rebate, the operation of that equipment is your problem. TEEM provides overall project management and support for operating the system after the installation."

SUMMARY

The information gained from customer interviews on the TEEM pilot is consistent with customer information from the ENvest[SCE] pilot. Customers make decisions on cost-effective, energy efficiency projects based on: (1) the overall value (i.e., energy and non-energy benefits) compared to

costs and perceived risks, and (2) whether specific barriers can be easily and inexpensively overcome. The specific market barriers faced by customers vary by type and circumstance, although there seems to be a clear difference in the type and extent of barriers between public sector markets and large commercial and industrial markets.[1]

The customers who are participating in the TEEM pilot obviously are willing to do so without similar ratepayer-funded benefits such as the co-investment feature of the ENvest[SCE] pilot. While TEEM participants certainly understand the value of rebates, they measure the value of a project by its ability to produce benefits without creating unacceptable risks or to satisfy the concerns of public oversight bodies for public sector projects. Each of the participating customers as well as potential customers noted the importance of TEEM's connection to SoCal. This affiliation created a perception of expertise, trustworthiness, stability and longevity that was viewed quite favorably when compared to other comprehensive energy service providers. Thus, while customers had other important reasons to select or consider TEEM, the affiliation with SoCal appears to be an important advantage due to customer perceptions.

Participating customers like the "one stop shop" design of the TEEM pilot, but value the flexibility to use third-party financing and to designate desired service providers. Public sector participants, as in the ENvest[SCE] pilot, value the overall project management, ability to use diverse service providers, access to reasonable cost financing, and technical expertise all available from TEEM. However, to date in the pilot, public sector customers perceive the repayment on the utility bill option as less valuable than expressed by participants in the ENvest[SCE] pilot.

In general, customers have perceived the implementation of the pilot by TEEM staff to be professional and quite helpful. There have, however, been some problems, especially in the marketing phase due to delays between initial contacts and follow-up. These delays appear to be attributable to the limited staffing of the pilot during the first year.

While there is limited experience to date in the TEEM pilot, the comments of current participants suggests that the TEEM design is attractive to public sector, MUSH-type entities. In addition, the flexibility, particularly concerning financing in terms of a less bundled offering than in the ENvest[SCE] pilot, seems attractive to large commercial and industrial customers. It is however, simply too early to estimate how attractive the TEEM design will be in practice to most large commercial and industrial customers.

[1] This will be discussed in Chapter 10.

9. ENERGY SERVICE PROVIDER PERCEPTIONS OF TEEM

OVERVIEW

The Project Team interviewed 17 of the 31 energy service provider firms qualified to participate in the TEEM energy service provider network. As part of the program offering, TEEM solicited qualifications from a variety of trade allies incl. ig engineering firms, energy service companies, construction outfits, and specialty contractors dealing with energy-related equipment The purpose of the phone interviews campaign was to gauge trade allies' perceptions of the TEEM program implementation, and to determine if TEEM's affiliation with Southern California Gas Company poses any significant disadvantages to these firms.

Overall those trade allies who have or are completing work with TEEM are satisfied with their involvement with the program, noting the professionalism of the TEEM staff, and their ability to capitalize on deals with customers. The large number of trade allies interviewed who have not received work to date are generally disappointed, however most are anxious to receive updates on TEEM's progress and learn about new project opportunities. This chapter provides a summary of the results of the phone interviews which the Project Team completed with the TEEM qualified service providers.

APPROACH

The Project Team attempted to contact all 31 trade allies from the list of qualified firms which TEEM staff provided. The Project Team conducted the phone survey campaign during late April to early May 1996. The telephone interview protocol used by the Project Team is found in Appendix B.

EXISTING MARKET FOR ENERGY EFFICIENCY SERVICES AND PRODUCTS

Types of Services which Providers Offer

The Project Team classified the group of TEEM trade allies interviewed into five general categories: The following is a list of these energy service provider classifications, followed by a number which

indicates the number of trade allies interviewed in each classification. Note the sum is greater than 17 because some trade allies provide multiple services (e.g., energy study and design work), and are therefore classified in more than one category.

1) energy study - 8
2) design firms - 9
3) construction firms - 5
4) comprehensive providers - 2
5) specialty engineering firms - 3

Provider Services: Similarities to TEEM's Offering

Energy service providers indicated TEEM's services are very similar to theirs. Providers responded that TEEM offers energy study, engineering design, construction management, and financing services. The main difference which the majority of service providers noted, except the comprehensive providers, was that TEEM brings overall turn-key project management and that TEEM's financing options are broader when compared to the financing which trade allies can typically offer or have access to. Some specific energy service provider comments include:

"TEEM's services are very similar to ours, except for the fact that TEEM provides overall project management, and financing options. We are usually only involved with study and design, leaving off for the customer to deal with construction."

"little difference, outside of financing. Both do design and project management. Rather than customer approaching us directly to handle project management, TEEM facilitates the entire project on the customer's behalf."

"We have financing capabilities, but TEEM offers more options, for example paying through utility bill. We usually focus on design/build aspects."

"Similar. We can bring third party financing to project at customers request."

EXPERIENCES WITH TEEM

Involvement

Two of the 17 service providers interviewed said they had received referrals from TEEM to provide bids on projects. Both of these providers are currently working on at least one TEEM project. The other 15 providers said they have not received a referral, a formal status report with regard to TEEM projects underway, or a report on the potential for work since the time TEEM notified them of acceptance to the qualified service provider pool.

Reasons for Getting Involved

The main reason for service providers' interest in TEEM is the opportunity to secure new business which they might not otherwise be exposed to. Some comments from trade allies include:

> *"We completed work with the Gas Company in the past, and viewed the TEEM program as a way to get more business"*

> *"TEEM provides a viable alternative to working with ESCOs, many of which have a poor reputation for delivering on savings and even staying in business after a project is completed. TEEM is a professional outfit, and its loose affiliation with the Gas Company helped our decision to participate."*

> *"The scope of services which TEEM was looking for fell in line with the services we offer."*

> *"We saw an opportunity for greater exposure to new customers, and to provide our existing customers new services, access to financing, and the ability to get some customers to act on energy efficiency opportunities they might not have otherwise."*

Four service providers cited TEEM's original estimate of $60 million dollars worth of work during the first year of the program's operation, indicating that they hoped to bid on a number of projects, and secure work on at least one.

Comments about the TEEM Energy service provider Network

Service providers' general comments regarding TEEM's energy service provider network were generally neutral, mainly because the majority of providers interviewed have had no experience working with TEEM to date.

Some service providers noted the Request for Qualifications process was lengthy, but fair and reasonable given the nature of work, and consistent with practices used by energy service companies (ESCOs) when their firm partners with a larger company. Some trade allies who have not received work to date feel that TEEM staff do not appreciate the magnitude of time and effort involved with preparing the RFQ response, given that TEEM has not provided these trade allies with any formal update on projects underway or the potential for upcoming work.

Some comments from trade allies regarding the TEEM qualification process:

> *"The process was lengthy, but this is not necessarily a derogatory note. We welcome detailed criteria because it allows us to showcase our experience, and the client to weed out firms who don't belong in a trade ally network."*

> *"In a way TEEM heightened expectations of service providers. I think TEEM should have set target dates, let us know more up-front about realistically what and when we could expect work"*

Only one of the providers interviewed flatly said the RFQ process was unfair. This service provider expressed concern that TEEM has shown, and continues to show preferential treatment toward a select group of service providers qualified in the TEEM network. This service provider's comments on the network included:

> *"Everyone was qualified. However this (RFQ process) was just a dog and pony show for the CPUC. TEEM knew who it would work with on projects from the start."*

Comments About How TEEM Uses Qualified Service Providers

Generally service providers gave no comments about how TEEM uses them for projects, meaning that TEEM has the discretion to match service providers with other providers to meet a project need rather than the service provider partnering with another company of their own choice. The majority of providers mentioned at some point during the phone interview that TEEM's procedure was a good one which should generate more business for their firm.

However, with regard to the actual results of how service providers are used, reactions were split between those providers who have received work and those who have not. One of the providers with work underway noted that TEEM staff are up-front and honest about opportunities, and trying to distribute work evenly amongst the qualified providers in the TEEM network. On the other hand, a number of service providers who have not received any referrals said they are disappointed in TEEM in terms of work produced and communications.

Comments from some of the service providers who have not received work include:

> *"I guess we have not fit with any of the TEEM projects currently underway. I seem to get the message that trade allies should provide TEEM with customer leads for the program."*

> *"It seems as if TEEM is only interested in working with a energy service provider if the trade is providing leads. If you are waiting for TEEM to call you about a project, you're going to be waiting a long time. TEEM did not make this clear during the initial meetings held with us."*

Two service providers indicated they are suspicious that TEEM has preferential treatment of service providers, and that TEEM knows who will be awarded a project before the RFP is let. These providers said TEEM staff's reluctance to talk with them about opportunities and projects underway affirms their suspicion.

Overall, the majority of service providers interviewed said they understand that TEEM is a relatively new program. A number of providers who have not received work to date indicated they have not lost hope, and are anxious to hear more about TEEM's progress and opportunities for new projects.

TEEM PROGRAM: MARKET AND COMPETITIVE IMPACTS

Perception of Whether Teem Has Expanded the Market for Energy Services

The responses to this question were split between those who have received work to date and those who have not. One of the firms which has received work indicated TEEM has expanded the market, and noted TEEM staff have accomplished a great deal given a short timeframe, extremely limited budget and staffing.

Nine of the 17 service providers interviewed indicated they don't have enough information at this point to say whether or not TEEM has expanded the market for comprehensive energy services, but

did said TEEM has definitely not expanded the market for their firm. Two of the nine firms indicated they view TEEM as a competitor on one project, and a potential ally on others.

Finally, two of the 15 service providers who have not received work to date said TEEM has definitely not expanded the market for comprehensive energy efficiency services. One of these service providers explained that TEEM has not expanded the market because TEEM staff are selecting only a limited group of service providers to work on projects. TEEM needs to allow other firms to work with them to help promote the TEEM concept and services to other customers.

Types of Customers Which Are More Likely to Benefit from TEEM

Four of the 17 service providers interviewed said that TEEM provides equal benefit for all types of customers. On the other hand, another five service providers indicated TEEM is more appropriate for municipal and institutional customers. Some of these service providers' comments supporting this belief include:

"TEEM seems to be more appropriate for municipal facilities and those customers who don't have easy access to more affordable financing. From my understanding both the Gas Company and ENvest's financing rates are high and private commercial/industrial customers can get a much better rate. Therefore these customers are not viewing TEEM or ENvest offerings as that beneficial. However, municipal facilities, and possibly hospitals, might see the Gas Company and ENvest rates as more attractive"

"The municipal market, mainly because TEEM is viewed as a more trustworthy organization. Municipal customers have been burnt in the past by ESCOs who have not delivered on savings or went out of business. TEEM is viewed as more stable."

"State campuses and institutional customers. I think these customers feel more confident in a public company's backing, with TEEM's energy saving estimates, the ability to pay through the utility bill, and TEEM's link to Gas Company."

"Schools and hospitals especially. These entities have a tougher time budgeting. Repayment through the utility bill option is attractive to these customers, and allows them to spread costs over a longer term, not take such a hit up front. Also TEEM's one stop shopping approach is likely attractive to hospitals, schools which typically do not have a large technical staff to oversee large projects."

Significant Factors Influencing Customer Decision Making

Service providers supplied a variety of responses when posed with the question of what factors have influenced customer to participate in the TEEM program. A summary of common responses include: TEEM is a professional organization that has brought top-notch energy professionals together, TEEM has the ability to deliver on bottom-line savings, TEEM's affiliation with a utility and associated benefits such as repayment through utility bill, and TEEM's access to long term financing. Service providers comments supporting this summary include:

Service providers who are currently working on a TEEM project noted:

> *"TEEM has an honest staff and fairly presents the pros and cons of projects. TEEM has definite advantages such as its parent being the Gas Company and the utility bill repayment option, however these are not real deal makers. The professionalism displayed by TEEM staff in creating and closing deals is the true factor which influences customers to participate."*

> *"TEEM's reputation, and professional attention to detail, as well as the ability to assemble a top notch team of energy professionals."*

Comments from firms which have not worked on a project to date include:

> *"The bottom line which customers look at is if TEEM can deliver savings".*

> *"TEEM's affiliation with the Gas Company may win some name recognition but I doubt this has much to do with actually closing a deal. Also, the utility bill repayment option is nice but not a deal closer."*

> *"TEEM has been pitched as a service which can help customers meet energy-related regulations, for example the CFC phaseout. Those customers who are not quick acting or who don't have the where with all internally, might see TEEM services as a benefit to help the company / organization comply with mandates."*

> *"TEEM's ability to bring financing to the table, combined with other options previously mentioned (Gas Company affiliation and utility bill payment option) are important features in my opinion."*

"Clearly it is the affiliation with a multi-million dollar company. Name recognition means a lot."

"Customer's perception of the bottom line benefit of a project."

"Easy access to long term financing for measures."

"Name recognition and TEEM's tie to the Gas Company."

Perceptions of Whether TEEM Has a Significant Competitive Advantage

The majority of service providers do not believe that TEEM has significant competitive advantages which significantly disadvantages their firm in the market for energy efficiency services. This reflects that the majority of qualified providers are not full service ESCOs. Nine of the 17 service providers interviewed flatly said TEEM does not pose a significant disadvantage to their business. Service providers noted TEEM possesses some advantages, such as access to the Gas Company's customer database, name recognition, and exposure through Gas Company representatives. However, these advantages are not posing a significant disadvantage to service providers' business. Some supporting comments include:

"The only competitive advantage TEEM possesses is not permitting us to gain access to information on their projects and not allowing us to bid on projects."

"No. TEEM really is offering the same services as many other energy service providers. TEEM just has more money and ability to market. They really don't have any significant competitive advantages."

"I don't think there are any anti-competitive issues. However ESCOs may think so since TEEM could be construed as another competitor in the ESCO market. TEEM's access to customer data listing is an advantage, but not a huge competitive advantage. Many ESCOS have similar information with regards to types of customers to target."

"No. Name recognition is not a significant advantage. Very similar to Carrier Company. There is a lot of name recognition with Carrier, yet the market is still competitive. I don't see any major advantage for TEEM."

"Customers don't care who the provider is. If one project /proposal has better bottom line numbers, the customer will go with that proposal. I have seen no evidence of any anti-competitive impacts from TEEM in energy services market. On the one hand, there is a possibility that the name and prestige of Gas Company could thwart competition if my firm were to compete with TEEM. However, on the other hand, TEEM, if they choose to pull me into a project, offers my firm the utility name and prestige to get a project moving. It can go either way."

"No, utility affiliation, bill repayment do not pose an unfair competitive advantage."

"No, TEEM's access to financing is the incentive. We don't see any anti-competitive problem."

Two service providers who felt TEEM possesses some advantages which could potentially be anti-competitive noted:

"If TEEM is using the Gas Company' database, this could be a huge advantage. I don't know for sure if TEEM is using this information, however, it would make sense for targeting high use customers. TEEM could save a great deal of time marketing, only targeting high energy-intensity customers like the rest of the private energy service providers have to do.

"My firm is no longer aggressively marketing in So California. The market for us, which was heavily public clients such as municipalities, schools, etc, is not there now. We don't know if this is due to ENvest / TEEM activities or the financing problems which local governments, such as Orange County and LA County have experienced recently. TEEM supposedly operates independently of utility. It is likely that Gas Company representatives are promoting TEEM. If a utility affiliate is to run a fair business such as TEEM or ENvest, there needs to be a very clear separation between the regulated and unregulated entities: minimal name recognition, no use of utility field reps. This is the only way which ESCOS will have a chance to compete with TEEM/ENvest on a level playing field."

OVERALL ASSESSMENT OF TEEM

The assessment from service providers who have participated in TEEM to date said the program is beneficial for customers, and the TEEM staff have been professional in their delivery of valued services to customers.

One of the two service providers who have work underway noted:

"I don't think some customers would have decided to undertake projects if it were not for TEEM. In one case TEEM competed with a private ESCO. The ESCO's proposal was a very complex arrangement. I don't think the customer would have bought it. TEEM's approach is very straight forward with no hidden costs, for example operations and maintenance add ons."

The general consensus from those service providers who have not received work to date revolved around the need for better communication. Service providers said TEEM staff need to communicate with them about projects underway and the potential for work. Some supporting comments:

"TEEM has been up-front, which we appreciate. I would like to learn more about how much work is underway, other chances for involvement. If possible please send a copy of this evaluation report."

"We really don't have a clue about an overall assessment of TEEM. TEEM has not sent any updates and we don't know what progress has been made. We would like to find out where they are at though. We hold nothing against TEEM at this point, just have no information on what they've done, where they are going."

"I thought TEEM was a great program idea. However, since the bidder meeting, I have not received an update and have no idea of what if any projects underway. TEEM really need better communication with its service providers."

"TEEM still seems like a good idea. However, we don't know what is actually going on."

"Don't know enough to say. We are probably not in a position to bring many leads to TEEM. However, we are interested in teaming with equipment manufactures, others who were at bidders meeting. This seems like a good marketing opportunity for us."

"I don't have a whole lot to say, except that TEEM should spread project across service providers."

"TEEM staff seem overwhelmed and understaffed. Simple questions take a long time to answer. Seems as if TEEM is running in many different directions. I would love to see TEEM succeed. It is a great idea. TEEM needs additional dollars allocated to it from the utility, and the CPUC

should allow this. TEEM needs greater marketing and communication to end-users and service providers."

"TEEM is a good idea and approach. I only wish more work would trickle down. To date the program has not met our internal expectations. Our hope is that more work will be generated."

"TEEM could be a good program. They need to open up their office and communicate with service providers. It is ridiculous that my firm was given such a run around and no response to multiple phone calls."

"I honestly think TEEM is a great idea. However the program has not been properly explained or marketed. No one knows what is going on with the program. I found out through a customer. They need to be more aggressive with marketing."

Only one of the 15 service providers which has not received work to date noted they would probably not work with TEEM even if approached about a project at this time. This energy service provider said he tried on a monthly basis to receive an update from TEEM staff but was shuffled around from staff member to staff member. Finally, the energy service provider said he gave up. The energy service provider said in his overall assessment of TEEM:

"TEEM is very secretive with all information. We provided qualifications but have not received any update on either potential projects or other firms in the network which we are competing with. On a monthly basis I wrote, asking TEEM staff for updates. They basically told me to take a hike. ...Basically, the message which TEEM gave me is this program is being funded with stockholder money, and we don't have to provide any information we are not comfortable making public."

SUMMARY

The responses received from service providers in the TEEM pilot appear clearly to reflect three factors: (1) the limited amount of implementation work received by providers to date; (2) the limited perception by most providers of TEEM as a potential competitor; and (3) the belief that TEEM has the potential to generate additional business.

Therefore, while it is premature to conclude what service providers' ultimate perception of the pilot will be, there are several important implications from service provider responses to the interviews.

First, as noted, the service providers are participating because of their belief that TEEM can generate new business. Providers feel that TEEM's affiliation to SoCal Gas, its access to third party financing and its ability to provide the overall management for large projects are particularly attractive to customers, especially public sector, MUSH-type customers.

Second, a potential problem has been created by the limited staffing of the pilot during its first year. The problem is that qualified service providers have not enjoyed the opportunity for increased business anticipated at the pilot start-up. Limited staff has meant few projects to implement to date, leading to some anxiety and unhappiness among providers.

Limited staff has also created another potential problem. TEEM has qualified every provider who has applied despite the fact that work to support many qualified providers has simply not been present. The presence of limited staff has resulted in a number of service providers who perceive that TEEM has knowingly kept them uninformed as to project updates, potential timing for new opportunities and how and why providers are really selected for specific jobs. While this has not caused sufficient discontent for many providers to withdraw from the pilot, it has created an environment of potential mistrust of the pilot's objectives and the fairness of assigning the opportunity for work to qualified providers among some participants.

Third, TEEM by providing overall project development and implementation management, offers the same services as full service ESCOs. This creates the potential for similar anti-competitive concerns expressed in the ENvest[SCE] pilot, even though TEEM's greatest use of utility resources is the intangible "assets" of goodwill and name recognition. Indeed, it is interesting to note that only two full service providers have attempted to qualify as TEEM service providers.

Most of the service providers in the TEEM pilot are taking a wait and see attitude in the hope that the pilot will start generating more business potential. Most, as noted, believe that the TEEM design is capable of providing sufficient value to customers to do so.

10. MARKET IMPACTS OF THE ENVEST[SCE] AND TEEM PILOTS

OVERVIEW

The Advice Letter for the approval of ENvest[SCE] described the pilot's purpose as:

> The purpose of the ENvest[SCE] pilot project is to test the impact in the marketplace of an integrated utility-facilitated approach to energy efficiency...This approach weds and leverages the unique strengths of the utility, with its access to customers and investment capital, and third party vendors, with their direct field expertise in manufacturing, installation and service...The outcome of the ENvest[SCE] program is intended to be an expanded market for energy efficiency products and services through the synergy of utility/third party vendor relationships.
>
> (ENvest[SCE] Advice Letter, July, 1993, page 2.)

The TEEM program sought to demonstrate that a program design focused on creating customer value rather than on rebates would expand and accelerate the level of activity in the energy efficiency products and services market.

This Chapter analyzes the impact (and potential impact) of the ENvest[SCE] and TEEM pilots and designs on increasing the level of activity in the energy efficiency products and services (EEPS) market in Southern California. The analysis in this Chapter will proceed first by discussing the market potential identified for the EEPS market, and by presenting an estimate of the level of activity in the large customer performance contracting market in Southern California—the specific market segment in which the pilots operated—both prior to and after the pilots. The Chapter will then review the significant customer barriers to energy efficiency in the large commercial, industrial, institutional and governmental sectors and analyze the responsiveness of the ENvest[SCE] and TEEM program designs (and the individual elements of each design) in overcoming these customer market barriers. Finally, the ability of the program designs tested in the ENvest[SCE] and TEEM pilots to accelerate and/or expand the amount of market potential actually captured will be assessed.

FRAMEWORK FOR ANALYSIS

There are two crucial issues in determining the appropriate ways to analyze the impacts of the pilots on the market for energy efficiency products and services (EEPS) in Southern California.

(1) What is the relevant market or markets in which to assess or to determine the impact of the pilots; and

(2) Whether there is sufficient information and experience from these pilots to draw justifiable conclusions about the market impacts of program designs such as ENvest[SCE] and TEEM.

This section will discuss both of these issues.

Relevant Markets To Analyze

ENvest[SCE] and TEEM operate as part of the energy efficiency products and services (EEPS) market in Southern California. The RFP issued by the Commission seeks both (1) an analysis of the market potential for energy efficiency products and services in Southern California and (2) an analysis of whether the ENvest[SCE] and TEEM pilots can increase the magnitude of activity in that market.

This first analysis involving market potential provides an estimate of the potential scope of market opportunities. This estimate could be used to assess whether those opportunities are sufficient to entice potential new market entrants because of the profit potential and/or to suggest the extent of utility/third party efforts and resources that may be needed to satisfy potential market demand or to capture cost-effective societal benefits.

The second analysis involves an assessment of whether the ENvest[SCE] and TEEM pilots have or can expand the market potential that is actually attained. As the Project Team will explain, because of fundamental changes in the nature of the overall EEPS market since 1995, using a baseline for the EEPS market based on experience prior to the pilots to gauge the impact of the pilots in that market would be comparing apples and oranges. However, by focusing on the segment of that market in which ENvest[SCE] and TEEM operated (the performance contracting segment) it is possible to draw useful conclusions about the market impacts of the pilots.

SIZE OF MARKET POTENTIAL FOR ENERGY EFFICIENCY PRODUCTS AND SERVICES IN SOUTHERN CALIFORNIA

The Project Team has reviewed the efforts of SCE, SoCal and other consultants to estimate the size of the market potential in the overall energy efficiency products and services market in Southern California. This review has included the Project Team's own experience with potential studies in other jurisdictions as well as knowledge of the DSM market in California from studies and analyses of DSM shareholder incentives and DSM bidding.

There are two traditional ways to estimate market potential: (1) by means of a top down analysis in which estimates of technical, economic, and market potential are made and (2) through a "bottom up" approach in which experience from various market segments is extrapolated and aggregated to arrive at an overall potential estimate. Both types of analyses have been performed to estimate the market potential for energy efficiency in the Southern California market.[1]

The studies or analyses that have been reviewed all recognize the difficulties caused by limited and inconsistent information as well as by a changing environment affecting energy efficiency efforts. Until recently in California, utility rebates were a primary means to attempt to move the pace and level of activity in energy efficiency markets, including the large commercial, industrial, and institutional markets.[2] Therefore, it is difficult to use a baseline based on a market driven by rebates to estimate achievable market potential for a market without significant rebates. In addition, multipliers or scalers in either a top-down or bottom-up analyses from a market driven by rebates could further distort estimated potential in markets without rebates. For example, if prior analyses showed a three times multiple from market to economic potential, that multiple may not hold true in a reconfigured marketplace and may seriously over or understate the true market potential.

The problems in estimating market potential in this evaluation is also complicated by the fact that potential studies often are performed for broader geographic areas than the area that may be of interest. Some of the analyses that the Project Team reviewed took national and statewide estimates and allocated them to the Southern California region. While the analyses that were reviewed specifically noted these problems and used "best judgment" on how to make such allocations, there

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[1] As discussed later in this Chapter, market potential can only be effectively assessed by considering the specific potential and barriers in the diverse customer segments that make up a market. Economic potential may be significant, but misleading as to market potential if the customer barriers are very significant. In addition, the extent of market potential actually achieved will be affected by the quality of the design and delivery of programs to capture such potential.

[2] Beginning in early 1995, SCE and SoCal effectively eliminated rebates for large commercial and industrial customers.

is simply no way to be comfortable that the allocations are anything but convenient, arbitrary conventions to produce an estimate because one is interested in making comparisons.

These difficulties in methodology and information explain why the range of estimates reviewed by the Project Team for the market potential in the energy efficiency market for large customers in Southern California is extremely broad. The closest estimates of market potential for both the electric and natural gas markets that were reviewed varied by a factor of three. Given the size of any of the estimates, this level of variance is very significant.

While the magnitude of the range of estimates is significant, the more important point is that any or all of the estimates show a substantial market potential for energy efficiency products and services for large customers using electricity and/or natural gas. Of the estimates that were reviewed, the Project Team believes that a usable estimate would be an EEPS market potential in Southern California of approximately $1 billion on the electric side and $0.4 billion on the natural gas side in 1995.[3] However, the assumed increases in potential in the studies that the Project Team reviewed were predicated, in part, on historical trends which are no longer relevant for the future: predominantly the substantial reliance on utility rebates and other financial incentives to induce customers to act.

The Project Team believes that these market potential estimates are useful for two purposes: (1) to provide a broad brush answer to the question of how much potential may be out there to justify additional public or private efforts to capture it and (2) where that potential may be. The estimates reviewed indicate that if someone (i.e., a utility or private provider) could offer something attractive to customers that the potential scale of cost-effective savings opportunities and/or opportunities for businesses to profit are significant. This conclusion could support a decision by private firms to enter the market or to expand efforts to capture cost-effective opportunities because of the seemingly large potential. It could also justify increased public efforts to find better ways to capture such potential. Simply, the estimates of market potential indicate what could be attained if customer barriers to energy efficiency can be effectively overcome as assumed in the estimate.

The conclusions to be drawn from the estimated market potential are:

- There appear to be significant opportunities to capture cost-effective energy efficiency benefits from large customers that include energy savings, lower bills, environmental

[3] These are conservative estimates of potential because they are based on the current long-run avoided costs for SCE and SoCal rather than on the more appropriate, higher retail rates for each utility which a customer would use to define cost-effectiveness in a "market driven" environment. The future design of the fixed/variable cost recovery charges split in rate schedules would affect this observation.

benefits, asset productivity improvements, and improved industry competitiveness and employment capabilities.

- Program designs or institutional structures that best or better overcome customer market barriers to energy efficiency efforts would expand the market potential actually attained.

However, one question that a review of potential studies cannot answer is what are the most effective methods to actually attain savings. One primary "traditional" approach has been to use utilities to pursue societal benefits (i.e., as an acquirer of cost-effective "energy efficiency" resources) by offering customers information, assistance and financial incentives. The ENvest[SCE] and TEEM pilots, to differing degrees, sought to determine how profitable capturing large customer market potential could be so that more emphasis could be placed on private businesses pursuing their self-interest rather than on continuing to expand the use of utility/ratepayer resources.

ASSESSING THE SEGMENT OF THE EEPS MARKET IN WHICH THE PILOTS OPERATED

The EEPS market can be segmented in a variety of ways. The two most relevant methods to this analysis are: (1) by the nature of the products and services offered customers, and (2) by the nature of the market barriers confronting customers. This section describes the market segment of the EEPS market in which the pilots were conducted—the large customer performance contracting market.

In geographic terms, the relevant market for energy efficiency products and services is the service territories of SCE and SoCal. However, to understand or evaluate the potential impacts of the ENvest[SCE] and TEEM pilots, this overall EEPS market needs to be segmented into: (1) the service/ "cash" market, and (2) the performance contracting market.[4]

The reasons for the distinction are two-fold:

- The pilot designs are more comparable to the offerings made by full service ESCOs to large customers in the performance contracting market than the offerings made in the service/ "cash" market; and

[4] This approach is adopted from Evaluation of Public Service Electric and Gas Company's Standard Offer Program, by C.A. Goldman, M.S. Kito, and M.M. Moezzi, LBL-37157, Lawrence Berkeley Laboratory, May, 1995.

- There is a limited substitution possible between offerings made in the performance contracting market and the services/ "cash" market, particularly with the withdrawal from the marketplace of rebates available to independent service providers by SoCal and SCE.

Distinguishing the Service/"Cash" Product and Performance Contracting Market

The Project Team has grouped the types of products and services offered to customers in the energy efficient products and services (EEPS) market into two broad categories: a services/"cash" product (which is referred to as Product A) and a performance contracting/financing product (which is referred to as product B).[5]

In Product A, customers purchase high-efficiency products and services without some type of savings performance guarantee and most often not as part of a comprehensive effort requiring large scale project management.[6] The Project Team assumes that access to third-party capital on attractive terms and conditions is not a key driver or limiting factor in these customers' decision to purchase a high-efficiency product. Thus, these customers are characterized by their willingness to pay the up-front costs of energy efficient products and services with "cash". However, in Southern California, utility rebate programs have typically offset some fraction of the incremental costs. The services included in Product A are typically offered by vendors, contractors, and architectural/engineering firms directly to customers.

In Product B, customers typically receive packaged, turnkey services (e.g., preliminary assessments of project feasibility, engineering design, equipment installation, construction management, financing, performance monitoring, and, in some cases, preventative maintenance services) usually from an ESCO. The customer obtains energy-related improvements without a large up-front investment because the ESCO (or a financial institution) provides the capital for the project. Moreover, the ESCO is at risk for project performance as its compensation is in some way tied to the energy cost reductions achieved by the project. ESCOs will use available utility rebates to reduce

[5] Performance contracting is a generic concept which includes a number of performance risk/financial product options between ESCOs and customers: shared savings contracts, pay from savings, and guaranteed savings. There are also a number of other financing approaches that are often used by public sector customers, such as operating leases, municipal leases, and general obligation or revenue bonds, which are essentially debt products.

[6] In this situation, customers assume performance risk, which they manage by relying on the manufacturers' equipment guarantees for that product.

the cost of the project to the customer This type of product also addresses the capital constraints and/or high investment hurdle rates of many commercial and industrial customers.[1]

Figure 10-1 also illustrates how various types of demand-side management interventions by utilities (e.g., SCE) affect the EEPS market.

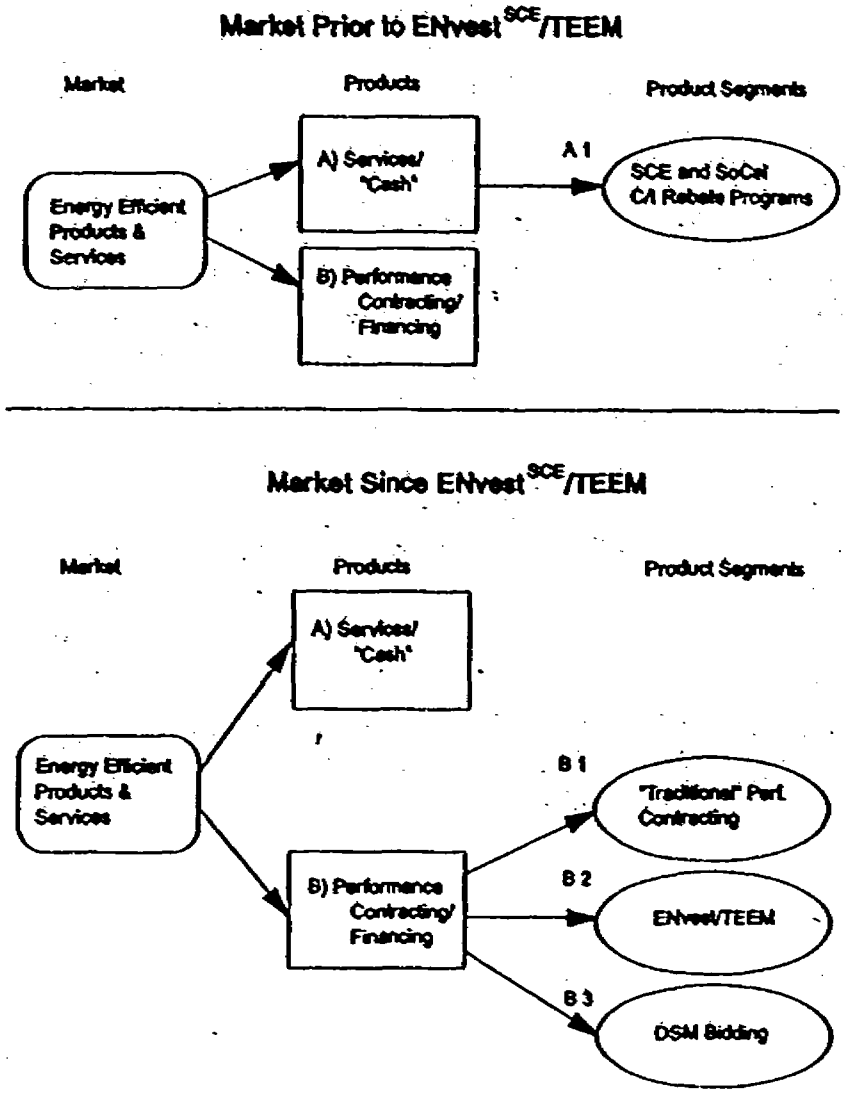

Figure 10-1

[1] One way to think about our market and product definitions is by analogy to new automobiles. In that case, we can define a market for new automobiles; product options available to customers include paying cash or various types of financing. The car market analogy is not directly comparable because customers receive similar performance guarantees irrespective of their payment method.

The overall energy efficiency services market in Southern California has been heavily influenced by SoCal's and SCE's rebate programs targeted at large commercial and industrial customers, which acted particularly as a stimulus for the energy efficiency services/"cash" product. For example, prior to 1995, SCE's expenditures on its commercial and industrial rebate program averaged over $15 million per year. The availability of these rebates was a major stimulus to and opportunity for the existing vendor, contractor, and trade ally network to promote high-efficiency products and services. Utility DSM rebates which were generally available to all customers and their providers are treated as a segment of Product A, primarily because most customers will simply use the rebate to offset some fraction of the up-front cost of energy-efficient products, will not receive performance savings guarantees from vendors that use the utility DSM program to promote their products and do not require the customer to pursue a large scale, comprehensive project.[8]

Aside from the ability to use the intangible "assets" of the utility, the ENvest[SCE] and TEEM pilots are variations on how independent ESCOs have operated in the performance contracting market. ENvest[SCE] offered customers a form of customized rebate: co-investment. But, ESCOs have offered a similar benefit through the use of available utility rebates for customer projects. The TEEM design reflects the likely design of the ESCO performance contracting industry in the future as utilities eliminate or withdraw customer financial incentives from general availability.

The ENvest[SCE] and TEEM pilots were explicitly designed to focus on large scale, comprehensive projects that require significant project management and oversight. They were not designed to allow independent ESCOs or service providers to use utility resources to market and develop their own projects or to allow customers to simply accept a rebate for a desired single application free of any additional utility involvement. Nor were the designs intended to focus on only one end-use. The focus of these pilots on integrated, comprehensive services including performance assurances and the obligation to repay the utility clearly place the pilot designs in the performance contracting market, rather than services/ "cash," sector.

[8] Utility DSM rebates when available are also used by ESCOs in their marketing of Product B; ESCOs will offer to finance the remaining capital costs of an energy-efficiency project which is not covered by the utility's DSM as part of a performance contracting arrangement with the customer.

RATIONALE FOR EVALUATING THE MARKET IMPACTS OF THE ENvest[SCE]/TEEM PILOTS ON THE PERFORMANCE CONTRACTING MARKET/NATURE OF THE SERVICE/ "CASH" MARKET AT THE INCEPTION OF THE PILOTS

There are two possible approaches to estimating ENvest[SCE]/TEEM market impacts on the energy efficiency products and services market: (1) including both Products A and B or (2) including just Product B. Implicitly, this latter approach assumes that there is limited substitution between Products A and B (i.e., that customer market barriers, such as lack of capital or access to financing, or information transaction costs, would preclude them from purchasing high efficiency products from vendors/contractors on an unbundled basis).

The Project Team believes that the assumption of limited substitution between Products A and B most accurately describes the current state of the EEPS market. Indeed there would be a major discontinuity in trying to use overall sales revenues in the EEPS market in Southern California to assess the impact of ENvest[SCE] and TEEM. The fundamental reason is that the ENvest[SCE] and TEEM pilots cannot be viewed in isolation from other structural factors affecting that market. The most important of these factors is the withdrawal of rebates from the marketplace since the beginning of 1995. Simply, the services/"cash" market identified as Product A has been significantly altered by the withdrawal of its single most important incentive to increase sales of energy efficiency products and services.[9]

The relevant implications of that fact are twofold:

(1) The substantial reduction in "traditional" rebates (other than in the ENvest[SCE] pilot) should be expected to shrink the overall amount of EEPS market potential that is actually attained during the pilots and perhaps after them; and

(2) The service provider infrastructure which developed in the services/ "cash" market segment will be forced to find other means to increase their business opportunities, if possible. It is unclear whether and within what time frame service providers can find effective substitutes for rebates that would maintain or increase the size of the existing services/"cash" market.

Prior to 1995, rebates for individual technologies and end-uses were offered by SCE and SoCal for large commercial, industrial, and institutional customers. These rebates allowed non-utility energy

[9] As will be discussed, the withdrawal of the general availability of rebates has also altered the dynamics of the performance contracting market for independent, full service ESCOs.

efficiency providers to market to and develop business from customers of their own selection. Both full service or comprehensive ESCOs and single product or service providers (e.g., lighting contractors or vendors of motors) integrated these "traditional" rebates into their marketing, design, and installation services to create projects (comprehensive and non-comprehensive) that customers found sufficiently valuable to purchase.

The significant withdrawal of "traditional" utility rebates from the marketplace has removed this marketing tool for non-utility product and service providers. Beginning in 1995, SoCal and SCE substantially reduced their rebate programs for large commercial and industrial customers. For example, traditional rebates were available from SCE in 1993 in the amount of approximately $19.4 million and $14 million in 1994. SCE only budgeted approximately $2 million for customized rebates for large commercial and industrial customers in 1995. While "traditional" utility rebates may have had limitations on the extent to which they induced energy efficiency activity from large customers, they did increase the overall sales volumes in the EEPS market while allowing non-utility service and product providers to independently expand their market opportunities, particularly when overall or non-comprehensive projects were involved.

Unlike TEEM, the ENvest[SCE] pilot was not presented as a substitute for "traditional" rebates, but as a potential means to increase the level of activity produced by "traditional" rebates, particularly in terms of comprehensive applications. But, the minimum size limits for ENvest[SCE] projects and the decision to require customers to choose between participation in ENvest[SCE] or in other available SCE offerings, including rebates, indicate that the ENvest[SCE] pilot design was not intended to continue the general availability of rebates to customers and independent service providers. Nor was it intended to substitute for single end-use rebates that underlie the services/ "cash" market.[10] The elimination of "traditional" rebates (reflected in SoCal and TEEM) eliminated choice for customers as well as significantly modified the ability of service providers to operate in the service/ "cash" segment of the EEPS market.

Experience strongly suggests that without the presence of some substitute for rebates in the services/"cash" market, it is reasonable to expect that demand in the service/ "cash" portion of the EEPS market will decrease, and that, all else equal, the overall size of the EEPS market will also decrease. The absence of the only proven means to significantly affect customer demand for Product A will also mean a sharp decrease in the potential that Product A might actually be used as a substitute for ENvest[SCE]- or TEEM-type projects. Thus, unless the net effect of ENvest[SCE]- and TEEM-type efforts is to offset the loss of demand due to the elimination of "traditional" rebates, the

[10] Indeed, ENvest[SCE] uses targeted rebates in the form of ratepayer co-investment to encourage customers to participate in ENvest[SCE].

overall EEPS market should be expected to shrink, not grow in the future.[11] But, as noted, the ENvest[SCE] and TEEM offerings are distinctly different from those in the services/ "cash" market. Thus, rather than attempt to estimate a very uncertain and potentially volatile number for the size of the entire EEPS market if the pilot program designs were the norm, it appears more reasonable to assess ENvest[SCE]/TEEM's impact in the market segment in which they operated and provided some experience: the performance contracting segment.

There is another compelling reason to analyze the market impact of the ENvest[SCE] and TEEM pilots by focusing on the performance contracting market in Southern California. The convention in that market has been to cite sales or project revenues in a manner that total project costs are included. Therefore, for example, ENvest[SCE] and TEEM project cost numbers include payments to individual product and service providers. By considering ENvest[SCE]/TEEM's impact on the performance contracting market, the analysis will capture the full impact of these programs on the overall EEPS market in Southern California.

NATURE OF THE PERFORMANCE CONTRACTING MARKET AT THE INCEPTION OF AND DURING THE PILOTS

Performance contracting was not a new concept in energy-efficiency markets in Southern California at the inception of the pilots. Indeed, large and medium size ESCOs had been offering and providing such services to large customers for over a decade. The typical arrangement was for an ESCO to provide full service project development and management to a customer in return for a share of the savings generated by the project. Available utility rebates were used to market projects by increasing the attractiveness of the economics to the customer.

If the ENvest[SCE] and TEEM pilot designs essentially reflect ESCO program designs that have been available in the large customer market for over a decade, it is logical to ask why it should be expected that the pilots would accelerate activity in the performance contracting marketplace. Indeed, the question could be asked why the pilots would even have a chance of breaking into a marketplace with experienced, established providers?

The explanation is twofold: (1) despite over a decade of activity, the performance contracting market in Southern California was, at the inception of the pilots, still an "immature" industry in which the

[11] This, of course, assumes consistency in customer decisionmaking and the major factors related to that decisionmaking (e.g. the rate and level of any future rate or price increases).

barriers to certain new entrants such as ENvest[SCE] and TEEM were not high, and (2) the new entrants had potential competitive advantages not available to others in the market. This latter issue is analyzed in the next chapter. But, to understand the effectiveness of the ENvest[SCE] and TEEM designs, it is necessary to understand the nature of the performance contracting market in Southern California prior to and during the pilots.

The primary focus of ESCO activity has been in the MUSH market sector (municipals, universities, schools, hospitals and similar type institutions) of the larger EEPS marketplace. This market sector is characterized by two primary attributes: (1) a customer need for access to reasonably priced capital and technical and administrative assistance to develop and implement large projects, and (2) a fairly standard set of end-use efficiency opportunities that generally entail short turn-arounds, simpler solutions and less expensive but very cost-effective solutions for the customer compared to large commercial and industrial customers. ESCOs also provided services to large commercial and industrial customers but with limited success. The action and near term growth potential was in the MUSH market.

But, while the MUSH market provides opportunities for ESCOs, the dynamics of that marketplace also limited the extent of actual activity. The primary factors that constrained the development of the performance contracting market prior to the pilots were:

- Customer confusion;
- A past history of "fly-by-night" providers and disagreements over "shared savings";
- The concern created for some potential customers by product-affiliated providers;
- The absence in some cases of a true "one-stop shopping" design or service; and
- The high cost to transact business (including a return) for ESCOs.

In the Project Team's interviews with customers and potential customers of ENvest[SCE] and TEEM, it was apparent that many potential customers have been contacted many times by ESCOs or know of the services available from independent ESCOs. Many have taken advantage of these services. But, a large number of potential customers have not acted because of the factors cited above.

Potential customers were concerned about the risk of choosing a provider because of a bad experience that they have had or heard about. Poor work, lack of information, and problems with applying the concept of "shared savings" created an aura of concern about providers resulting in customer confusion about whom to trust or believe, particularly when the consequences of being wrong were meaningful (e.g., public accountability as well as a bad investment using scarce resources for a municipal entity or school). Technological uncertainty and a resulting lack of

standardization and general technical agreement among competitors contributed to customer confusion. There was a perception on some potential customers' part that some providers were equally (or more) interested in selling an affiliated product or earning a substantial return than on a "partnership." Overall, the performance contracting market was a difficult one in which the primary benefit offered (cost savings) was suspect due to erratic performance, uncertainty and newness of the emerging performance contracting industry.

In addition, potential customers (many of whom had to proceed in accordance with governmental procurement standards and processes) could not always find the range of services that they desired. For example, some providers required the customer to directly contract with subcontractors resulting in increased risk and resource commitment for the customer. In additions, some providers offered only the most cost-effective measure (i.e., lighting) without bundling in other cost-effective measures so that savings could be used to capture more modernization benefits.

Finally, the cost of transacting business (including securing a return) in the performance contracting market was and is high. These high transaction costs encouraged ESCOs to "creamskim" and/or to seek high returns from customers.

Thus, at the inception of the pilots, Southern California had a functioning performance contracting market supplied by non-utility ESCOs. But, it was an "immature" market in which customer confusion and concerns about trust and risk limited the actual activity, even in the primary sector involving the MUSH market.

The customer perceptions, noted above, provided an opportunity for ENvest[SCE] and TEEM to enter into the performance contracting market. While there were clearly full service ESCO incumbents, there were neither significant barriers to entry nor a lack of potential customers if the barriers constraining customer demand could be effectively addressed.

There were two other factors that affected the performance contracting market at the inception of and during the pilots. The first factor involved the utilities' decisions to withdraw customer financial incentives, at least so that independent providers did not have access to them. ESCOs, like service providers in the services/ "cash" market, had typically used utility rebates to increase the attractiveness of the projects and services that they offered potential customers. The withdrawal of rebates previously available for all large customers and independent service providers limited the attractiveness of ESCO offerings. The second factor was the increasing financial crunch for municipalities and school districts in California. As budgets shrank and staffing resources

diminished, modernization activities including energy efficiency increasingly required access to external funds and expertise, including project management.

Thus, at the inception of the pilots, there were significant potential market opportunities due to the factors underlying an "immature" industry, a diminished ability for ESCOs to market due to the withdrawal of generally available utility rebates, and a heightened potential in the MUSH market sector of the performance contracting market due to resource problems faced by public sector customers.

Size of The Performance Contracting Market in Southern California

Estimating the size of the energy efficiency performance contracting market segment in Southern California prior to and after at least a year of operation of the pilots involves difficult to find and uncertain estimates of private provider activity. The market prior to ENvest[SCE] and TEEM was driven by two primary forces: (1) private ESCO agreements with large commercial, industrial, and institutional customers based on "shared savings" type arrangements, and (2) activity relying on leveraging utility funds such as customer incentives or DSM bidding.

As noted, ESCOs historically have achieved the most, but limited, success with the performance contracting/financing product in certain market segments—the so called MUSH markets: municipalities, universities, schools and hospitals. ESCOs also made efforts to penetrate the large commercial and industrial market but often with limited success. SCE had also implemented a pilot DSM bidding program that targeted large commercial and industrial customers in its San Gabriel and Southern Districts[12]. Together these activities represent the level of performance contracting/comprehensive integrated services available to customers prior to or distinct from the ENvest[SCE] and TEEM pilots.

The Project Team estimated the size of the pre-pilot energy efficiency performance contracting market for large customers by aggregating the revenues for firms that were active in the performance contracting/financing product market.[13] Information on the size of the performance contracting market in Southern California for large commercial and industrial customers was collected based on a series of questions to Full Service Providers in the ENvest[SCE] Service Provider network. These Providers were asked to describe the market sectors and customers that they have historically

[12] ENvest[SCE] was precluded by Commission order and has not marketed its services in these two districts.

[13] Typical practice among many ESCOs is to take credit for the entire value of a project in the year that the deal closes. This approach can be compared to ENvest[SCE]'s total cost for projects with signed contracts.

targeted in SCE's territory, to estimate annual revenues from projects in SCE's service territory, the percentage of their business that involves performance contracting, and the percentage of business which involves some type of financial incentive from the utility (e.g., rebates or financial incentives offered to winning ESCOs in the DSM bidding pilot). This information was aggregated and considered against other estimates of this market (including an estimate presented by ENvest^{SCE} personnel based on their conversations with ESCOs).

Based on this information the Project Teams finds that:

(1) Prior to these pilots the performance contracting market ranged between $35-$45 million per year in Southern California. There appear to be four to five particularly active large, comprehensive ESCOs plus a handful of smaller ESCOs that are active in the Southern California market;

(2) The market segments that tend to be most targeted by ESCOs include: education (K-12 and higher education), health care (hospitals), and municipalities;

(3) A significant share of the performance contracting market (30 to 50%) has been stimulated by financial incentives offered by utilities, including rebates and DSM bidding which were previously available to firms marketing performance contracting;

(4) Most ESCOs report that the performance contract market had been expanding prior to 1995. Some ESCOs have reported decreased activity since that time. Factors cited included economic problems in the region (e.g., problems in Orange County which affected school districts and municipalities), phasing out of utility rebate programs, and the presence of ENvest^{SCE} and TEEM.

The conclusion suggested by this information is that the actual market for services similar to those offered by ENvest^{SCE} and TEEM (estimated to be between $35-$45 million per year) has been much smaller than the significant EEPS market potential estimated previously. This estimate is consistent with the view that the performance contracting market product was being offered by an "immature" industry that had difficulty in overcoming customer market barriers to increase customer demand for large scale, comprehensive projects.

IMPACT OF ENvest[SCE] AND TEEM ON THE PERFORMANCE CONTRACTING MARKET IN SOUTHERN CALIFORNIA

There are two ways to assess ENvest[SCE] and TEEM's impact on accelerating or expanding the market potential actually being captured in the performance contracting market. One is to assess and investigate the overall impact of ENvest[SCE] and TEEM projects on the size of activity in the performance contracting market. This review would indicate whether the pilot designs have affected the extent of activity in the performance contracting market. A second method is to review the experience from the ENvest[SCE] and TEEM pilots to determine what specific aspects of the program design have affected or could affect customer decisions to pursue energy efficiency projects. This analysis, in addition to indicating whether the pilots have affected the market, would also indicate why the pilot designs affected the market. In this section, the Project Team will discuss the impact of the ENvest[SCE] and TEEM pilots on the overall level of project activity in the performance contracting market in Southern California. The second method of assessment will be discussed in the next section of this Chapter.

Assessing the impact of short-term pilots on a market is difficult for two basic reasons. First, there is no certainty that short-term results and impacts will translate into or be reflective of long term results and impacts. Second, it is necessary to understand all the forces that can affect activity in a market so that attributions of cause can reasonably be made to specific forces or events. The performance contracting market over the term of the ENvest[SCE] and TEEM pilots has been affected by a number of factors. Of particular relevance and importance are the economic problems that have plagued the Southern California area, including hopefully unique events such as the financial problems of Orange County which affected the ability of schools and municipalities in that county to finance activities or projects of any kind. The removal of generally available utility rebates that allowed ESCOs to enhance the marketing of their products further inhibits the development of the market.

Despite these confounding factors, it appears clear that the ENvest[SCE] and, to a lesser extent, TEEM[14] pilots did or can be expected to accelerate the level of activity in the performance contracting market in Southern California. They have increased the sale of energy efficiency products and services in the performance contracting markets beyond what it would have been without the pilots (including the consideration of the impact of the withdrawal of rebates for use by competing ESCOs).

[14] This statement about TEEM is based on potential customer and service provider opinions and the fact that the ENvest[SCE] and TEEM pilots are generally similar; the chief difference between them is the absence of ratepayer co-investment for TEEM.

SCE, due to its ability to offer a tariffed utility service to the federal government, allowed ENvest[SCE] to avoid the obstacles to performance contracting faced by federal agencies. As a result, ENvest[SCE] was able to gain early entrance into the federal energy efficiency performance contracting market.

These tariffed advantages during the pilot were not available to non-utility service providers. Therefore, absent ENvest[SCE], this market would not have been developed within the time period that it has. Based on our interviews with federal customers, those projects undertaken with ENvest[SCE] represent an acceleration of the market. For various reasons, it appears that most of these customers have not relied heavily on SCE rebates or ESCOs in the past. Most indicated that their energy efficiency project would likely have gone forward without ENvest[SCE], but not with certainty in some cases, and at a slower pace and perhaps a smaller scale. This sector alone represents an acceleration of approximately $62 million in market activity.

Based on interviews with school districts and municipalities, it appears that most of these customers have previously been heavily marketed by ESCOs offering performance contracting/financing products, albeit with mixed results. Thus, it is less clear that this market segment represents an expanded market due to ENvest[SCE] and TEEM, although it clearly appears to have been accelerated and the projects more comprehensive particularly due to ENvest[SCE]'s presence. Many of these customers noted that their trust of SCE and SoCal and their perception that the utilities were reliable businesses that would be around for the long haul suggest that ENvest[SCE] and TEEM may have expanded or could expand as well as accelerate this market.

ENvest[SCE] and TEEM, so far, have not been successful in affecting the level of large-scale energy efficiency activities in other performance contracting markets: large commercial and industrial customers. As will be discussed, the ENvest[SCE] pilot design appears less responsive to the needs of these customers. TEEM is currently implementing a project for an industrial customer. However, the history of this project may be unique and TEEM has decided for now to concentrate on the MUSH market, federal government and certain commercial property facilities.

The Project Team concludes that ENvest[SCE] and TEEM, based on operations to date, have accelerated market activity for energy efficiency in the public sector market (i.e. governmental institutions and schools) through performance contracting in Southern California by the approximate range of $65 to $90 million over the last 24 months. TEEM has the potential to continue to accelerate activity, particularly in the public sector market.[13]

[13] As noted in Chapter 2, the participation phase of the ENvest[SCE] pilot ended on December 31, 1995.

The Project Team, therefore, estimates the current size of the performance contracting market in Southern California to range between $100 million to $135 million per year. Almost one-half or more of that market currently represents accelerated activity in the federal government sector.

The lower bound of the estimate includes the traditional ESCO provider projects (without the availability of utility rebates), about $7 million per year of utility DSM bidding activity, the federal government market, and a limited amount of other projects. The lower bound assumes that the ENvest[SCE] and TEEM pilots have simply displaced an ESCO as the provider of many projects that would have occurred anyway without the pilots (albeit perhaps somewhat smaller in scope).

The higher bound of the estimate reflects the view that the pilots and their designs have unique aspects that have resulted in a far greater expansion or acceleration of the performance contracting market than simply from a displacement of ESCO provider projects. Thus, the amounts in the signed agreements for ENvest[SCE] and TEEM are primarily viewed as activity that would not have occurred without the pilots, particularly within the time frame in which they occurred.[16]

The next two sections of this Chapter will explain why it appears that an estimate toward the upper bound rather than the lower bound appears more warranted. This is so despite reports by a few ESCOs that a significant drop-off in their performance contracting business in California has occurred over the last 18 months. While the Project Team could not verify these statements, the changes that would have impacted this drop-off could either be: (1) due to external factors such as the Orange County financing problems which affected the pilots as well as ESCOs and/or (2) because the ENvest[SCE] and TEEM pilot program designs were more attractive to potential customers.

But, before pursuing this latter point, there is a final observation that should be made about the estimated level of activity in the performance contracting market before and after some period of operation of the pilots and the market potential estimate for the overall EEPS market. That point is that even with the pilot, the level of activity in the performance contracting market is only a small portion of the estimated market potential. This suggests that: (1) resources in the performance contracting market must be substantially increased to capture available potential and/or (2) some other types of programs and/or efforts directed to customers previously served in the services/ "cash" market must be developed if the activity in the overall EEPS market is to begin to reach its potential.

[16] Based on customer interviews, one future portion of work estimated in a signed contract has been discounted to reflect that, in the Project Team's opinion, there is sufficient uncertainty as to whether and when it might occur.

ENvest[SCE]- and TEEM-type designs appear capable of accelerating, and potentially increasing the level of activity in certain parts of the large customer performance contracting market. One reason, as will be discussed in the following sections, is that certain aspects of the pilot designs respond to problems that have kept the large customer energy-efficiency market an "immature" market. But, as will be discussed in Chapter 11, these very program design elements that appear to overcome these market obstacles raise anti-competitive concerns.

EFFECTIVENESS OF PILOT PROGRAM DESIGN COMPONENTS TO OVERCOME CUSTOMER MARKET BARRIERS

The estimates of ENvest[SCE]'s and TEEM's impacts on energy efficiency activity by large customers in the Southern California region are short-term and somewhat judgmental. However, in addition to the obvious acceleration of the federal segment in the market due to ENvest[SCE]/SCE's regulated status, there is other evidence based on our interviews with participating and potential customers that tends to confirm that the pilots' program designs have or can increase the willingness of certain segments of large public sector customers to make energy efficiency investments. This section will review the effectiveness of the ENvest[SCE] and TEEM program designs to overcome specific customer market barriers. The analysis will be performed in two steps: (1) the nature of the market barriers faced by different customer segments will be reviewed and (2) which features or components of the ENvest[SCE] and TEEM program designs most effectively overcame these barriers will be analyzed.

Customer Market Barriers to Cost-Effective Energy Efficiency

The ENvest[SCE] and TEEM concepts accept that there are multiple and often integrated market barriers to large commercial, industrial, institutional, and governmental customers pursuit of cost-effective energy efficiency products and services. These barriers affect both the initial willingness to make an energy efficiency investment as well as the scope of the cost-effective energy saving opportunities that will be pursued.

Both ENvest[SCE] and TEEM pilots were predicated on the view that traditional rebate type DSM programs cannot reach all markets or overcome all barriers to customer investment in energy efficiency. Thus, an underlying fundamental tenet of the program designs in these pilots, in addition to minimizing potential rate impacts, is that any program, to be effective, must be responsive to customer needs and provide significant value including lower energy costs to the customer. The

assumption made is that while utilities may gain resource benefits (among others) from increased energy efficiency activity, customers act primarily based on their own benefits and needs.

The pilot design identified three key barriers for customers:

(1) Affordability, which is characterized as the "first cost" problem of having customers willing to pay the initial cost of an energy efficiency product, service, or project. Financing, particularly shared savings type arrangements where investments would be repaid out of savings, was viewed as the component in the pilot designed to overcome this key barrier;

(2) Complexity, which included the time, resources, and technical and administrative expertise that it would take to develop and manage an integrated, comprehensive, energy efficiency project, the kind that the pilots sought to implement. In addition to the lack of time and expertise, this key barrier included the "hassle factor" of inconvenience would can cause customers to forego cost-effective investments;

(3) Diffused accountability, which encompassed the management hassle to organize and orchestrate a complex project, but focused on the risk and uncertainty that the project, service, or product would really perform as expected, or worse, perform in a manner that adversely affects the core business process and product of the customer. The pilot designs sought to overcome this key barrier by providing one-stop shopping including performance assurances, Measurement & Evaluation and options for extended warranties, M&E, and preventative maintenance services.

While the pilot designs are essentially a bundled, one-stop shopping/financing service provided to customers, both ENvest[SCE] and TEEM recognized that different customers have different key motivating factors: for example, institutional customers tend to have less access to funds while industrial customers are concerned about asset productivity increases.

The pilots' assumptions about customer market barriers are consistent with the barriers generally recognized in DSM literature. A common list of acknowledged market barriers for larger customers includes:[11]

[11] See e.g., Industrial Demand-Side Management Programs: What's Happened, What Works, What's Needed by Jennifer A. Jordan and Steven M. Nadel (American Council for an Energy Efficient Economy), March, 1993, pages 49-51; 65-66.

- Energy costs which are only a small fraction of total costs;
- Lack of access to reasonably priced funds;
- Investment or expenditure priorities that focus on meeting mandated environmental compliance requirements and improving core product quality and plant productivity before energy efficiency;
- Perceived riskiness of energy efficiency investments both in terms of performance and risk and uncertainty and the risk that they may adversely impact core production processes;
- Lack of information about technologies; and
- Inadequate staff and time to address the complexities and hassle of project development and management.

These customer market barriers to the pursuit of energy efficiency are often grouped into three basic categories which are similar to those identified by the pilots.

(1) The first category concerns the lack of access to reasonably priced capital or of limited disposable income. Simply, there is a "first cost" problem created by a customer having to expend or commit its scarce funds at the front end of a project.

The ENvest[SCE] and TEEM designs used the offer of full project financing, repayable over time out of the savings from the investment, to overcome this "first cost" concern.

(2) The second category of market barriers concern access to the information needed to make an informed decision about what to do and/or how to proceed with a large scale energy efficiency project. The nature of these barriers include the cost, resources, hassle and know-how to assemble and interpret information, often on new technologies for which specialized knowledge is needed.

The ENvest[SCE] and TEEM pilots sought to overcome these barriers for customers by providing the technical and management expertise and resources to make these

decisions and to develop and implement potentially complex, large-scale projects for the customer.

(3) The third category is too often an underemphasized barrier that deters customers from pursuing cost-effective energy efficiency. The barriers (real or perceived) can range from the risk of having to make an investment up-front while the benefits are expected to accrue over time to the risk and uncertainty that the expected savings will actually occur or that the equipment installed will perform as expected. Also, included in this category, is the concern that the energy efficiency investment could adversely affect the business' main product (e.g. cause unanticipated downtime in production).

The ENvest[SCE] and TEEM pilots sought to overcome these barriers through several aspects of program design: (1) the use of affiliation with SCE or SoCal to build trust in ENvest[SCE]'s or TEEM's competence and technical capability; (2) performance guarantees, (3) the use of ratepayer co-investment by ENvest[SCE] to shorten payback periods, thus reducing risk, and (4) a one-stop shopping set of services in both pilots to assure the customer that a qualified, and knowledgeable project manager would address its risks and concerns.

Following is a review of how successful various aspects of the pilot program designs were and are in addressing customer market barriers based on the comments of participating and potential customers in the pilots.

Effectiveness of Pilot Program Design Components

As noted in Chapter 2, while many aspects of the ENvest[SCE] and TEEM pilot designs are similar, there are some fundamental differences. The most important differences from a customer perspective are:

(1) The use of "targeted" rebates through ratepayer co-investment in the ENvest[SCE] pilot but the absence of any customer financial incentives in the TEEM pilot, and

(2) The bundling of utility-provided financing (including creditworthiness criteria) as part of the ENvest[SCE] design while the TEEM pilot relied on third party financing and creditworthiness standards.

Because these design differences could have a significant impact on customers' perceptions of the attractiveness of the pilots', this section will analyze customers' and potential customers' perceptions of the attractiveness of each pilot's individual program elements. Where there are design differences, a comparison of the attractiveness of the different elements will be made.

Following is an assessment, based on surveys and interviews, of which components in the pilot designs were more effective in overcoming customer barriers to large scale, comprehensive energy efficiency projects.

Bundled Service Offerings

The ENvest[SCE] and TEEM pilot designs were predicated on offering a comprehensive, "one stop shopping" program to overcome customer "first cost" and non-financial barriers. The core of the bundled offerings provides a customer technical and management resources and expertise to develop and administer large-scale, comprehensive projects. In addition, each pilot offered to provide or arrange full-project financing for the customer.

It is necessary to evaluate the bundled offerings by ENvest[SCE] and TEEM in two parts because ENvest[SCE], unlike TEEM, required the customer to use utility-provided financing as part of its bundle. TEEM relied exclusively on helping arrange third party financing for customers. This difference, based on customer reaction, was important. Therefore, this section will first assess the attractiveness of the bundled technical and management services that effectively provides a customer full third party development, implementation and oversight of a project. The bundling of utility-required financing in the ENvest[SCE] pilot compared to TEEM's offer to arrange third party financing will then be reviewed.

(1) Bundled Technical and Management Services

Bundling services, or one-stop shopping, attempts to bring all of the potential services that a customer may want directly to the customer so that the decision can be made to proceed with a comprehensive energy efficiency investment.

> Bundling services to allow one-stop shopping attempts to bring all potential services needed by a customer in an easy to use, valuable, and affordable package. The danger of bundled services is that customers may be required to purchase the same basic package of services, regardless of the differences in their needs.

> Buyers often differ in their receptiveness to bundling because they want different collections of products or services, or because they differ in their intensity of their need for the various products and services. In either case, bundling is suboptimal for some buyers.
>
> (Michael E. Porter, Competitive Advantage, page 425)

The experience concerning the effectiveness of offering bundled services in the ENvest[SCE] and TEEM pilots is well summarized by the above observation.

The ENvest[SCE] and TEEM bundled service program design was attractive to customers who: (1) had limited technical expertise available; (2) had limited access to reasonably priced funds for projects; and (3) had limited administrative and technical resources to develop, coordinate, and manage a comprehensive, integrated energy efficiency project. In the pilots, these characteristics typified governmental and institutional (particularly schools) customers. Simply, these customers had a need or desire for someone to organize, manage, and finance their projects.

The bundled program design was not attractive to other customers, particularly large commercial and industrial customers, who did not need or want the full range of services in the bundled package. These customers were potentially interested in pieces of what ENvest[SCE] had to offer (e.g., financing), but often had in-house expertise or wanted to manage any projects internally. Even some municipal customers with access to funds for investment felt that the pilot designs had some valuable components to offer, but also offered parts in the bundled services that were not that attractive.

The bundling element of the pilot designs were effective for certain types of customers in certain market niches. In these niches, it did serve as a valuable means to address customer needs and concerns and to encourage more customers to pursue cost-effective energy efficiency projects. However, in other sectors, the bundled design may have been too inflexible and, as a result, produced little activity or interest in these pilots.

Financing

A key reason that many potential customers did not participate in the ENvest[SCE] pilot (particularly large commercial/industrial customers) was that the financing rate offered was too high (i.e., the utility cost of capital) and/or the creditworthiness standards were too high. The inclusion of this financing element in the bundled offering for ENvest[SCE] meant that customers did not have an option: either you took the whole bundle or nothing.

The ENvest[SCE] pilot program offered two standard types of financing to qualified customers: leases or loans based on SCE's cost of capital. The financing offered has proven attractive to those customers who do not have access to reasonably priced capital, primarily governmental institutions and schools facing bonding and debt restrictions or faced with significant competition for available internal funds with companion departments and agencies. "Shared savings" types of arrangements are quite attractive to this type of customer because it precludes the necessity to use their own limited capital for the project (from initial scoping to implementation) and satisfies the legal restrictions on the assumption of debt. Therefore, it is not surprising that the financing component of the ENvest[SCE] and TEEM pilots has been especially attractive to governmental and institutional customers.

Large commercial and industrial customers are not a uniform group when it comes to the attractiveness of potential financing from ENvest[SCE]. They tend to fall into at least two groups. The first group of customers have adequate access to funds, particularly internal funds, that are lower cost than those offered by ENvest[SCE]. The ENvest[SCE] lending rate of approximately 14% is the product of calculating the cost of capital for SCE. A utility, unlike many other businesses, has a high equity component in its capital structure and therefore, has a cost of capital compatible with the business and financial risks faced by utility investors. Therefore, utility cost of capital is often in excess of the cost of investment funds for large, creditworthy firms whose capital structure reflects their business and financial risk exposure. For that reason, many of the large commercial and industrial firms surveyed indicated that the cost of financing available from ENvest[SCE] was simply not attractive. In addition, the plain vanilla types of financing available were perceived as too inflexible to meet specific needs. ENvest[SCE] personnel indicated that they understood this problem but believed that the filed tariff restricted developing non-standard financing agreements which would probably need to be individually reviewed and approved by the Commission.

The second group of large commercial and industrial customers were those who were interested in ENvest[SCE] financing because they would rather use their own capital for other investment opportunities. Simply, as long as savings exceeded the total cost of the project to produce a positive cash flow, why not avoid using your own money for the initial cost expenditures? Although the number of customers in the ENvest[SCE] pilot in this category was limited, there was a potential obstacle created by the high creditworthiness standards adopted for the pilot. Some customers who would have liked to utilize ENvest[SCE] financing faced significant security requirements because of concerns about creditworthiness. This resulted in at least one expected deal falling through and another being involved in extended negotiations.

The TEEM pilot chose instead to rely exclusively on third party financing and lenders as part of its project design. This meant that customers could enjoy the diversity of options available from an array of third party lenders who had different investment risk profiles and requirements. Customer characteristics could be matched with lenders, rather than assessed against a utility financing option that was in part designed to mitigate risk to utility ratepayers and shareholders. In addition to shifting financing risk away from the utility to third parties, the use of third party underwriting expertise avoided the need for TEEM to develop its own internal expertise. In effect, a customer could choose to accept the bundled technical and management services in the TEEM pilot, but seek its own desired financing structure and terms from a diversity of potential lenders.

The aggregate of customer and potential customer comments on both the bundled nature and financing aspects of the ENvest[SCE] and TEEM pilots favor the TEEM approach. The core bundled services of project management, arranging technical expertise and the option to arrange the full project financing which best fit the customer's needs were deemed desirable by both pilots' participants and potential participants.

Unbundling the terms and structure of the financing that will be used for a project (as opposed to the bundled service of helping to arrange such financing) may also provide another potential benefit from a customer's perspective. By disaggregating utility financing from the bundled service, TEEM is able to market that its fee for services is only a cost-plus arrangement. It has no interest in selling a specific product nor in requiring the customer to use utility financing to produce a certain return. Its interest is to earn a reasonable return on the overall project.

The experience is too limited from the TEEM pilot to judge whether customers find this argument convincing or important. But, considering some potential customers' concern about product-affiliated providers, this marketing tactic could be appealing as a means to persuade customers that their self-interest and satisfaction is TEEM's only self-interest.

The financing component, like the bundling component, has proven attractive to some customers and unattractive to others. Its primary attractiveness has been to governmental and institutional customers who have limited access to funds for energy efficiency or modernization investments and present limited creditworthiness risks.

Wrap-Around Warranty Guarantee/Performance Assurances

The ENvest[SCE] Wrap Around Warranty is a limited type of performance warranty. Our interviews with customers indicated that the warranty was a necessary feature, but not sufficient by itself to

significantly increase the attractiveness of the ENvest[SCE] bundled package. Some customers were more interested in extended performance protection and/or monitoring services that would be more consistent with performance contracting guarantees offered by ESCOs.

The performance assurance aspect of the TEEM offer was intended to serve two purposes. First, like ENvest[SCE]'s, TEEM's performance assurances were intended to mitigate the customer market barriers of risk and uncertainty from the use of new or different technologies. By warranting or assuring that installed products would operate as designed, TEEM (and ENvest[SCE]) offers a service that potential customers indicated was of value and desirable.

Second, TEEM uses the concept of performance assurance in its marketing to differentiate itself from other providers who offer "guaranteed" shared savings or shared savings "warranties." A "guaranteed shared savings" agreement provides that a project will result in a certain level of savings for the customer. If the savings level is not attained, the service provider bears the risk of not recovering a designated portion of the project costs from the customer. Such agreements require an established baseline from which to determine savings and on-going measurement studies to infer the savings produced by the project. A performance assurance does not "guarantee" savings regardless of all of the potential variables that could affect savings (e.g., weather, business activity, etc.). Rather, such assurances or "wrap around warranties" are added protection that installed equipment will perform as marketed. Thus, while measurement is still necessary, there are fewer variables to control for and less risk that performance can be reasonably assessed. TEEM believes that the problems created by "guaranteed" shared savings agreements have been a primary reason for customers' lack of trust and concern about risk in the performance contracting market.

"Guaranteed" shared savings agreements are dependent on establishing a reasonable baseline and a practical way to "measure" savings from that baseline. In TEEM's view, the high transaction costs and risks created by multiple variables for providers have led many providers to establish "baselines" that present no real downside risk to themselves. Instead, customers wind up paying for relatively expensive measurement techniques for results that are unlikely to provide any benefit or protection to them.

While the experience in the TEEM pilot is too limited to assess the value of this marketing, our interviews from both pilots indicate that customers are concerned about the reality of "guaranteed" shared savings agreements. This data tends to confirm that such agreements have created perceptions by customers that have constrained the development of the performance contracting market. Therefore, the pilots' offering of wrap-around warranties or performance assurances is responsive, at least in part, to a real customer market barrier.

Use of Utility Name Recognition/Reputation/Long-term Presence

The ENvest[SCE] pilot was intentionally designed to emphasize the use of SCE's name recognition "...as a reliable company committed to the future of Southern California". (ENvest[SCE] filing at Attachment A, page 1). The importance of such emphasis on ENvest[SCE]'s connection to SCE was to signal customers that they would be dealing with an entity that was technically experienced, could be trusted and would be around for the long haul, particularly over the time frame in which the installed equipment was expected to provide savings. An often noted factor was that SCE, unlike some other providers, was not pushing a particular product, but committed to providing the best products and services.

ENvest[SCE]'s connection to SCE did have the effect of addressing some of the concerns about the risk and uncertainty of undertaking energy efficiency investments. Participating customers, and those still active in the pipeline, regularly indicated that ENvest[SCE]'s connection to SCE was an important factor in considering whether to proceed with a project or not. Like being able to repay on the bill, the customer was not persuaded to proceed solely because of this affiliation. The project still had to be a valuable project that met the customer's needs. But, based on interviews and surveys, the SCE affiliation, by addressing customer concerns of risk and uncertainty, increased the attractiveness of the ENvest[SCE] offering. While it may not have made the deal, it helped ENvest[SCE] get in the door and persuade customers that the deal was worth pursuing.

Similar to the results of the ENvest[SCE] pilot, many participants and service providers noted that TEEM's affiliation with a regulated utility favorably influenced customers' perceptions of TEEM and its ability to offer valuable services. Customers noted that this affiliation connoted that they would be dealing with a technically experienced firm, that could be trusted, would be around for the long-run, and, unlike some other providers, was not committed to pushing a particular product or service.

This latter aspect needs to be qualified somewhat. TEEM's experience has been that some customers initially perceived that TEEM was there to sell a solution that promoted the use of natural gas. However, this perception has not been a lasting or detrimental one as TEEM committed to the customer to offer fuel-neutral solutions and does propose electric end-use solutions rather than just natural gas solutions to customers.

Payment on the Utility Bill

To reduce customer hassle, the ENvest[SCE] and TEEM designs allow customers to repay the cost of financing as part of their utility bill. Most customers interviewed view this option as a nice, but not necessarily a compelling, incentive to pursue energy efficiency projects. However, this ability to repay on the utility bill is important for certain types of customers.

The ability of ENvest[SCE] to offer tariffed services repayable on the SCE utility bill was essential to early entry into the federal sector. In addition, some school personnel find it attractive to characterize energy efficiency investments as reduced operating expenses which is emphasized by repayment through the utility bill. As a result, being able to offer repayment through the utility bill did increase the attractiveness of the ENvest[SCE] offering to certain segments of potential customers.

While the sample from the TEEM project is quite limited, the indications are that potential customers do not view the ability to repay on the utility bill as particularly important. None of the three signed agreements provide for this option. This perception from TEEM customers is in juxtaposition to public sector ENvest[SCE] customers who seem to have valued this option more highly.

Ratepayer Co-investment

The ratepayer co-investment available only in the ENvest[SCE] design was a targeted rebate to customers. As such it could and did serve several purposes:

(1) To ensure a minimum of 20% of energy savings to customers;

(2) To reduce the payback period for a project; and

(3) To allow a customer to increase the comprehensiveness of a project by using savings to reinvest in additional technologies resulting in a longer loan/lease term.

Customers recognized the ratepayer contribution as a targeted rebate. For federal customers, this incentive was important. Schools and municipalities also valued the incentive as a means to increase the extent of modernization activities that could be funded under the ENvest[SCE] pilot by allowing longer payback and loan/lease terms.

While most customers indicated that they would continue to pursue cost-effective energy efficiency opportunities without rebates, projects would likely have been less comprehensive and, in some

cases, delayed. Thus, the ratepayer co-investment clearly increased the attractiveness of the ENvest[SCE] offer to most customer sectors.

Overall Assessment of Individual Pilot Design Components

The review of individual components and features of the ENvest[SCE] and TEEM pilot program designs indicates that the pilot designs were responsive and could overcome customer market barriers in specific markets and for certain types of customers. The pilot designs, as structured and implemented, were and are most responsive to governmental and institutional customer needs. However, the ENvest[SCE] design which bundled utility-provided financing as part of the offering, proved too inflexible or not responsive enough to the primary market barriers faced by large commercial and industrial customers to be effective.[18]

The most effective elements of the ENvest[SCE] and/or TEEM pilot designs, based on the comments of participants, potential participants and service providers, to overcoming customer market barriers and thereby increasing customer demand for energy efficiency products and services are:

- The offer of a comprehensive package of bundled services that allows a customer "one stop shopping" to develop, finance and implement large scale, comprehensive, integrated energy efficiency projects;

- The offer of reasonable cost, full project financing to customers who have limited access to reasonable cost capital on terms that fit the needs and characteristics of the borrower and its project;

- The use of ratepayer co-investment as a targeted rebate; and

- Affiliation with a regulated utility to signal customers that ENvest[SCE] and TEEM can be trusted, are technically proficient and will be around for the long term during which problems may need to be addressed. This affiliation was also useful in distinguishing ENvest[SCE] and TEEM from other providers in the performance contracting market whom some customers perceived as potentially more risky because they did not have the attributes noted above or sold specific affiliated products as part of their offer.

[18] As will be discussed, there is not sufficient experience with the TEEM pilot design which relies on third party rather than utility financing, to assess whether that design would be more effective in the large commercial/industrial customer segment of the performance contracting market.

The use of the regulated utility affiliation, together with the performance assurances, helped reduce some customers' concern about performance risk and the uncertainty that can be created when energy efficiency products and services are substituted for energy usage.

The one element listed above that both pilots do not have in common is the availability of customer financial incentives in the form of ratepayer co-investment. As will be discussed, the absence of this element does not mean that many large customers in the performance contracting market will not find the TEEM design attractive. But, it is likely to mean, based on the experience from the ENvest[SCE] pilot, that the TEEM design would be more attractive with such incentives than without them and that some level of incremental activity in the performance contracting market is likely to be foregone in their absence.

CONCLUSIONS ON THE ABILITY OF THE PILOT DESIGNS TO INCREASE ACTIVITY IN THE PERFORMANCE CONTRACTING MARKET

Based on the information and experience from the two pilot programs, the pilot designs have and can accelerate and/or expand the level of activity in the MUSH market and federal government segments of the performance contracting market in Southern California.

The largest acceleration or expansion of this market is evident in the increase in activity in the federal governmental sector. As noted, over 60% of the investment dollars in the ENvest[SCE] pilot are for federal projects. ENvest[SCE] was able to be successful in this market because: (1) of a special advantage enjoyed as a tariffed provider of services due to its affiliation with SCE and (2) it offers a program design responsive to federal government customer needs.

But, the question is raised whether, absent this unique special advantage, the ENvest[SCE] and TEEM pilot designs by themselves can accelerate and/or expand activity in the market? The offer of comprehensive, bundled services including full project financing is made by independent ESCOs that have been operating in this marketplace prior to ENvest[SCE] and TEEM. While perceptions of "fly by night" firms still affect customer demand, there seems to be a high level of agreement that most of these "fly by night" firms have been weeded out of the market and that the remaining ESCOs and other service providers are experienced, technically capable firms. Thus, if the

ENvest[SCE] and TEEM pilots to accelerate the market beyond where it would otherwise be without the pilots, there must be unique attributes that the pilot entities possess that other providers do not.[19]

The experience from the pilots indicates that there were two primary factors that distinguish TEEM and/or ENvest[SCE] from other providers that affected customers' decisions to either pursue the project that they ultimately implemented or to choose ENvest[SCE] or TEEM rather than another provider. Those two primary factors are:

(1) The affiliation with a regulated utility, and
(2) The availability of customer financial incentives in the form of ratepayer co-investment.

Following is an explanation of why ENvest[SCE]'s and TEEM's affiliation with a regulated utility and the ability to offer rebates were and are able to accelerate and/or expand activity in the performance contracting market.

A. The Nature and Importance of the Affiliation with a Public Utility

As discussed earlier in describing the success of the pilots in the MUSH market, ENvest[SCE] and TEEM's affiliation with a regulated utility gave them credibility and an aura of trustworthiness in a market in which some potential customers were confused or unsure of whom to trust, whether real savings would be enjoyed or whether they might simply be ripped off. The affiliation with the utility resulted in a transfer of customers' perceptions about the utility to ENvest[SCE] and TEEM. These perceptions include credibility, expertise, experience, financially sound, around for the long haul, not seeking to sell affiliated products, and having a track record of reliability. All of these attributes reduce potential customers' perceptions of risk that can arise from dealing with other potential providers.

The perceptions of ENvest[SCE] and TEEM due to their affiliation with regulated utilities in essence gave them an advantage to get in the door to market to the customer as well as potentially created a more favorable context in which to market. However, the value of the affiliation could quickly be lost if ENvest[SCE] or TEEM either: (1) did not offer valuable services that responded to customers' needs and concerns; and/or (2) ENvest[SCE] or TEEM did not effectively implement projects and deliver the benefits expected by customers.

[19] The ability to be a better marketer cannot be dismissed as an explanation why one firm will do better than another. While, as noted in Chapters 6 and 8, potential customers in general perceived TEEM and ENvest[SCE] personnel to be very competent (and in some cases more competent than competitors), these same customers were willing to use other providers if they got a better deal or in fact did decide to use other providers. Therefore, the ability to market alone does not explain why customers chose TEEM or ENvest[SCE].

There is an additional advantage received due to the affiliation with a regulated utility and the nature of the ENvest[SCE] and TEEM designs. As explained in Chapters 2 and 5, the pilot designs depend on the use of third party service provider networks to develop and implement customer projects. ENvest[SCE] and TEEM qualified providers for these networks as well as oversaw the quality of and resolved problems with work performed by providers. As a result, the credibility and/or trust that ENvest[SCE] or TEEM received from its affiliation with a regulated utility, also creates a system for customers that promoted the standardization of services, policed against substandard quality and seemed to assume that "fly by night" providers would not be involved in projects. Thus, to the extent the affiliation with a regulated utility increased the credibility of ENvest[SCE] and TEEM as reputable firms, it also responded to some customers perceptions of the risks and uncertainties in participating in the performance contracting market.

In essence, the affiliation with a regulated utility helped overcome some of the customer perceptions and concerns that appear to have been constraining customer demand.

> Because of the potential problems with industry image, credibility and confusion of buyers...as the emerging industry, the firm is dependent on others in the industry for its success. The overriding problem for the industry is in inducing substitution and attracting first-time buyers, and it is usually in the firm's interest during this phase to promote standardization, police substandard quality and fly by night producers and present a consistent front to suppliers, customers, government and the financial community.
>
> Porter, Competitive Strategy, p. 20

ENvest[SCE]'s and TEEM's affiliation with regulated utilities both increased the attractiveness of performance contracting to some customers and, due to the operation of the service provider networks, helped "impose" industry cooperation and standardization that further increases the attractiveness of the market to some customers. How the pilots actually had this latter impact and its consequences for competitive activity in the performance contracting market are discussed in the next Chapter.

Finally, it is important to explicitly understand the source of the benefits created by the affiliation with a regulated utility. There are two aspects. First, potential customers had perceptions of the quality, expertise and competence of the regulated utilities in historically providing services. Generally the perceptions of SCE and SoCal in providing energy services were favorable, although a few customers did not have positive viewpoints. Potential customers appear to have transferred their prior experience and perceptions to TEEM or ENvest[SCE] without differentiating between regulated

and unregulated entities. TEEM and ENvest[SCE] were viewed as parts of the utility so that the perception seemed to be one of a free flow of information, resources and experience between the traditional utility and TEEM or ENvest[SCE], despite the fact that such flow may not in fact exist or that many of the key people were in fact hired from outside the utility.

Second, some customers stated that the reason that they felt more comfortable with ENvest[SCE] or TEEM because of their affiliation with SCE and SoCal respectively, was because of the presence of regulation. This regulatory presence creates two perceptions: (1) that regulated utilities and their affiliates such as ENvest[SCE] and TEEM somehow act differently than private, non-regulated firms, and (2) that unlike dealing with private providers, customers had a place to go (the Commission) to seek redress if they felt unfairly treated by ENvest[SCE] or TEEM.

TEEM's marketing to potential customers stressed these aspects or benefits of dealing with The Gas Company.

> As a regulated utility, The Gas Company is held to a higher standard of accountability than other companies—we will always take the owner's long-term perspective as our own.
>
> From TEEM marketing material

ENvest[SCE], as well as TEEM, stressed attributes that were characteristic of a regulated utility but which need not be true for unregulated enterprises. The most prominent was that the utility (and by implication TEEM and ENvest[SCE] in some manner) would always be there because the utility provided an essential, regulated service. This element of longevity was reinforced by referring to the utility's long-term local presence and long-term relationship with potential customers in providing service, which was the product of being the regulated monopoly provider for the area.

Thus, while SCE and SoCal had to have established a favorable reputation to transfer to ENvest[SCE] and TEEM, it is extremely difficult, and perhaps misleading, to divorce this reputation from each utility's regulated status. This is particularly true in ENvest[SCE]'s and TEEM's efforts to transfer attributes that attempt to differentiate them from other providers due to the fact that affiliation with a regulated utility somehow meant that ENvest[SCE] and TEEM would act more in the "public interest" or the customer's self-interest than their own self-interest. This was in contradistinction to the self-interest of other providers.

The marketing advantages enjoyed by ENvest[SCE] and TEEM appear to flow directly from either (1) the perception of the continuing presence of regulation and/or (2) historical characteristics and

projections such as longevity which were especially credible because of regulated status. Chapter 12 discusses the implications that a restructured utility industry may have on the value of the affiliation with an energy service provider in the future.

B. The Importance of Rebates to Activity in the Performance Contracting Market

The decision to offer rebates (in the utility DSM sense, allowing customers to buy products and services at less than their cost) is a public policy decision that has been and is hotly debated. The ENvest[SCE] pilot did offer rebates in the form of ratepayer co-investment. The TEEM pilot did not.

The relevant issue from the perspective of this evaluation of the pilots is that it seems clear that the presence of rebates increased the attractiveness of projects to some customers and thereby resulted in increased activity in the performance contracting market than if the ENvest[SCE] pilot had not used them.

The TEEM pilot (to a very limited extent), the comments of potential customers in both pilots, and the experience of independent ESCOs indicate that certain customers will pursue cost-effective projects without rebates if "first cost" and non-financial barriers can be effectively addressed. Most customers indicated that they would pursue projects without rebates available. But, the experience from the ENvest[SCE] pilot is that rebates would accelerate or expand activity in the performance contracting market if offered, at least by some incremental amount. Public sector, MUSH-market customers indicated that rebates are desirable because they allow the scope of a potential project to be expanded or the project accelerated. A rebate allows more savings to be "reinvested" in a project to expand the modernization opportunities that can actually be implemented. The absence of rebates, potential customers noted, could mean less comprehensive projects and/or delays in the time frame within which a project might be pursued.

In addition, the impact of the availability of rebates to commercial/industrial customers may go to the very issue of whether an energy efficiency investment is made or not. A rebate may be sufficient to change the economics of a project so that it passes any internal investment criteria. Thus, assuming that other barriers can be overcome, a rebate may make an otherwise unacceptable project acceptable.

Based on the experience from the pilots and utility DSM programs, the level of activity in the performance contracting market using current customer decisionmaking criteria should be expected to be increased by the presence of rebates.

ASSESSMENT OF EFFECTIVENESS OF OVERALL ENVEST[SCE] AND TEEM PILOT DESIGNS TO OVERCOME CUSTOMER MARKET BARRIERS IN VARIOUS SECTORS OF THE PERFORMANCE CONTRACTING MARKET

The experience from both pilots strongly suggests that the ENvest[SCE] and TEEM pilots designs have been and are far more effective in the MUSH and federal government sectors than with large commercial and industrial customers. When one considers that the main potential customer barriers or primary decisionmaking criteria used by these two diverse groups of customers, this result is not surprising. Following is an analysis of how the integrated pilot program designs responded to the customer needs and market barriers in various customer segments of the performance contracting market.[20]

MUSH/Governmental Sector

This sector by itself contains a diverse mix of customers. However, there are a common set of characteristics that both involve project needs and customer decisionmaking that distinguish this group. The primary attributes are:

(1) The nature of the energy efficiency savings opportunities available; and

(2) The primary forces driving decisionmaking concerning these opportunities.

Municipal facilities, schools, universities, hospitals (with exceptions) and other institutional type facilities typically present simpler solutions to energy efficiency needs due to more standard end-uses such as lighting, HVAC and Energy Management Systems. These more standardized end-uses also allow a shorter project turnaround, involve less capital to implement and can be quite cost-effective.

The nature of the energy efficiency opportunities also impact the objectives of this group of customers. Many institutional facilities are interested in modernization or facilities improvements, but are constrained by the lack of access to available or reasonably priced capital. This latter factor has become particularly meaningful in the current era of decreased state and local support and

[20] This analysis is made with one major caveat. Program designs are important, but long-term customer perceptions and program success is equally dependent on well-crafted, quality delivery of services. Good designs can be killed by bad delivery and administration. This includes the absence of skilled, knowledgeable and motivated people to create favorable relationships with potential customers and/or to capture opportunities through creative, resourceful and timely responses. While each pilot has had delivery and administrative problems, the good qualities needed for success have far outweighed the negative according to potential customer responses and our review. Thus, the assessment in this section presumed that the designs are implemented well.

resources. This scarcity of resources promotes the desirability of bundling in which highly cost-effective measures can support modernization efforts which include less cost-effective measures. In addition, capturing energy efficiency opportunities is typically reflected as a direct reduction in operating expenses while posing a limited threat to any "production" process or facility use. Thus, to the extent that funds can be found to pursue cost-effective options, a more comprehensive bundle of measures can be desirable.

Another constraint on MUSH market customers pursuit of cost-effective projects is the increasingly limited technical and managerial resources to develop and manage such projects internally. This limitation on resources increases the attractiveness of a program that bundles management and technical expertise together so that such third party resources need only be overseen. Combined with access to reasonable cost financing, the "one stop shopping" design has proved very attractive to customers with limited resources, particularly where legal and financial risk can be shifted to someone else.

Another consideration is important in understanding the MUSH market, particularly the public sector customers such as municipalities and schools. The decisionmaking process in the public sector embodies a high degree of public accountability and visibility. As a result, perception by the public as to what is a "good" investment and what is not may be as important as reality in a public sector entity deciding to pursue an energy efficiency opportunity. This need for recognizing the importance and nuances of the decisionmaking process make it important for a public sector customers to not only perceive that a potential provider has technical expertise, but that the provider understands the "partnership" needs of the customers in presenting a project that will pass public muster.

This latter concern about perception, as well as the desire to in fact make a good investment, put a premium on trust and confidence about the potential provider of energy efficiency products and services. As noted, performance contracting customers, particularly public sector customers, have been concerned about the quality of providers, the likelihood of real savings (including how "shared savings" agreements are actually measured and administered) and the quality of products. It is the risks of meeting desired objectives including the need to satisfy the public decisionmaking body and process, that have characterized the "immature" nature of the performance contracting market.

The performance contracting market essentially seeks to substitute energy efficiency for energy usage. But, to do so it must substitute different products and services for those currently used by the customer.

> Buyers of the emerging industry's product or service are inherently first-time buyers. The marketing task is thus one of inducing substitution, or getting the buyer to purchase the new product or service instead of something else. The buyer must be informed about the basic nature and functions of the new product or service, be convinced that it can actually perform these functions and be persuaded that the risks of purchasing it are rationally borne given the potential benefits.
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> Porter, Competitive Strategy at page 219.

But, a customer's perception of the products and services are colored by its experience or perception of the industry providers. Our interviews with customers and potential customers of ENvest[SCE] and TEEM repeatedly revealed that the perception of trust in a provider for public sector and other MUSH customers was as important as technical expertise.

The ENvest[SCE] and TEEM pilot designs were as a result particularly well-suited to the needs of MUSH market customers. In particular, the affiliation of ENvest[SCE] and TEEM with regulated utilities connoted to many customers a sense that somehow ENvest[SCE] and TEEM were different than other potential providers. The affiliation with the utility provided a perception of a firm that had expertise, would be around for the long haul, and had the willingness to work as partners on energy efficiency projects as they had on similar other projects such as economic development or utility services. The affiliation with a regulated utility was important because, for many customers, it created a perception that ENvest[SCE] and TEEM were somewhat less self-interested than other providers either because utilities were supposed to act with a greater view toward the public interest or because regulation can also serve as a means of redress if they did not.

These special attributes from being affiliated with a regulated utility were clearly meaningful characteristics to ENvest[SCE] and TEEM. TEEM in its presentations to customers reinforced its distinction from other energy service providers by highlighting the local presence and longevity that it could be expected from an affiliate of a regulated utility while emphasizing that regulation somehow indicated that TEEM would take an owner's long-term interests because utilities are held to a higher standard of accountability by regulation. These attributes were starkly contrasted to some of the problems and perceptions that some potential customers had from their perceptions or experiences with other energy services providers. Indeed, TEEM tried to develop the best of both worlds in its marketing: the best of the regulated firm (here for the long-term, experienced and acting in the public interest) together with the best of the private market (we do what you need expertly and without bureaucracy). ENvest[SCE] made similar arguments to distinguish itself from other energy service providers.

TEEM, in addition, sought to differentiate itself by its cost-plus type of pricing as well as its arguments to customers that "shared savings" agreements offered by many providers were illusory and expensive. In its presentations, TEEM argued that the standards used to set "guaranteed" savings levels were disadvantageous to the customers and that, aside from often provoking disagreement over what was guaranteed and how to measure whether the guarantee was met, cost a lot in measurement costs borne by the customer for little in return.

Thus, TEEM and ENvest[SCE] sought to use their affiliation with a regulated utility not only to benefit from such affiliation but to differentiate themselves from other providers and practices that they perceived as reasons why the performance contracting market was still an "immature" industry.

When one combines the perception of trust, experience and longevity conveyed from the affiliation with regulated utilities to the comprehensive "one stop shopping" program design that met MUSH market customers' desires for comprehensive management and technical assistance and access to financing, the success and focus of the ENvest[SCE] and TEEM pilots in this market segment is not surprising. Both the financial and non-financial aspects of the offerings respond to many customers needs and perceptions of risk and uncertainty. As will be discussed in the next Chapter however, while these attributes of the program design and affiliation with a regulated utility may have helped ENvest[SCE] and TEEM get in the door with some customers, it will be what they actually deliver that is more likely to determine the ultimate success of the pilot designs.

Federal Government

The ENvest[SCE] pilot was particularly successful in developing business with federal government agencies. There were five primary reasons for this success:

(1) The pilot design offered a comprehensive, fuel-neutral approach that directly responded to the mandates of the Energy Policy Act of 1992 and Executive Order 12902 which requires a reduction in energy usage in federal facilities;

(2) The pilot design was based on the use of competitive bidding to solicit and select service providers to develop and implement projects under ENvest[SCE]'s overall management. This was consistent with federal procurement processes and requirements;

(3) The fact that ENvest[SCE] was a tariffed service allowed the federal procurement process to be streamlined and accelerated;

(4) The pilot design provided the ability to make energy-efficiency improvements with no up-front cost due to the presence of full financing; and

(5) The pilot design was premised on ENvest[SCE] assuming overall project management responsibility for projects.

While federal customers were happy to accept rebates in the form of ratepayer co-investment, the comprehensive, large scale management and financing capabilities offered by the ENvest[SCE] pilot were the key attractors that met the needs of federal agencies. These program elements supplied resources and expertise that were needed by federal agencies facing budget and staffing cutbacks to meet energy usage reduction goals.

ENvest[SCE] was able to gain a leg up in the federal government market in Southern California due to its ability to use its regulated status to offer its program as a tariffed service. TEEM, which offers a similar program design that appears responsive to federal government customer needs, has only recently moved into this market, primarily due to limited staffing resources in its first year.

ESCOs can offer a similar program design although they may not be as attractive concerning the competitive bid procurement requirements and do not have the tariffed advantage to get a firm toehold in this market segment. Simply, ENvest[SCE] offered a design responsive to the needs of federal customers and used its special advantages to gain a "first mover" position in this market.

Large Commercial/Industrial Customers

Earlier in this Chapter, the Project Team reviewed those elements of the pilots that customers have found particularly attractive: one-stop shopping to reduce hassle and ensure quality services; financing of full project costs; ratepayer co-investment that allows extended loan/lease terms that allow more comprehensive projects; and the trust and reputation for technical competence that the affiliation with a regulated utility bring to the project. The design features have overcome, or substantially reduced, the market barriers created for customers by: (1) "first cost" concerns; (2) informational obstacles; and (3) concerns about risk and uncertainty.

It is also clear from the pilot that these same features have not been effective (at least thus far) to overcome the market barriers for a different set of customers: mainly large commercial and industrial. Some of the reasons for this ineffectiveness can be found in the specific nature of the pilot offerings. In particular, customers who have determined not to actively participate in the ENvest[SCE] pilot identified the high interest rate assessed, the relative inflexibility of the structure of

financing and the lack of need for the entire bundle of services offered as key reasons. In addition, the high creditworthiness standards imposed in the pilot have led to potential customers not qualifying for the project or facing negotiations over security provisions that sometimes proved to be unacceptable.

However, it seems clear from interviews with inactive, non-participating customers that there are likely to be other market barriers to energy efficiency beyond those presented by specific components of the pilot designs. One of the primary reasons given by commercial and industrial customers for not proceeding with a project was that the savings identified could not meet the relatively short internal payback guidelines (generally less than three years) established by the firm.

Payback periods are one means to make capital budgeting decisions within a firm. With competing uses of funds, paybacks can serve as a benchmark to identify which projects should go forward. This is particularly true when a firm uses it own money, raising potential concerns about liquidity and issues of which project is most valuable to a firm's strategic interest.

The use of simple paybacks, particularly for deciding energy efficiency investment, has often been criticized for being inconsistent with the more appropriate use of life cycle costing. Life cycle costing determines the full range of net benefits over the life of a project, rather than "arbitrarily" cutting off benefits at some shorter period as payback based investment decisions tend to do. This criticism is especially made when someone else's money can be used to make an investment where benefits will exceed the monthly or annual debt repayment. Some critics have suggested the use of simple payback methods to judge energy efficiency investments is irrational or arbitrary.

While it is possible that such a conclusion is true for some customers, it should be highly suspect for large sophisticated customers who are well-versed in making important capital budgeting decisions based on well-performed life cycle costing analyses. The reason for this apparent schizophrenia in decisionmaking can be quite rational. Short payback investment criteria appear to represent rules of thumb decisionmaking for many commercial and industrial firms which reflect multiple, integrated market barriers to the customer's pursuit of energy efficiency.[11]

For firms in which energy costs are only a small portion of overall operating or input costs, the transaction and switching costs of developing and implementing energy efficiency projects may not appear worth the bargain (regardless of whom initially pays for them), especially if this means

[11] See Principles of Corporate Finance by Richard a. Brearly and Stewart C. Myers, pages 262-265 (McGraw Hill, fourth edition, 1991); also Fundamentals of Financial Management by Eugene F. Brigham, pages 352-353 (Harcourt Brace, seventh edition, 1995).

performing sophisticated life cycle planning studies needing detailed technical savings and cost information. These costs may appear particularly undesirable to incur, if the potential buyer of energy efficiency is also concerned about performance risk and the potential impact of the substitution on its core business or product. The economics of substitution, which apply to energy efficiency as well as any process of substitution or substitutable product or service, require that: (1) the relative value/price relationship of the substitute must exceed the value/price of the existing product or service and (2) the buyer must perceive (including perceptions of risk and uncertainty) that value in order for a substitution to be made. (Porter, Competitive Advantage, pages 278-297).

Value in the context discussed above means: (1) a reduction in cost or (2) an increase in performance represented by net asset productivity gains or net increases in marginal revenue product. Thus, the issue to a customer may not simply be whether energy efficiency will reduce direct costs, but whether the products and services are likely to add to or detract from its existing competitive advantage or position. Customers will choose the product or service which they perceive will provide the most value. In many cases that may mean using more electricity or natural gas rather than pursuing energy efficiency. In others, it will mean minimizing risk to core profitability.

There are potentially important distinctions between governmental and institutional customers who are likely to be focused on reducing operating costs through modernizing their physical plant and large commercial and industrial customers who are seeking competitive advantage. In the latter case, the focus may be on asset productivity increases or environmental compliance whose value is perceived as significantly greater than comprehensive efficiency projects that may be perceived to create an unacceptable risk to core business profitability for very limited cost reductions. This appears to be the case for many industrial customers (1) who have tended to chose rebates to perform non-process changeouts such as lighting and motors (generally non-threatening to core business and can be done with limited interference with daily production) and (2) who wish to be in control of internal changes that may affect their core business.

The inability of the ENvest^{SCE} pilot to induce participation by large commercial and industrial customers may therefore also be the result of the nature of the services that ENvest^{SCE} offers or cannot offer, not only the manner in which they are packaged and offered. Simply, due to their perception of value, large customers, particularly industrial customers, may be looking for products and services that meet multiple needs that increase the competitive advantage of the firm, rather than simply serving to lower cost for a limited cost input in their product. These products and services could range from improved technologies for production (e.g., new electric or gas technologies) to complete process changes that have both productivity and environmental compliance benefits. If

energy efficiency products and services can be shown to create such benefits, they could be expected to be an attractive option.

But, to the extent that other services must be added to energy efficiency services to create this value, the ENvest[SCE] pilot was inadequate to meet certain customer needs. Commission DSM rules and guidelines restrict ENvest[SCE]'s operation to providing energy efficiency and fuel substitution services. If customers wanted to add load or also pursue non-energy related services, the DSM guidelines (and ENvest[SCE] tariff) precluded ENvest[SCE] from offering them. Simply, a significant part of the ENvest[SCE] pilot's inability to attract large commercial and industrial participants may have been the fact that it could not offer all of the services that customers wanted and valued[22]. By being unable to package energy efficiency services with these other, more valued, services, the rule of thumb short payment criteria typically came into play.

It should also be recognized that the nature of large commercial/industrial projects and the hierarchy of decisionmakers in large businesses are different than those for MUSH market, governmental projects. Except for discrete tasks, large commercial/industrial projects need comprehensive, specialized audit and technical modeling capabilities. These projects take more resources, more time and involve fewer standardized end-uses than most MUSH market projects.[23]

In addition to more complex projects typically involving larger capital investment and greater risks to core production processes, large commercial/industrial projects tend to involve a diverse hierarchy of key decisionmakers with potentially diverse criteria for assessing the value of a project.

All of these various factors and characteristics of large commercial/industrial projects and customers suggest that a unique program design is needed to overcome customer market barriers in this segment and to implement projects. Because of the less standardized nature of efficiency opportunities, overall investment objectives and the criteria and process for decisionmaking to determine what is of value to the customer, a more unbundled menu of services that increases value beyond merely energy bill savings would appear necessary and appropriate to better reach this segment of the performance contracting market.

The TEEM pilot, by design, does not contain the limitations noted in the ENvest[SCE] pilot design, that appear to have been non-responsive to large commercial/industrial customers' needs and concerns.

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[22] This problem is more likely to appear as a loss of customer interest in ENvest[SCE] than as ENvest[SCE] foregoing a developed project. Interviews with some customers indicated that they only had a limited initial interest in ENvest[SCE] due to its objectives and design.

[23] Federal government agency projects tend to have these same characteristics, however.

The pilot design or projects need not conform to Commission DSM guidelines nor is there a limitation on the nature of the services that TEEM can provide a customer. In addition, the TEEM pilot's use of third party financing (rather than utility financing as an element of a bundled offering) should avoid the concern about high financing rates or underwriting criteria perceived with the ENvest[SCE] pilot.

Unfortunately, the TEEM pilot has focused its resources recently on marketing and implementation in the MUSH market and in certain niches in the commercial property market. Therefore, there has not been sufficient experience to conclude that the TEEM pilot design more effectively overcomes the limitations in the ENvest[SCE] design for this segment of customers.

However, TEEM's experience with one industrial customer with whom it has signed a project agreement may be indicative. The project involves the implementation of an innovative reclamation technique which will provide substantial non-energy benefits to the customer. The development of this project and the relationship between TEEM and the customer took a long time to develop: an "investment" period in which TEEM saw no return but chose to maintain in order to develop trust with the customer and to understand the customer's project and needs.

While one case cannot be used to draw any conclusions, it does suggest two possibilities:

(1) That a more flexible program design such as TEEM's compared to ENvest[SCE]'s may be more responsive to large customer needs and concerns; and

(2) That large commercial/industrial projects do present a different set of customer barriers than other customer segments and will generally have longer development periods.

The continued experience of the TEEM pilot with other large commercial/industrial customers will hopefully provide useful information on more effective program designs for this sector.

SUMMARY OF THE IMPACT OF THE ENvest[SCE] AND TEEM PILOTS ON THE ENERGY EFFICIENCY MARKET IN SOUTHERN CALIFORNIA

Based on the review and analysis of the experience to date from the pilots, the Project Team concludes that:

(1) The ENvest[SCE] and TEEM pilots, have accelerated and can continue to accelerate the level of activity in certain segments of the current performance contracting market in Southern California, particularly those including the federal government, schools, and municipal facilities. By accelerating these markets, the pilots have increased the sale of complementary products and services by vendors, manufacturers, and qualified Service Providers.

(2) The majority of ENvest[SCE] estimated project expenditures are in the federal government market sector in which it enjoyed a special advantage to gain a "first mover" position because of its tariffed service. The potential for additional projects in this sector appears substantial.

(3) The primary reasons for the ENvest[SCE] pilot's impact of accelerating activity in the federal performance contracting market are:

- Its unique status as a part of a tariffed utility provider that allowed it to gain an "indirect" franchise in the federal government market sector during the pilot; and

- Its offer of a program of sufficient value to federal customers.

(4) The pilots were also able to accelerate activity in the performance contracting market in other specific market sectors because:

- The bundled program design included full project financing that was attractive to overcome the market barriers for certain customers, particularly, federal agencies, schools and municipalities;

- ENvest[SCE]'s and TEEM's' affiliations with a regulated utility were important to customers in their decisionmaking. This affiliation reduces the customer's perception of risk and uncertainty due to the trust engendered by the regulated utility's name, its reputation for technical proficiency, its perceived neutrality as to products and providers and the perception that the utility has been and will be a long-term institution in the Southern California region.

- ENvest[SCE]'s ability to use ratepayer funds to increase its attractiveness to certain customers. Ratepayer funded components that customers found particularly attractive were:

- The ratepayer co-investment which served as a targeted rebate and which allowed certain customers to extend the term of their loan/lease while still receiving an a 20% estimated share of savings allowing more savings to be "reinvested" to capture modernization benefits; and

- The ability for certain customers to repay through the utility bill. This option was not that important to TEEM customers.

(5) The ENvest[SCE] pilot design was unsuccessful in overcoming the market barriers confronting large commercial and industrial customers. This appears to be true for three potential reasons.

- First, the specific program design embodied in the pilot has components that have been unattractive to these customers. These specific design components include:

  - a bundled set of services when the customer did not need or wish to purchase the full set of services;

  - a financing rate in excess of the rate for capital otherwise available for the customer to make the investment;

  - a financing structure that was not sufficiently flexible to be customized to meet the customer's needs;

  - a high level of creditworthiness that a potential customer could not meet or which resulted in a request for the customer to provide a level of security that was unattractive; and

  - The absence of a more extensive performance guarantee.

- Second, the scope of ENvest[SCE] services; the integration of large scale energy efficiency solutions, may not be sufficient by themselves to create adequate customer value to overcome existing market barriers. Certain customers may be more interested in increasing asset productivity and competitive advantage than incurring risks and transaction costs from large scale, complex energy efficiency projects to reduce operating expenses that only constitute a small percentage of their total costs (e.g., 2 to 3%). The inability to offer non-energy related services that augment or allow energy

efficiency projects to be added to services perceived by customers as having greater value may have limited ENvest[SCE]'s attractiveness to certain large commercial customers, and particularly, to industrial customers.

- Third, there have been implementation problems that caused a number of customers to comment on the slowness with which the process has moved and the lack of adequate communications in a timely manner to maintain their interest in the potential project. These potential problems may have been more prevalent in the ramp-up of ENvest[SCE]. Our interviews with Service providers and customers indicate that these matters were less of a concern during 1995, than they appear to have been in 1994.

It is not clear whether the more flexible TEEM design will result in more agreements with large C/I customers. However, the TEEM design would avoid a number of the problems described above due to the level and flexibility of financing as well as the ability to offer non-energy efficiency productivity improvements noted by large C/I customers as a limitation of the ENvest[SCE] design.

(6) The pilots by offering services similar to comprehensive or full service providers may not only have accelerated and/or expanded the market, but also redistributed market share in the performance contracting market. But, given the ability of affiliation with a regulated utility to overcome certain customer perceptions in the public sector, ENvest[SCE]'s special advantage in the federal governmental sector, and ENvest[SCE]'s ability to use rebates unavailable to private providers, it would appear that the pilots have accelerated or expanded activity that would otherwise not have happened during the pilots' time frames.

(7) ENvest[SCE], by providing ratepayer co-investment, has in some sectors (i.e., municipalities and schools) increased the comprehensiveness of projects implemented by certain customers as well as accelerated the timing of some projects. However, the experience from the pilots as well as the comments of customer and service providers indicate that the absence of customer rebates would not substantially reduce the number of projects ultimately undertaken by MUSH market customers in the performance contracting market. But, there are reasons to believe that the absence of rebates to large commercial/industrial customers will reduce the number of projects undertaken even if other market barriers could be overcome or mitigated. Less comprehensive public sector projects, in addition to the potential reduction of large C/I projects, may result in uncaptured market potential opportunities and loss of societal benefits due to the absence of rebates.

11. COMPETITIVE IMPACTS OF THE ENvest[SCE] AND TEEM PILOTS

OVERVIEW

The ENvest[SCE] and TEEM pilots were able to accelerate and expand, to some degree, the level of activity in the large customer performance contracting market. The pilots were able to do so because of access to two unique advantages that were not available to other providers in the marketplace: (1) the benefits of affiliation with a regulated utility in both pilots and (2) the ability to use ratepayer funds in the ENvest[SCE] pilot. However, to the extent that these advantages primarily exist due to the presence of regulation, the restriction of their availability to only utility affiliates raises serious anti-competitive concerns.

This Chapter analyzes the competitive impacts of the ENvest[SCE] and TEEM pilots. This analysis will include a discussion of the following topics: (1) the nature and extent of competition in the performance contracting market prior to the pilots; (2) the impact of the ENvest[SCE] and TEEM pilots on market share in the performance contracting market; (3) the purpose of the pilots to expand competition; (4) whom ENvest[SCE] and TEEM's competitors were; (5) the nature of the competitive advantages for ENvest[SCE] and TEEM; (6) the importance of these competitive advantages; (7) the potential competitive disadvantages of using regulated ratepayer funds, resources or assets; and (8) the predicates for developing a more effectively competitive performance contracting market in Southern California.

THE NATURE AND LEVEL OF COMPETITION IN THE PERFORMANCE CONTRACTING MARKET PRIOR TO THE ENvest[SCE]/TEEM PILOTS.

The energy efficiency products and services (EEPS) market in Southern California prior to the ENvest[SCE] and TEEM pilots, as noted in Chapter 10, was characterized by two distinct segments: (1) the service/"cash" market and (2) the performance contracting market. The service/"cash" market was primarily driven by the presence of utility financial incentives to customers, generally rebates. The second segment of the market, the performance contracting market, was driven by: (1) shared savings arrangements between non-utility providers, usually ESCOs and customers, and (2) utility rebates which were leveraged by ESCOs as an incentive in marketing projects to potential customers (e.g., to reduce the payback period). Both pilots operated in this latter market segment.

Utility rebates were traditionally focused on particular end-uses (e.g., motors, high-efficiency lighting, etc.) rather than targeted to a specific project as they were in the ENvest[SCE] pilot. Their

impact on the market therefore was twofold: (1) they served to increase customer demand by overcoming customer market barriers in both segments of the EEPS market and (2) they were available for most vendors or service providers to use to market their services independent of the utility. These traditional rebates helped increase customer demand for energy efficiency products and services ranging from the installation of a single technology to the implementation of comprehensive projects in which customers purchased project development, project management, quality control, performance guarantees, and full project financing services from ESCOs.

Traditional rebates did not discriminate between comparably situated service providers. A lighting rebate was available to the customer and its vendor or service provider who met the qualifications to receive the rebate, typically minimum efficiency characteristics. When these traditional rebates were combined with the other DSM activities usually provided by utilities to large customers (information and technical assistance), a pattern of cooperation, as opposed to competition, was created between utilities and service providers of the utility's products and services.[1]

The primary reliance on traditional rebates prior to 1995 increased the demand for energy efficiency products and services including in the performance contracting market. But, they did not produce intense competition between the utility and the service providers who were acting as utility resources to expand the EEPS market. Service providers of all kinds used rebates like franchisers to develop their own business opportunities. Thus, the nature and level of competition in the pre-1995 performance contracting market was primarily determined by the competition among providers, rather than by competition between utilities and providers.

The level of competition in the pre-1995 performance contracting market appears to have been limited. As the estimates of market potential discussed in Chapter 10 suggest, there are many energy efficiency opportunities available to be captured. When there are a limited number of firms seeking to capture many opportunities, intense rivalry and competition are not necessary or even likely attributes of a marketplace. A growing industry or one with a perceived significant growth opportunity allows many firms to succeed without having to directly or intensely compete against one another for market share.[2] The limited number of active performance contracting firms appears to have been the result of limited customer demand due to multiple integrated market barriers for customers. This limit to customer demand was further compounded by the withdrawal of traditional utility rebates from the market in 1994 and 1995. Indeed, ENvest[SCE] and TEEM were conceived in part due to a perceived need that a more effective way to accelerate the EEPS market was needed.

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[1] Utility incentives could and did create intense competition for providers of other energy sources or fuels.

[2] Porter, Competitive Strategy, page 18.

Our estimate of the pre-ENvest[SCE]/TEEM performance contracting market in Chapter 10, which is significantly smaller than the estimated market potential for the EEPS market, seems to confirm that during this period there were limited competitors seeking opportunities in a potentially broad market.

The Project Team's review of the performance contracting market prior to 1995 suggests that this market segment was growing or perceived as growing during the 1991 to 1994 period. One of the primary reasons for part of this growth was the presence of utility financial incentives either in the form of rebates or potentially from expanded DSM bidding efforts by SCE and SoCal.[3] In addition, MUSH market customers were feeling budget and staffing resource squeezes that encouraged them to look for third party funds and resources. During the early 1990s, there appear to have been four or five large full service ESCOs actively operating in the Southern California EEPS market, with a number of smaller ESCOs also participating. These ESCOs partnered as appropriate with other service providers. Other full service ESCOs also started to consider entry into the Southern California performance contracting market later during this period in anticipation of increased utility funds becoming available, primarily as a result of a hoped for expansion of DSM bidding activities and the implementation of ENvest[SCE]. In addition, rebates allowed specialized providers to offer single technology or less comprehensive projects to large customers.

The performance contracting market prior to the time that ENvest[SCE] and TEEM began to effectively operate could be characterized as a constrained market in which competition was not particularly intense. The level of activity in the performance contracting market was very small in relation to likely market potential and relatively constrained by the limited customer demand. The market potential for cost-effective energy efficiency was largely uncaptured by ESCOs who were limited in their effectiveness by:

- High transaction and market costs;
- Customer market barriers; and
- A perception by customers of an immature industry in which there was a risk of "fly-by-night" providers and exaggerated savings claims.

These same conditions served as deterrents or barriers to entry by new firms.

[3] During the 1992-1994 period, there was increased interest in DSM bidding in California reflected by the four DSM bidding pilots ordered by the Commission.

Customers had choices of service providers, service providers did seek to differentiate themselves for customers, and no single firm or affiliated group of firms appears to have had a dominant market share. However, there does not appear to have been a vigorous rivalry between providers that would create intense price or value competition among providers, that resulted in significant benefits to customers. Thus the market does not appear to have met the conditions for effective competition which involves:

> ...a striving among comparable rivals, who exert a mutual pressure so strong that all competitors must apply maximum efforts. None of them is able to raise prices above costs by very much, or to remove rivals except by superior efficiency.
>
> Shepherd, Economics of Industrial Organization, Third Edition, at p. 16.

The overall size of the EEPS market (and the performance contracting market), the number of firms that it supported, and the potential level of competition were strongly influenced by utility intervention, primarily through the general availability of rebates. To the extent that this utility intervention could significantly influence customers' purchasing decisions in a way that others could not, the presence or absence of generally available rebates exerted a broad control over the nature and size of the EEPS market, although it did not typically exert direct control over specific providers.

THE IMPACT OF THE ENvest[SM]'s AND TEEM'S PILOTS ON MARKET SHARE IN THE PERFORMANCE CONTRACTING MARKET

A traditional means of assessing market power is to calculate the market share of a firm. The higher the market share, the more likely it is that the firm has market power (see e.g., Shepherd, Economics of Industrial Organization, Third Edition at pages 3-9). Perhaps, the most important issue in determining market share is what is the relevant market or industry to use as the denominator in the market share calculation. Inappropriately defining a market too broadly may minimize the apparent market share of a firm and understate its actual market control. The opposite can occur by inappropriately selecting too small of a market or industry and thereby overstating a firm's impact on a market.

The Project Team has considered two potential calculations of market share to test ENvest[SCE]'s impact on the market in which it operated.[4] Assuming that the relevant market is the entire (EEPS) energy efficiency products and services market potential in Southern California, ENvest[SCE]'s market share is less than 0.5%. This would indicate that ENvest[SCE] is far too small to affect much of anything.

The Project Team believes that market share is more appropriately calculated in the performance contracting market. This second calculation uses the size of the performance contracting market that was calculated in Chapter 10. ENvest[SCE]'s core business is a form of performance contracting. The offer of bundled, aggregated arranger/brokering of complementary products and services plus the offer of financing and warranty services is similar to packages offered by others in the performance contracting industry. ENvest[SCE] operates as part of the performance contracting industry when it offers services that compete with those of full-service and certain other providers. The lack of apparent substitutes to the bundled service offered by ENvest[SCE] and performance contracting firms and the ability of bundled providers, particularly ENvest[SCE], to influence control over complementary products and services lead us to conclude that the appropriate industry and market to assess ENvest[SCE]'s influence is the performance contracting market. Also, as noted in Chapter 10, both ENvest[SCE] and performance contracting firms include the price of complementary products and services in their signed project amounts.

Using the estimates of activity in the performance contracting market set forth in Chapter 10, ENvest[SCE] during the pilot had over a 60% market share.[5] This would be a very high market share indicating that ENvest[SCE] had a significant impact on the market.

It should not be surprising that ENvest[SCE] would have a high market share in the performance contracting industry during the pilot. ENvest[SCE]'s very purpose was to grow the market because otherwise it did not appear that many significant large-scale, comprehensive, energy efficiency solutions would occur. The more successful ENvest[SCE] was in overcoming customer market barriers, the more total sales volume it was credited with vis a vis other performance contracting firms. The unique ability of ENvest[SCE] to effectively open up the federal government market (over $60 million in contracts) to expanded performance contracting meant that activity in a large new market segment

[4] The limited experience to date with the TEEM pilot makes it meaningless at this point to calculate a number reflecting the market power or market share of TEEM. With only three signed projects, any such number would show that TEEM, based on the calculation, has not exercised significant market power to date.

[5] We have not used the traditional Hirschman-Herfindahl index (HHI) of concentration to calculate markets shares for the reasons explained in the text that numbers reflecting market power over a short period in an "immature" market are not particularly revealing of the dynamics of the market, nor does it recognize unique occurrences in a market (e.g., such as the opening of the federal government sector).

was accelerated and included in its calculation of market share. Such a large lump sum addition from this market segment was not available to other performance contracting firms.

The relative market share estimated by the Project Team is consistent with its view in Chapter 10 that the ENvest[SCE] pilot has been effective in accelerating activity in certain market segments for certain customers. That is precisely what the proponents of ENvest[SCE] hoped it would do. The interest of full service providers to participate in ENvest[SCE] was their perception that (1) ENvest[SCE] had special advantages that could accelerate the market and (2) that for a variety of reasons (e.g., negative customer perception of the ESCO industry), existing ESCOs could secure niches in certain markets, but seemed unable to significantly accelerate the market by themselves. If ENvest[SCE] had nothing to offer, full service providers and others would not have participated.

The calculation of a spot market share for a new entrant in an "immature" industry with a fairly low volume of dollar activity may be illustrative. But, it could equally be misleading unless the circumstances and dynamics underlying that market are understood. Therefore, because of the unique circumstances with federal government projects, the uncertainty as to how strong and how long the affiliation with a regulated utility will provide benefits and likely changes in the nature and extent of potential competitors in the performance contracting market, it is far more useful to consider ENvest[SCE]'s and TEEM's impacts on the dynamics of the performance contracting market than to rely on a spot number for market share or power to make an assessment of the competitive impacts of the pilots. In the next sections of this Chapter, the specific nature of the comprehensive advantages employed by ENvest[SCE] and/or TEEM will be assessed and how they impacted the competitiveness of the performance contracting market will be analyzed.

PURPOSE OF THE ENvest[SCE] AND TEEM PILOTS TO INCREASE ACTIVITY IN THE PERFORMANCE CONTRACTING MARKET

The purpose of the pilots was to attempt to find more successful ways to promote large scale energy efficiency solutions than existing programs centered primarily around the use of traditional rebates appeared able to do. The ENvest[SCE] pilot design intended to attain this objective by combining the best elements available to utilities that could or might increase customer demand the most in overcoming customer market barriers with the best qualities and features used by private providers. Thus, it is important to acknowledge that the ENvest[SCE] pilot:

(1) Intentionally used ratepayer funds and the potential benefits from its affiliation with SCE to better overcome customer market barriers and, by so doing, increase the level of activity in the EEPS market in Southern California; and

(2) Intentionally sought to use utility customer incentives in a different manner than traditional rebates. But these "targeted" incentives were not designed or viewed as a replacement for traditional rebates outside of the ENvest[SCE] pilot.

The ENvest[SCE] design specifically allowed customers to choose between participation in the ENvest[SCE] pilot and in other available SCE DSM programs, typically rebate programs. The only prohibition was against participating in ENvest[SCE], which offered a targeted rebate, and in a traditional SCE rebate program at the same time for the same project.[6]

Both of the deliberate decisions are pivotal to understanding the potential competitive impacts that have resulted from or have been raised as a result of the ENvest[SCE] pilot. The use of utility ratepayer funds and other assets to implement ENvest[SCE] was not intended to represent a substantial departure from prior utility intervention in the EEPS marketplace. Service providers had previously used SCE rebates and participation in SCE programs to expand their market opportunities. To the extent that a better targeting of utility resources and monies increased customer demand, the result would be increased business opportunities for service providers, increased resource benefits for the utility and increased societal benefits. ENvest[SCE] was designed as an innovative attempt to use a regulated utility's advantages to move the energy efficiency market in a way that all parties might benefit.

The TEEM pilot was specifically designed to move away from offering energy efficiency services using ratepayer funds and resources for any purpose. But, SoCal's view is that the benefits from the affiliation with a regulated utility are a shareholder, not a ratepayer, "asset." Thus, while TEEM is designed to use no ratepayer resources, it intended to and does heavily promote TEEM based on its affiliation with SoCal in order to improve the success of the pilot, and ultimately utility shareholder profits from the pilot.

The designs of both pilots therefore are premised on using these two unique advantages to increase market activity in the performance contracting market. But, by their very designs, the pilots effectively ensured that these advantages would be in the control of the utility-affiliated ENvest[SCE] and TEEM organizations.

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[6] The ENvest[SCE] pilot could not be offered to large customers for their facilities in the SCE DSM bidding pilot areas either.

The role that both ENvest[SCE] and TEEM played in the implementation of the pilots as well as the change in the nature and extent of SoCal's and SCE's participation in the overall EEPS marketplace in Southern California that occurred during the pilots heightened the potential anti-competitive impacts of having these unique advantages only available to ENvest[SCE] and TEEM. Following is a discussion of these latter two factors.

(1) Manner of Implementation

Based on the design of the ENvest[SCE] and TEEM pilots, there are basically two distinct roles that ENvest[SCE] or TEEM could have served in relation to customers and service providers: (1) as a facilitator or (2) as an overall project developer and manager.

The facilitator only role would have been provided by ENvest[SCE] or TEEM using their special advantages (e.g., name recognition, reputation, etc.) to provide entry for qualified Service Providers to SCE and SoCal customers and the tools (e.g., ratepayer co-investment in the ENvest[SCE] pilot) to overcome the market barriers deterring those customers from pursuing large-scale, integrated, energy efficiency solutions. Service providers would have a close direct involvement with customers including overall project development and management. It does not appear that ENvest[SCE] or TEEM intended to operate in this manner.

ENvest[SCE] and TEEM instead offered certain services directly to customers in addition to facilitator/arranger services. As designed and implemented, ENvest[SCE] and TEEM were the primary points of contact with customers. By offering overall project development, management, quality control, providing or arranging financing, and performance assurance services directly to customers, ENvest[SCE] and TEEM maintained a strong connection and presence with their customers throughout the project.

As discussed in the next section of this report, this role placed ENvest[SCE] and TEEM in direct competition with some of its service providers (i.e., full service ESCOs) who wished to provide similar services directly to the same customers.

(2) Change in Circumstances

The ENvest[SCE] and TEEM pilots were designed as complements to other available SCE and SoCal energy efficiency programs. Thus, their introduction was not intended to directly affect the availability or use of traditional rebates in other utility programs by service providers to independently market their own products and/or services. The ENvest[SCE] and TEEM pilots, as

demonstrated by their minimum project sizes and explicit authorization for customers to use other SCE programs for non-ENvest[SCE] projects or to use other SoCal rebates in TEEM projects, were targeted at a specific type of project: large-scale, integrated, energy efficiency projects.

However, the specific benefits and incentives available in the pilots were limited to those who participated in the pilots. For example, the ENvest[SCE] pilot, rather than employ traditional rebates, used ratepayer co-investment to target rebates to specific circumstances for specific projects. The goal, in addition to increased effectiveness, was to minimize ratepayer costs and ultimately minimize rate impacts. As a result of this targeting, the ENvest[SCE] "rebates" were only available to qualified ENvest[SCE] customers, unlike traditional rebates which were available to most all customers and could be offered to customers by other service providers.

In the last two years, the specter of increased competition and potential industry restructuring led many utilities including SCE and SoCal to reconsider the use and size of traditional rebates for large customers as well as other customers. Prior to 1995, SCE and SoCal had been withdrawing traditional rebates from the large customer segment of the EEPS market. The result of this withdrawal or limitation on traditional rebates meant the loss of the utility resources that were most used to increase the likelihood of success of independent marketing opportunities by service providers. This has had two effects. One has been to create the hope for some service providers that the ENvest[SCE] pilot would serve to replace some of these "lost opportunities."

The overall effect was that ENvest[SCE] and TEEM, to a significant degree, became the main entry point to large customers if one wished to use the special advantages or benefits perceived available from SCE and SoCal. To receive these potential benefits, one had to qualify as an ENvest[SCE] or TEEM Service Provider or customer. In essence, one had to partner, not compete, with ENvest[SCE] or TEEM to have access to utility funds and affiliation advantages to use in the large customer segment of the EEPS market.[7]

The specific competitive concerns created by the potential role played by the pilots, and the change in the nature of utility involvement in the EEPS marketplace since the pilots were conceived and implemented, are discussed more fully in the following sections.

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[7] A full service provider ostensibly could participate in the pilots and compete against ENvest[SCE] or TEEM at the same time. The Project Team will discuss ENvest[SCE]'s and TEEM's discretion to assign work to Providers as a potential deterrence to this strategy later in this Chapter. In addition, if the advantages were meaningful, competing independently could be an unequal contest. In addition, a service provider could encourage a customer to enroll in ENvest[SCE] to be able to receive rate payer co-investment. However, the provider ran the risk that it might not be asked to bid on the project. Full service ESCOs that want to provide overall project management would also have to be willing to forego that role.

ENvest[SCE] AND TEEM WERE IN DIRECT COMPETITION WITH CERTAIN SERVICE PROVIDERS

The prior section highlights that the Commission intended to test whether the pilots could expand the level of activity in the performance contracting market not to diminish the level of competition in that market.[8] But, the basic designs and implementation of the pilots within the context of the nature of performance contracting market at the time of the pilots assured that ENvest[SCE] and TEEM would be direct competitors of certain service providers.

Based on our interviews and surveys, Service Providers quite expectedly sought to qualify to participate in the ENvest[SCE] and TEEM pilots in order to expand their business opportunities. But the nature of the sectors in which these Service Providers operate are diverse, as noted by the five general categories used to classify qualified Service Providers. In addition, the scope of the services offered range from integrated packages including project design, development, management, full project financing, and performance guarantees by full service ESCOs, to specialized services such as M&E, HVAC or lighting.

These distinctions, as indicated by interviews and surveys, are important in suggesting the respective views of various Service Providers as to whether ENvest[SCE] and TEEM were perceived as potential competitors. Most non-Full Service Providers did not view ENvest[SCE] and TEEM as direct potential competitors. Rather, these providers viewed the pilots as a potential means by which they can expand the sale of their own products or services, particularly as other markets were being constrained by the withdrawal of generally available rebates. These Providers offer complementary products and services to ENvest[SCE]'s and TEEM's arranging/brokering/financing services to customers. The nature of complementary products and services is such that the more the service or product to which they are a complement to is sold, the more they are sold. ENvest[SCE] and TEEM, to most of its Service Providers, operated not as a competitor, but as a franchiser who promoted their product and bore the marketing costs of doing so.

The "partnership" relationship of many non-full service providers with ENvest[SCE] and TEEM is illustrated by the fact that in TEEM's first year of operation all of its customer leads came from service providers.[9] ENvest[SCE] similarly received many initial customer leads from specialized or

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[8] The ability to move away from rebate-centered programs with potentially undesirable rate impacts was also a primary interest of the Commission as noted in Chapter 2.

[9] As will be discussed, some specialized or small providers would not refer leads to ENvest[SCE] or TEEM unless they were sure the customers would retain them for the project. Additionally, some of those providers were concerned that "partnering" with ENvest[SCE] and TEEM meant losing direct contact with customers.

small providers seeking a partner with the financial, technical and administrative capability to handle a large scale project.

The firms that ENvest[SCE] and TEEM were clearly in direct competition with were the full-service ESCOs. Full-service ESCOs offer customers similar, comparable or expanded services to those offered by ENvest[SCE] and TEEM: overall project development and management, full project financing, and performance or saving guarantees, warranties or assurances. In addition, they also offered some specialized technical services or products such as Energy Management Systems or environmental remediation services.

Full service ESCOs are unlikely to be willing to forego offering all or some of these services on a regular basis because these services are the primary source of their revenues. Unlike ENvest[SCE] or TEEM, payments for these services are not often just cost flow throughs, but additions to the bottom line. Simply, the pilots and full-service ESCOs offered the same customers a similar comprehensive set of services.

Both ENvest[SCE] and TEEM sought to differentiate themselves from other full service providers in order to secure business. They made marketing presentations to customers that promoted their ability to do a superior job or explain why the offering of a full service ESCO really did not benefit the customer to the extent that its would.

Prior to these pilots, potential customers chose full-service ESCOs to design and implement large scale projects. Indeed, during the pilots, some customers chose these providers over ENvest[SCE] or TEEM, often because they perceived the utility affiliate's bundled offer as undesirable or inferior or because the ESCO's marketing presentation and experience instilled greater confidence and trust in the customer.

But, despite the decision of some customers to select ESCOs instead of ENvest[SCE] or TEEM, the fact remains that these providers were in direct competition with ENvest[SCE] and TEEM who had special advantages due to their affiliation with regulated utilities. Absent partnering with ENvest[SCE] or TEEM, these providers had to compete against these special advantages.[10]

[10] If ENvest[SCE] or TEEM was able to raise the overall level of demand for energy efficiency products and services regardless of who provided them, then all providers might benefit. But, ENvest[SCE] and TEEM are specifically differentiated to encourage customers to use ENvest[SCE] or TEEM's services. Energy efficiency products and services are not viewed as homogeneous commodities by customers. Customer perceptions of providers make a difference in an "immature" industry.

To the extent that these unique advantages better overcame customer concerns and barriers, full-service ESCOs were at a competitive disadvantage despite their periodic ability to persuade a customer of their superior ability to develop or deliver a project. Thus, while ENvest[SCE] and TEEM accelerated the market for some specialized and non-full service providers, they constrained it for full- service ESCOs.

THE NATURE OF THE POTENTIAL COMPETITIVE ADVANTAGES FOR ENvest[SCE] AND TEEM AGAINST POTENTIAL COMPETITORS

The potential competitive advantages for ENvest[SCE] or TEEM against potential competitors could or did arise out of five distinct, but interrelated, sources:

(1) Privileged access to utility information/billing/marketing system due to affiliation with a regulated utility;

(2) The use of ratepayer funds to pay program administrative costs and/or provide subsidies to customers (for SCE/ENvest[SCE]);

(3) Special advantages only available to a public utility and its affiliates;

(4) The use of a utility's name recognition, reputation, and other related advantages due to the affiliation with a regulated utility; and,

(5) Control over the qualified Service Provider network.

Following is a discussion of each of these sources of potential competitive advantages for ENvest[SCE] or TEEM.

(1) Privileged Access to Utility Information/Billing and Marketing

There are several potential competitive advantages that this access could provide to a utility-affiliated ESCO such as ENvest[SCE] or TEEM.

- Access to customer billing and usage information. A utility affiliate could have ready access to customer usage information. The Project Team does not find that this access was a meaningful competitive advantage in either of the pilots. Any person or company with a

release signed by the customer can secure this information. Thus, while there may be less hassle to access it directly, the hassle to get and submit a release from the customer is hardly an imposing competitive disadvantage. In addition, this potential advantage could be eliminated by requiring all companies to submit releases. The TEEM pilot operates in this manner with no apparent ill effects.

A second potential advantage that access to customer billing and usage data could provide is that makes it easier and less expensive to locate and target attractive potential customers in the first place. While this advantage combined with other proprietary customer information could be quite valuable, it did not play a significant role in the pilot due to both pilots' choices to rely on more passive techniques for marketing.

The other significant benefit that a utility-affiliated ESCO could enjoy from the use of a utility billing system is to allow customers to repay projects through their utility bill. ENvest[SCE] and TEEM are in fact designed to allow this to happen since easy repayment was perceived as way to reduce the hassle for customers. The ability to repay on the bill has been valued by some participants in the pilot, but for reasons more than avoided hassle. The ability to repay on the utility bill, according to interviews, is attractive to some municipal and school customers who find it valuable to reinforce the characterizations of their projects as reducing operating expenses rather than as capital investments. Repayment through the utility bill was not described as a project stopper by potential customers. In addition, access to repayment through the utility bill could be required by the Commission to be made available to all providers who wish to offer the option.

However, the tariffed nature of the ENvest[SCE] project including repayment on the bill was a crucial factor in ENvest[SCE] securing its market niche in the federal sector.

- Access to privileged or proprietary customer and market information. Utilizing ratepayer funds, utilities have compiled extensive research and information particularly concerning their large customers and the trends and forces operating in large customer markets. These kinds of strategic analyses could be quite useful in understanding customers to increase the effectiveness of the marketing strategy pursued. While SCE and SoCal have substantial information on their large customers, the Project Team did not find evidence that much of it was used in the pilots to target and market to specific customers. Indeed, much of the information at SCE focused on large commercial and industrial private customers with whom ENvest[SCE] was the least successful in trying to enter the performance contracting market.

This potential advantage will exist as long as the information is unavailable to all competitors and/or the utility-affiliated entity does not have to pay fair value for the information. Potential competitors in the pilots were not allowed access to this information. Because ratepayers paid for the ENvest[SCE] pilot's administrative costs, including marketing development, ENvest[SCE] as a regulated entity did not pay for the value of this information. But, the nature of this advantage may primarily be one of cost and time because most of the strategic information could be readily assembled from public sources. Thus, while we do not find that access to this information in the pilots created a meaningful competitive advantage for either the ENvest[SCE] or TEEM pilots, it conceivably does have that potential.

- Access to a utility's customer billing and mailing system could also provide a competitive advantage to a utility-affiliate in the form of reduced costs. Having a system in place to do direct or targeted mailing is of significant value. However, neither pilot used the utility's billing/mailing system for marketing purposes. It is therefore a potential advantage that ENvest[SCE] and TEEM chose not to use in the pilots. TEEM in fact had to develop internal resources because the SoCal billing system could not meet its needs.

- Access to SCE's or SoCal's Customer Representatives provided ENvest[SCE] and TEEM with the potential to generate marketing leads and to reinforce the customer's affiliation of ENvest[SCE] or TEEM with a regulated utility. As noted in Chapter 5, ENvest[SCE] did receive referrals from these SCE representatives which proved of little value. TEEM used customer representatives for marketing, without much success, but paid the fully allocated cost of the personnel for doing so. ENvest[SCE] representatives also informed customers that they had other options other than ENvest[SCE]. Our interviews and reviews of customer satisfaction reports indicate that customers already know that they had other choices. Based on our interviews and surveys, the primary benefit from using utility Customer Representatives has been the good will established with many large customers. Customers have worked with utility representatives in the past to meet their needs whether it be improved rate options or energy efficiency. This real world experience has produced trust in many cases for SCE or SoCal. Again, the potential for greater competitive advantage from the use of utility customer representatives is possible. But, we did not discern any use of such resources in these pilots that created any significant unfair competitive advantage.

The potential competitive advantages from some aspects of having privileged access to billing and marketing information and capabilities should not be understated. Both existing competitors and potential new entrants would face costs to duplicate the benefits of such access that utility affiliates

may not. But, for the purpose of reviewing the competitive impacts of these pilots, this privileged access was not used as a meaningful competitive advantage in these pilots.[11]

(2) Ratepayer Funded Benefits

This section is only applicable to ENvest[SCE] as TEEM did not use ratepayer funds. A longstanding concern about regulated public utilities is their potential ability to subsidize competitive ventures out of their monopoly ratepayer revenues. This cross-subsidization would allow them to underprice their product relative to its cost and the market, increase the ability of the subsidized firm to withstand extended intense price competition and allow more resources to be spent on differentiating the subsidized firm from its competitor without affecting the price of products and services.

ENvest[SCE], as structured, intentionally used ratepayer funds to "subsidize" the operations of ENvest[SCE] precisely to make its offered services more attractive to customers. It did so in three important ways.

- First, $13 million of previously unspent DSM funds were available to ENvest[SCE] as ratepayer co-investment to increase the value of the project for customers. School, municipal and federal government customers liked the co-investment because they could extend the terms of loans/leases and reinvest some of the savings in modernizing their facilities. Other customers simply liked receiving a targeted rebate which meant less of their own money that would have to be spent up-front or repaid. While this ratepayer co-investment may be a more effective and cheaper way to capture resource and societal benefits than traditional rebates, they still represent ratepayer subsidies to the customers who received them. These customers and potential customers indicated that the availability of ratepayer co-investment may be an important factor in their decision making.[12] This is particularly important as some customer indicated that, in their experience, ESCO offers were unattractive because the lending term was too short and/or the sharing rate retained by the ESCO too high. The ratepayer co-investment was used to extend loan/lease terms and ensure an estimated savings share for the customer.

- Second, the administrative and operating costs of ENvest[SCE] during the pilot were paid up to $8 million by ratepayers funds. This "subsidy" meant that no general administrative costs

[11] The intangible benefits produces by prior SCE or SoCal Customer Representative work with customers are discussed subsequently in this Chapter.

[12] As noted in Chapter 6 and elsewhere, some customers were primarily interested in full project financing. The ratepayer co-investment may only have been a nice add-on in these situations.

were recovered in the price of projects for customers and that the ramp-up, learning curve experience and initial marketing and securing of market niches (e.g the federal sector) or entry into other sectors (e.g., schools and municipalities) were paid by SCE ratepayers. Competitors must bear these same costs and recover them in their prices charged to customers. In addition, competitors, particularly new entrants, would potentially have had to compete against an experienced, established firm which got that way without internalizing its administrative costs.[13] ENvest[SCE] was able to differentiate itself from other firms and begin to establish customer loyalty of its own without paying for it. Again, this subsidy increased the attractiveness of ENvest[SCE]'s projects to certain customers in a way that other firms could not do.

- Third, ratepayer funds served as an initial loss reserve fund for bad debts. This subsidy, however, appears to have been a two-edged sword. Because of the presence of this ratepayer funding (as well as a desire to protect SCE shareholders), ENvest[SCE] established high credit standards for customers. These high standards have excluded some customers (particularly large commercial and industrial customers) from participation and made it difficult to come to agreeable security provisions with other potential customers. The presence of the ratepayer funding however means that ratepayers rather than shareholders will bear the first $2 million of bad debts. Competitors would welcome a similar benefit.

Ratepayer funding provided a significant competitive advantage to ENvest[SCE] in terms of potentially becoming a going concern business with established market share and recognition, allowing normal business operating costs to be excluded from the price of its products and significantly increasing the attractiveness and value of ENvest[SCE] to potential customers in some cases. It also served as a significant deterrent to new entrants who would reasonably assume that they must compete with a subsidized affiliate of a utility with considerable public presence in the Southern California region. It provided a substantial benefit and competitive advantage for ENvest[SCE] against other competitors.

(3) Special Tangible Benefits Available Only to the Affiliate of a Regulated Utility.

As has been noted several times, ENvest[SCE] was successful in breaking into the federal sector ahead of performance contracting firms because it could be provided as a tariffed service due to its affiliation with SCE. SCE should be commended for seizing this opportunity to accelerate activity in the federal sector in Southern California. But, the benefits and advantages of being first or

[13] As noted, SCE did not seek to extend authorization for ENvest[SCE] beyond the December 31, 1995 date originally authorized for the pilot by the Commission.

offering a more attractive option because of a governmentally conveyed "franchise" were not available to potential competitors. This therefore represents a clear competitive advantage for ENvest[SCE].

One other potential competitive advantage from simply being affiliated with a regulated utility is the potential economies of scale for financing. This potential advantage would be reflected in customers having access to more attractive financing than available in the market. It is clear, however, from surveys and interviews with both customers and service providers that the financing rate offered by ENvest[SCE] was perceived to be high. It was acceptable to some customers (those without access to reasonably priced capital) as part of an overall package. But, many potential customers noted that less expensive financing was available. Indeed, using third party financing such as the TEEM pilot does or allowing customers to use other lower cost funds would have increased the attractiveness of the ENvest[SCE] pilot according to potential customers. Based on our interviews and surveys, financing costs in this pilot were not a competitive advantage for ENvest[SCE].

This latter conclusion is supported by the experience to date in the TEEM pilot which relies exclusively on arranging third party financing. Based on customer comments, the ability to arrange financing terms and structures that best fit a customer's needs seems clearly superior to the offer of a utility-funded financing package. In addition, financing leverage is a matter of size. While a utility affiliate may enjoy an advantage over smaller competitors, it is not clear that they would so with equally large competitors such as Honeywell, Johnson Controls or potential competitors such as unregulated utility energy services affiliates or combinations of equipment manufacturers, ESCOs and power marketers, brokers or suppliers.

(4) Intangible Benefits From Affiliation With a Regulated Utility

ENvest[SCE] was explicitly designed to take advantage of the intangible benefits enjoyed by SCE.

> By applying Edison's long-term investment horizon and capital access, with its name recognition as a reliable company committed to the future of Southern California and its convenient access to customers, ENvest[SCE] has the potential to build a new form of infrastructure to support this region's future economic development.
>
> (Advice Letter No. 1011-E, Attachment A, pages 1-2.)

TEEM was similarly designed to convey the benefits of intangible utility "assets" to the utility affiliate.

These intangible benefits include: the regulated utility's broad name recognition in the Southern California region due to its role as the sole supplier of an essential service; its generally perceived reputation for technical competence in matters related to the use of energy; its perceived long-term commitment to the region; and its perceived neutrality as to the manufacturers and vendors of the products and services that use its core product.

The benefits to a potential utility affiliate from its affiliation with a regulated utility can be substantial. Competing firms, especially new entrants into a market, spend significant amounts of money and resources on differentiating themselves from their competitors. Trying to persuade customers why they should do business with you, not someone else, is a life and death matter for competitive firms. New entrants must risk significant funds to achieve this goal, particularly against well entrenched incumbents with significant customer loyalty. For example, trying to convince Macintosh users to buy Windows is a risky (and perhaps foolhardy) expense.

ENvest[SCE] and TEEM, by their close affiliation to SCE and SoCal respectively, appear to have been able to have the intangible benefits enjoyed by the regulated utility transferred to them. Customer survey information and interviews indicate that most people trust SCE or SoCal and that they currently perceive ENvest[SCE] and TEEM to essentially be the same as SCE or SoCal. This is a significant competitive advantage in terms of foregone marketing cost, but more importantly in terms of being able to differentiate oneself to customers on the basis of trust, reputation for competence, and the fact that the utility affiliate will be around to back up its work because the regulated utility is not going away. It is these very intangible values that were the basis of the ENvest[SCE] and TEEM designs to overcome customer concerns about risk and uncertainty: whom they can trust for useful information, how to go about identifying and doing what is really in their self-interest, and sometimes eliminating the pervasive uncertainty of whether you can believe anyone.

These intangible values were real competitive advantages because potential customers were historically skeptical about what they expected from providers in the performance contracting energy efficiency market. Like any immature industry, the performance contracting industry has had its share of "fly by night" operations as well as providers who did not provide valuable services to their customers. The pilots, as structured, used the intangible benefits of a regulated utility to overcome the risk and uncertainty for customers about the quality of providers in part by ensuring service quality through the qualified provider network. ENvest[SCE]'s and TEEM's decision not to use a specific product or service provider also reaped benefits from some customers who stated that this neutrality reassured them that ENvest[SCE] or TEEM would pick the best provider and the best product

for them.[14] The pilots' role in trying to establish a reputation of high quality providers in the industry who can be trusted may be one that will benefit all players in the industry.

Based on customer comments, these utility affiliation benefits increased the chance that ENvest[SCE] or TEEM would get in the door with more customers to market or show what they could do. During at least the initial start-up period, this capability, attained without the need for extensive proactive advertising and cost, is a significant competitive advantage as long as potential customers do not perceive a fundamental difference between the utility affiliate and the regulated utility.

It should be acknowledged that the benefits from affiliation with a regulated utility could be transitory. Like any competitive advantage, the benefits could be lost if ENvest[SCE] or TEEM does not deliver valuable services to customers. It is likely that poor performance either in marketing and/or implementation will create a "stand-alone" reputation for a utility affiliate that differentiates it from the regulated utility. In addition, over time in an industry in which personal business relationships are as important as technical and management competence, it could be expected that, at least among networks of potential customers, a TEEM's or ENvest[SCE]'s success will be dependent on their own abilities as potential customers distinguish between the utility affiliate and the regulated utility.

But, if getting more opportunities to present what you have to offer or being received in a somewhat more trusting light is the product of affiliation, as many customers comments in these pilots indicate they are, then as long as your product is as good as the competitors', you have a meaningful advantage. Based on the experience from the pilots, affiliation with a regulated utility was a meaningful advantage. To the extent that even a transitory advantage allows a utility affiliate like ENvest[SCE] or TEEM to establish a long-term niche in the market without significant cost, the advantage is meaningful, significant and would result in an adverse impact on potential competitors.

(5) Potential Impacts of the Qualified Service Provider Network on Competition

If as these pilots suggest, the use of regulated utility tangible and intangible resources by affiliates created a competitive advantage, their control over service provider access to these advantages further leveraged that competitive advantage. There are three primary impacts that ENvest[SCE]'s and TEEM's use of a qualified Service provider network had on competition under these circumstances .

[14] As noted, TEEM has on occasion had to overcome the perception that it was biased in favor of solutions that would increase the sale of natural gas. Interestingly, potential customers did not make similar comments about ENvest[SCE]. This may be due to the fact that most saving opportunities in the pilots have been traditionally electric end-uses.

First, excluding a service provider from qualifying would also exclude them from the potential competitive advantages enjoyed by ENvest[SCE] and TEEM. A service provider who did not become an ENvest[SCE] or TEEM qualified provider would have to compete against them or find a market niche in which ENvest[SCE] or TEEM did not operate (for example, a niche that has been bypassed probably because it did not appear to be profitable). ENvest[SCE] and TEEM during their pilots qualified all of those service providers who applied and met the minimum qualifications. Thus, during the pilots, this means of market control did not occur.

There is a reason for concern, however. It is a time consuming and potentially trouble laden job to try and maintain a very large number of qualified service providers. Operating with a few select providers would be easier, allow more consistency and continuity in quality of projects and avoid the potential problems of unhappy providers who are not getting work. Thus, it would make rational business sense to limit the size of the qualified service provider network. The effect of such a rational business decision would be to favor only certain providers with access to ENvest[SCE]'s or TEEM's unique advantages.

Second, being qualified as a service provider only opens up the potential for work. ENvest[SCE] and TEEM in their discretion would segment projects as they wished and select which providers would have the opportunity to bid for work. Thus, they had the potential to control who got work, including by segmenting work in such a way that full party service providers must operate as specialized contractors.

A similar effect is produced, if a large number of firms are qualified, but there is only limited work available. Full service ESCOs generally partner with a small number of specialty firms because it is necessary for an effective partnership for there to be adequate work for all partners. This was the result in the ENvest[SCE] pilot in which there are a large number of providers but not enough work to keep them busy. The TEEM pilot has only recently started to ramp-up implementation activity, but the same result could be expected.

Third, the ENvest[SCE] and TEEM concepts remove direct service providers one step from customers. It was ENvest[SCE] or TEEM that presented designs or deals to the customer, not service providers. The potential problems this created were: (1) that ENvest[SCE] and TEEM became a filter as to which service providers got to provide services to customers and (2) a service provider becomes dependent on the quality of ENvest[SCE]'s or TEEM's presentation and/or understanding of the potential solutions for a customer to receive work.

The pilot entities, by influencing customer demand, served a similar function to a wholesaler or retailer who creates demand and thereby can increase its power by selectively providing access to that increased demand.

> The buying power of wholesalers and retailers is determined by the same rules, with one important addition. Retailers can gain significant bargaining power over manufacturers when they can influence consumers' purchasing decisions... Wholesalers can gain bargaining power, similarly, if they can influence the purchase decisions of retailers or other firms to which they sell.
>
> Porter, Competitive Strategy, page 26. (emphasis in original)

These competitive advantages were also the primary means which ENvest[SCE] and TEEM used to differentiate themselves in the market. Control of the qualified Service Providers network was the key to exerting power, because access to ENvest[SCE]'s or TEEM's network was the only way to enjoy ENvest[SCE]'s or TEEM's competitive advantages.

The experience from the pilots indicate that ENvest[SCE] and TEEM have been far more inclusive in qualifying providers then rejecting them. Thus, while control based on exclusion from the network remains a potential source of power, it was not used as such in these pilots. However, ENvest[SCE] and TEEM retained substantial discretion as to how to bid projects (e.g., as a whole or in components) and who would be offered the opportunity to bid. ENvest[SCE] and TEEM chose to split up projects into components for bidding purposes. There could be good justifications for such a choice including the nature of the project and the desire to spread limited work around to as many qualified providers as possible. But, the impact was to preclude full service providers from being able to provide overall program development, management, or financing services rather than ENvest[SCE] or TEEM.[15] How a project was broken up to select providers to develop and implement it affected who got the tangible rewards from increased customer demand induced by ENvest[SCE]'s or TEEM's competitive advantages.

ENvest[SCE]'s and TEEM's role as arranger/project developer/project manager/provider or arranger of financing maintained their traditional close relationship with their large customers. That could have been the result of a decision to provide those specific services in order to ensure that customers were motivated to proceed with a project because of the utility's tangible presence and that customer needs were met in a way, that would not diminish the utility-affiliate's or the regulated utility's

[15] Full service providers can participate by bidding on components. This in essence forces them to operate like specialized contractors, rather than full service firms.

reputation. The use of ENvest[SCE] and TEEM Project Managers as the prime point of contact between the provider and the customer could reduce hassle for the customer. But at the same time, that process further tended to isolate customers from potential full service provider competitors. Thus, the effect of the qualified Service Provider networks was ENvest[SCE] and TEEM maintaining a primary and direct relationship with their customers. But, as a result, the Network could be used as a means of market control to avoid potential competition for its large customers from existing and potential competitors.[16]

The dual combination of special ability to influence customer demand and to determine who had access in what form to its large customers also served as a potential barrier to new entrants in the performance contracting market in Southern California. Unless new entrants could offset and withstand the unique competitive advantages enjoyed by ENvest[SCE] or TEEM, their choices were to look for "market discontinuities" where they might carve out a niche or compete facing all the normal barriers to entry (i.e., less favorable economies of scale, competing against customer loyalties, risking large up-front capital expenditures to try and differentiate oneself, a potential learning curve for experience, and expected retaliation from the established firm) as well as unique competitive disadvantages. The other option was to participate in ENvest[SCE] or TEEM. It is conceivable that some firm could seek to both compete and participate, but they would potentially be subject to retaliation in terms of project work selection.

There was another factor that further increased the value of ENvest[SCE]'s and TEEM's competitive advantages. The limitation of utility rebates for the large customer market has significantly limited the threat of substitute products; at least for energy efficiency products and services. A substitute service is one which will serve the same function for the buyer as other products or services. ENvest[SCE] and TEEM offer a bundled set of services to a customer. There may well be customers who would prefer to buy unbundled services or a different bundle. These different options will still be affected by customer market barriers. Traditionally, utility rebates were used to overcome customer market barriers for some of these types of offerings. The limitation of these rebates limited the likelihood that current offerings would be attractive in lieu of participating in ENvest[SCE] or TEEM, or perhaps doing nothing.[17]

Finally, it is important to remember that ENvest[SCE] and TEEM did not compete directly with most service providers and that most service providers were unlikely to perceive ENvest[SCE] or TEEM as a

[16] It also would discourage service providers from referring leads unless they were confident that the customer would designate them for the desired scope of work, rather than have to bid. Both TEEM and ENvest[SCE] honored customer designations. But, the risk was still there.

[17] See Porter, Competitive Advantage, Chapter 8, pages 273-314.

competitor. Rather, they liked ENvest[SCE] and TEEM to the extent that it can increase the opportunity for the sale of their products and services. These providers of complementary products and service, however, were by definition dependent on ENvest[SCE]'s or TEEM's success for their own. The less that these service providers have independent channels to sell their products and services, the more that they must rely on ENvest[SCE] and TEEM-type offerings.[18]

> As with differentiation, the benefits of controlling a complement for pricing do not require that the firm sell the product and complements as a bundle, or even that the firm has a market share in the complement that is comparable to its share of the base product. Thus, a position in the complement gives the firm a leverage point with which to influence the development of the complement's industry, and its position in the complement need only be big enough to allow exercising such leverage.
>
> Porter, Competitive Advantage, page 420.

ENvest[SCE] and TEEM were key access points to the customer for providers of complementary products and services. Simply, for the same reasons that ENvest[SCE] and TEEM had the potential to increase the sale of products and services in the performance contracting market, ENvest[SCE] and TEEM could also influence who benefited from or made those increased sales.

THE IMPORTANCE OF ENvest[SCE]'S AND TEEM'S UNIQUE COMPETITIVE ADVANTAGES[19]

The presence of "unfair" competitive advantages for only certain providers does not indicate the strength or importance of those advantages' impact on the level of competition in a market. For example, allowing a utility affiliate to use the utility bill to recover project payments may be an advantage, but less important in a competitive sense than providing the affiliate with ratepayer funds to subsidize customer projects. This section will attempt to analyze the importance of the primary competitive advantages enjoyed in these pilots.

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[18] If the complement is only a small part of a firm's overall business, the less important this fact may by. Simply, extra business is nice, but it is not crucial if it does not happen. A number of qualified service providers appear to be in this category.

[19] It is appropriate to recognize that these unique competitive advantages are in addition to other competitive advantages that ENvest[SCE] or TEEM may have because they offer services and products in a way that customer perceive as more effective and valuable. ENvest[SCE] and/or TEEM may out-compete their potential competitors in terms of marketing presentation or in the quality of what they deliver. A number of customers noted that they felt that ENvest[SCE] and TEEM personnel were very effective compared to other presentations or contacts that they experienced.

While it would be most useful to discuss the importance of each specific source of advantage, the nature of the ENvest[SCE] and TEEM pilots makes this difficult to do. The ENvest[SCE] pilot combined the advantages of the use of ratepayer funds, the benefits of affiliation with a regulated utility and control over access by customers and other service providers to these funds or benefits. The TEEM pilot only features these latter two characteristics. In addition, the pilots provide only limited experience to draw conclusions from. Most of ENvest[SCE]'s success was the result of a unique advantage and opportunity in the federal government sector. TEEM because of a slow start-up over its first year has only a limited number of customer contacts and less than a handful of signed contracts.

Thus, in ranking the importance of certain advantages, it is necessary to primarily rely on the comments of customers, potential customers and service providers, past DSM history and reasoned judgement. Based on these factors, it appears that:

- The use of ratepayer funds by a utility affiliate to subsidize program costs or customer projects creates a significant competitive advantage that adversely affects the level of competition in a market; and,
- The benefits of affiliation with a regulation can create a meaningful anti-competitive impact, although the strength and value of such affiliation is not uniform across the market.

Following is a more detailed discussion of the importance of these two advantages on the level of competition in the performance contracting marketplace during the pilots.

(1) Use of Ratepayer Funds or Tangible Resources

The ability to use the funds from regulated utility's ratepayer to subsidize the cost of customer projects provided ENvest[SCE] a significant competitive advantage. While utilities and Commissions may wish to eliminate or mitigate the potential rate impacts from the use of rebates, rebates do produce incremental activity in energy efficiency markets and are attractive to many customers.

The bundled design of the ENvest[SCE] and TEEM designs which address non-financial customer barriers as well as "first cost" barriers can be more effective with certain types of customers than simply the offer of a rebate. In essence, a rebate either is effective because other barriers are not present or because the rebate is so significant that certain barriers such as risk or uncertainty are outweighed. But, the history of utility DSM programs seems to clearly demonstrate that a primary reliance on rebates to overcome all potential customer market barriers will only result in a limited participation by potential customers.

But, as noted in Chapter 10, the use of rebates with more effective program designs can still be expected to increase the level of activity beyond what would have been produced by the improved designs alone. To the extent that rebates increase the resources that can be spent on a project by a customer or satisfy the customer's internal investment guidelines, incremental activity will be increased.

In addition, human nature seems such that if a person is offered what they perceive to be similarly valuable services but one offer includes a 20% discount, than most people will choose the offer with the discount. This discount can be the result of cross-subsidization through the ability to use another's funds without the obligation to repay (ratepayer co-investment in the ENvest[SCE] pilot) or to avoid having to include costs in your product because of the ability to use another's resources without repayment (program administrative costs paid by ratepayers in the ENvest[SCE] pilot).

To compete against a subsidized offering, a competitor must either be able and willing to match the subsidy or possess a unique advantage whose value to the customer exceeds the subsidy. Neither of these factors were present for ENvest[SCE] competitions.

Thus, while the presence of ratepayer co-investment expanded the opportunity for activity in the performing contracting market, it did so with strong anti-competitive impact. Perhaps the best evidence of the competitive value of being able to use ratepayer funds was the large number of service providers, including many field-service ESCOs, who qualified as ENvest[SCE] Service Providers because of their perception that the pilot could expand activity in the performance contracting market.

(2) Benefits Of Affiliation With A Regulated Utility

As previously noted, many customers and potential customers acknowledged that ENvest[SCE]'s or TEEM's affiliation with SCE and SoCal respectively was a factor in their decision making about: (1) whether to pursue a project and (2) whom to pursue it with. This blending of the utility affiliate with the regulated utility created a competitive advantage particularly with those customers who were confused as to what to do or whom to trust in the performance contracting market or perceived a great deal of risk in participating in the market.

The question that is difficult to answer based on the experience from these pilots is how valuable and lasting is this advantage of affiliation. The TEEM pilot embodies only this competitive advantage without the complication for analysis created by ENvest[SCE]'s use of ratepayer funds. Unfortunately

the limited experience to date from the TEEM pilot does not provide much help in answering the extent of the potential anti-competitive impact of this advantage.

What seems clear from the pilots is that this advantage varied in strength or value among potential customers. Some customers from the beginning distinguished between the regulated utility and the affiliate so there were limited, if any, benefits from such association. Indeed, for some customers the affiliation creates negative perceptions of TEEM or ENvest[SCE] because people thought of a regulated utility as bureaucratic, not very creative and unlikely to create the same value that a "real" competitive firm would. But, many customers, at least at TEEM's and ENvest[SCE]'s start-ups, did transfer favorable attributes from the regulated utility to the affiliate which made them more receptive to considering an energy-efficiency project offered by TEEM or ENvest[SCE].

The consequence of this more favorable perception because of an affiliation with a regulated utility was a competitive advantage in marketing to secure customers and to attain a niche in the market. The affiliation got ENvest[SCE] and TEEM in the door more quickly, or at all, to make a pitch to potential customers and created an aura of credibility and trust that improved the chances that the customer would react favorably to the proposal.

Thus, while it is very true that getting in the door is only valuable if you have something to offer that a customer is willing to buy, there are very few firms or marketers who would not like the advantage of getting in the door first or starting with an enhanced level of credibility in relation to many of its potential competitors.

The value of the benefits of affiliation with a regulated utility logically may only last as long as customers fail to distinguish between the regulated utility and its affiliate. Once an ENvest[SCE] or TEEM passes the ramp-up stage, they will start to acquire an identity and reputation of their own among potential customers. For example, a firm with a reputation for bad work is unlikely to be saved by its affiliation with a regulated utility. But, it is not obvious that an affiliate which in fact does good work in relation to its competitors will not continue to enjoy the benefits of affiliation with a regulated utility as well as its own good reputation in attracting new customers. ENvest[SCE] and TEEM highlighted their relationship to a regulated utility in their marketing presentations in order to create a perception of experience, quality and stability. Actually doing good work would seem to reinforce that the perceptions underlying the affiliation were true.

The benefits of affiliation with a regulated utility may however be vulnerable to attack by competitors. One source of the benefits are customer perceptions that since the utility is regulated to act in the public interest, is subject to regulatory oversight and has a long-term franchise that these

features are equally applicable to its affiliate. This argument is vulnerable when it is not true. Simply, many of the attributes that affiliates wish to receive from their affiliation with a regulated utility are directly related to the presence of regulation, not the provision of energy services per se. If regulation changes, so does the credibility of the affiliate's claim. The importance of this factor in a restructured industry environment will be discussed in the next Chapter.

Interestingly, if the benefits of affiliation are transitory, the affiliation advantage will no longer be available to change the dynamics of an "immature" market. It is possible that the utility affiliate that was able to enter the market could become a "market leader" and with others stabilize and expand activity in the performance contracting market.[20] But, if the utility affiliate was able to set the rules of the game for product policy, marketing approach and pricing strategy, it would be because that is what customers responded to. If that is what is needed to move the performance contracting market, entities other than utility affiliates would also seem able to provide it. The bottom line is that these pilots (at least to date) do not resolve how long of a competitive advantage the affiliation with a regulated utility lasts. But, what would seem to be the minimal benefit of this competitive advantage is that it allows a utility affiliate the opportunity to establish a permanent, and perhaps prominent, entry into the performance contracting market. The associated marketing costs that must be borne by other competitors to create an identity that overcomes customer confusion and concerns in an "immature" market or to counteract the utility affiliates' presence must be included in the price of their products and services.

Based on potential customer and service provider comments as well as service provider efforts to join the qualified ENvest[SCE] and TEEM Service Provider networks, affiliation with a regulated utility was a meaningful unique competitive advantage for ENvest[SCE] and TEEM that disadvantaged its existing competitors at least with some portion of potential customers in the performance contracting market.

The Project Team agrees with the observation of a long-time utility industry analyst:

> Name and recognition on the part of the utility's current customer base is a powerful market advantage that must be fortified to maintain market share.
>
> LeBlanc, Public Utilities Fortnightly at page 24

The Project Team concludes that ENvest[SCE] affiliation with SCE and its ability to use ratepayer funds and resources, provided it with a significant competitive advantage against its likely existing

[20] See e.g., Porter, Comprehensive Strategy, at pp. 216 - 234.

competitors. The affiliation of TEEM with a regulated utility appears to have been a meaningful competitive advantage based on customer comments. The primary competitive benefit provided by these advantages was ENvest[SCE]'s or TEEM's ability to uniquely be able to influence customer purchasing decisions concerning large scale energy efficiency solutions. By controlling the access to these unique means to overcome customer market barriers, ENvest[SCE]- or TEEM-type utility affiliates could potentially exert significant market power in the performance contracting market in Southern California and over the sale of complementary goods and services in that market.

POTENTIAL COMPETITIVE DISADVANTAGES FROM ENvest[SCE]'s REGULATED STATUS

The Project Team has spent a good deal of time enumerating and analyzing the competitive advantages that ENvest[SCE] and TEEM enjoyed because of their affiliation with a regulated utility. There were however potential disadvantages that were created for the ENvest[SCE] pilot because of its regulated status. The TEEM pilot was explicitly designed to avoid these potential disadvantages by using no ratepayer funds or resources. There appear to be four primary areas of impact.

(1) ENvest[SCE] was subject to the Commission's DSM guidelines for its projects. This meant that each project had to have a Total Resource Cost (TRC) benefit/cost ratio of at least 1.0, rather than simply be driven by what the customer wanted and valued. This TRC requirement points out the potential dichotomy between DSM based on a resource planning mode and energy efficiency delivered as a competitive service that must be valued by the customer.

(2) A second and more meaningful restriction on the ENvest[SCE] pilot were the DSM guidelines which limited permitted activities to those that promoted energy efficiency (including fuel switching if the "three prong" test could be met). This may have or could have restricted the attractiveness of ENvest[SCE], particularly to industrial customers who define value in terms of asset productivity or other uses that increase, not decrease, usage. The inability to offer what customers want in order to make an energy efficiency portion of such a project more attractive to a customer would be a competitive disadvantage.

(3) The regulatory oversight of a pilot can have an inhibiting effect on the implementation of a project. Flexibility may be limited by the concerns about the transaction cost of getting special approvals or concern about prudence or reasonableness reviews. These

factors seem to be at least partly responsible for the high credit standards used in the ENvest[SCE] pilot and the relatively inflexible financing structures. Real time decisions and delivery are characteristics of customer driven businesses. They have not been the characteristics traditionally of regulated utilities.

(4) Because ratepayers will pay for the administrative costs of ENvest[SCE] (up to $8 million), the Project Team does not consider the cost created by regulatory oversight to be a direct competitive disadvantage. To the extent that ENvest[SCE] personnel and resources were diverted from their primary mission, a competitive disadvantage could have occurred. Such an effect was not apparent in our review.

It would appear that some of the potential disadvantages, described above, were present in the pilot, particularly in relation to large commercial and industrial customers. These customers did tell us that several features such as limited financing options, high credit standards and lack of value were reasons that they chose not to participate or had been unable to reach an agreement. The inability to offer industrial customers what they want when it is something different than or in addition to energy efficiency can be a significant competitive disadvantage in the present as well as likely future energy services performance contracting market.

The Commission authorized the ENvest[SCE] pilot to proceed through December 31, 1995. SCE chose not to seek authorization to extend the pilot beyond that date. Instead, SCE filed an application to form an unregulated affiliate, NEWCo, to replace ENvest[SCE] on a going-forward basis.[21] (Application of May 22, 1995 to form NEWCo.)

The reasons for SCE's decision not to seek to extend the pilot and to form an unregulated affiliate were motivated in part by the same factor: the belief that only an unregulated provider would have the flexibility to offer large commercial and industrial customers what they needed to pursue large scale energy efficiency projects. The ENvest[SCE] pilot experience indicated that this could often mean the offer to provide non-energy efficiency services or means to improve asset productivity that were prevented by Commission DSM guidelines. (See Application Of Southern California Edison (U 338-E) For A Finding That Section 51 Does Not Apply To The Proposed Transfer of Envest Assets et al. Dated May 22, 1995, particularly pages 11-12).

In addition, the risk created to ratepayers through the use of their funds limited flexibility to offer and provide large customers what they wanted or needed. Therefore, SCE felt that the ENvest[SCE]

[21] ENvest[SCE] would continue, as it does today, to implement the signed customer agreements as of December 31, 1995.

model to be effective in the performance contracting market needed to be modified by foregoing the use of ratepayer funds and the restrictive regulation and risk environment that came with the use of such funds.

DEVELOPING AN EFFECTIVELY COMPETITIVE PERFORMANCE CONTRACTING MARKET IN SOUTHERN CALIFORNIA

The intensity of competition in an industry is commonly assessed by looking at the strength of five competitive forces within that industry. These five forces are: (1) the intensity of rivalry between existing competitors; (2) the threat of new entrants; (3) the threat of substitutes; (4) the bargaining power of suppliers; and (5) the bargaining power of buyers.[22] Applying this framework to the performance contracting industry in which the pilots operated, the following conclusions could be drawn:[23]

(1) The interest of many of ENvest[SCE]s (and to a lesser extent TEEM's) potential competitors to participate in the pilots indicate that limited effective customer demand for growth in that market may push potential competitors toward cooperation to expand demand rather than intense rivalry for increased market share in a limited market with firms that possessed unique competitive advantages.

(2) The threat of new entrants was limited by barriers to entry that include limited market demand without being able to establish a credibility and presence sufficient to overcome customers confusion and concerns about risk and uncertainty and, the potential retaliation from an entrenched firm that had special competitive advantages unavailable to the new entrant unless they cooperated with that firm.

(3) The withdrawal of most rebates from the large customer market has substantially eliminated the threat of substitutes to the services offered by ENvest[SCE] and TEEM.

(4) ENvest[SCE] (and to a larger extent TEEM) by being able to influence the decision making of customers by overcoming customer market barriers were, in effect, buyers with significant bargaining power over the sale of complementary products and services offered by qualified Service Providers. This bargaining power was reflected in

[22] Porter, Competitive Strategy, pages 3-33.

[23] The bargaining power of suppliers is not discussed here as it does not appear relevant to the pilot situations.

ENvest[SCE]'s and TEEM's control of the Service Provider network and who gets what work and how much. The use of competitive bidding for customer projects, creates competitive benefits for the customers. But coupled with the unique advantages enjoyed by ENvest[SCE] and TEEM, their control of provider process hardly can be described as an element of a competitive market.

The Project Team does not think that its conclusion that ENvest[SCE], as structured and implemented, had significant competitive advantages over its existing competitors, is particularly surprising given the purpose of ENvest[SCE]. The conclusion should be taken as no more than as a statement of the effect or impact of ENvest[SCE], as structured and implemented. TEEM's actions suggest that it agrees that its affiliation with SoCal is a meaningful competitive advantage. Its disagreement is that the source of this advantage is a shareholder "asset", not a ratepayer asset. ENvest[SCE] as well as TEEM, during this pilot, appears to have tried to mitigate the use of and concern about some potential "unfair" competitive advantages (e.g., access and use of proprietary utility information; qualification for the service provider network). But, by successfully doing what they were designed to do in certain market sectors, ENvest[SCE] and potentially TEEM have in essence created a reason to be concerned about their competitive impacts. If ENvest[SCE] and TEEM were unsuccessful, there would be no meaningful competitive advantages and there would likely be less activity in the current marketplace for large-scale energy efficiency projects.

This report has focused on the impacts of the ENvest[SCE] and TEEM pilots on the performance contracting market in Southern California. But, as noted throughout this report, the performance contracting pilot before the pilots was characterized by limited activity, the presence of meaningful customer barriers that limited customer demand and a lack of intense rivalry between potential competitors. The ENvest[SCE] and TEEM pilots interjected into this "immature" industry, two new players with unique advantages.

As Chapter 10 concludes, these advantages appear to have increased activity in the performance contracting market. But, they also appear to have redistributed some opportunities away from incumbent providers to the new entrants. The relevant question therefore is can increased utility activity in this market that increases the level of effective competition be created without providing certain providers unique advantages unavailable to others?

Answering this question depends on a consideration of more than the experience from these pilots. The pilots have been conducted in a period during which the main participants have been existing providers, ENvest[SCE] and TEEM. The types of potential competitors that might be able to overcome customer market barriers as effectively as ENvest[SCE] or TEEM because of reputation, size, skill,

affiliation, and effective operation did not seek to participate in the market during this time. Independent ESCOs' better able to match or overcome utility affiliation advantages may not be prevalent in the set of existing providers, but may with new entrants in a restructured utility industry.

A restructured utility industry may also undercut or limit the competitive advantages observed in these pilots. Thus, utilities may be unwilling to offer significant ratepayer contributions or may not be allowed to by regulators. In addition, affiliation with a regulated utility may mean less as multiple providers, including formerly regulated utilities from other jurisdictions, seek to market a broad range of energy services to large customers.

Thus, while the conclusions that this report draws about competitive impacts represent our analysis of the impacts from the pilots, they may be limited in their relevance to an era and situation that time is rapidly passing by. The one conclusion however that is unlikely to change is that the key factor to increased activity and effective competition in the performance contracting market is finding better ways to overcome the customer perceptions and other barriers that limit customer demand. It is very unlikely that simply eliminating the anti-competitive impacts noted in the pilots will do that.

Therefore, in the final Chapter of this report, the Project Team will assess; (1) how the potential anti-competitive impacts of ENvest[SCE] and TEEM type entities could be mitigated while retaining their ability to increase activity by overcoming customer market barriers; (2) whether utilities will be willing or able to use ENvest[SCE] type structures in a restructured industry; (3) whether affiliation with a utility will continue to provide valuable competitive benefits; and (4) whether the future entrants into a restructured energy services environment are likely to increase the level of activity and effective competition in the performance contracting market.

12. IMPLICATIONS OF A RESTRUCTURED UTILITY INDUSTRY/RECOMMENDATIONS

OVERVIEW

The ENvest[SCE] and TEEM pilots represent different stages in a recent trend in utility DSM programs away from primarily rebate driven programs to more "market" driven efforts. These "market" driven efforts have focused on removing "first cost" and non-financial barriers to increase the value of an energy efficiency investment perceived by customers. This increased value, with either a reduced or targeted use of rebates or no rebates at all, would hopefully increase the willingness of customers to pursue such investments with less potential rate impacts on or between utility ratepayers.

The experience of the pilots is that program designs that attempted to respond to an integrated set of customer barriers were effective in increasing the level of activity in the marketplace. However, during the course of these pilots, electric and natural gas industries have continued to move toward a more competitive, market driven environment in which utility concern about potential rate impacts from any source were heightened and strategic positioning to retain or gain market share became a paramount utility interest.

The ENvest[SCE] pilot was essentially a combination of the past and apparent future of utility energy efficiency efforts. While rebates and other valuable utility ratepayer tangible and intangible resources were used to induce customers to more actively pursue an increase in the level of societal benefits produced from cost-effective energy efficiency (a traditional utility DSM goal), the integrated program design, including the use of financing, was intended to mitigate concerns about the potential rate impacts from primarily relying on rebates.

TEEM was in this sense one generation beyond the ENvest[SCE] pilot. While TEEM sought to use an effective, integrated design plus arranging financing, it relied solely on a utility's intangible assets to ensure that there would be no potential rate impacts in an increasingly competitive industry. Thus, TEEM represents a shift from the traditional regulatory DSM paradigm of trying to capture as many cost-effective societal benefits as possible to a test of how many of these benefits might be captured without using tangible utility resources, particularly ratepayer funds. In this sense, TEEM was consistent with the current trend in regulation and among utilities to move away from reliance on

rebates to programs that attempt to persuade customers to use their own resources (or savings) to implement a project because there is a net value created for customers from such projects.

The future restructured electric and natural gas industries therefore raise several issues for the lessons learned from the ENvest[SCE] and TEEM pilots. The three most prominent questions are:

(1) Are the regulatory objectives and policies underlying the ENvest[SCE] and TEEM pilots likely to be important in a restructured industry as to the role that regulated utilities play in capturing cost-effective energy efficiency opportunities?;

(2) Are their ways to mitigate the potential anti-competitive advantages received by ENvest[SCE] and/or TEEM from their affiliation with a regulated utility? This issue directly impacts on whether such pilots are or can be made to comply with the directives of Chapter 984 of the Laws of California enacted in 1983 that seeks to ensure that investor owned utilities do not use their status as monopolies to dominate the energy conservation business or exercise unfair market power. A significant issue in answering this question concerns who owns the intangible benefits created by affiliation with a regulated utility: utility shareholders or ratepayers; and,

(3) Is the context in which the pilots were conducted likely to be representative of the potential participants and extent of active competition in energy efficiency markets in a restructured industry?

This Chapter will consider the implications of a restructured industry on the lessons learned from the pilots in an attempt to address these questions.

CHANGES IN REGULATORY AND UTILITY OBJECTIVES INCLUDING THE ROLE OF UTILITIES IN PURSUING ENERGY EFFICIENCY

Chapter 984 of the Laws of California provides:

> Section 1: The Legislature finds and declares it is in the best interest of the state to ensure competition in the energy conservation industry because of innovation, price competition, aggressive marketing, and freedom of entry which characterize competitive industries, and that the energy conservation industry, because its (sic) decentralized nature, has the potential to be truly competitive.

The Legislature further finds and declares that the current uncertainty with regard to the role of electrical and gas corporations subject to regulations as public utilities by the Public Utilities Commission with regard to energy conservation development hinders the full-scale development of the energy conservation industry, and therefore requires legislative clarification.

The Legislature further finds and declares that there may be an inherent conflict for a public utility which furnishes gas and electricity on the one hand and installs energy conservation materials or devices on the other hand, and that it would be detrimental to the energy industry and to the state if privately-owned public utilities used their status as monopolies to dominate the energy conservation industry or exercise unfair market power.

The Legislature further finds and declares that the basis for regulation of public utilities extends to their participation in energy conservation development as well as in the production and delivery of forms of energy derived from conventional sources.

It is, therefore, the intent of the Legislature that the Public Utilities Commission be given a clear and explicit mandate to regulate the involvement of electrical and gas corporations in energy conservation development, and to ensure that the energy conservation industry develops in a manner which is competitive and free from the potential dominance of regulated electrical and gas corporations.[1]
(Emphasis added.)

The purpose of Chapter 984 is to ensure that the benefits of competition are enjoyed in the energy efficiency products and services area. These benefits would not be present if a regulated utility was able to either control the marketplace or compete with "unfair" advantages that are not available to their unregulated competitors. The thrust of Chapter 984 is that a "level playing field" should be ensured if regulated utilities are allowed to compete in the energy services marketplace. Indeed, the legislature went so far as to find:

...that the basis for regulation of public utilities extends to their participation in energy conservation development as well as in the production and delivery of forms of energy derived from conventional sources.

The directive to the Commission of Chapter 984 is to:

[1] This view is also expressed in Section 701.1, Section 746, and Section 747 of the California Public Utility Code.

...ensure that the energy conservation industry develops in a manner which is competitive and free from the potential dominance of regulated electrical and gas corporations.

Meeting this directive requires a consideration of how the benefits of increased customer demand and the corresponding increase in business for service providers can be attained without potential anti-competitive impacts. A discussion of the possible alternatives, however, must be put in today's context of the changing nature of the utility industry and a regulated utility's relationship with its large customers.

Chapter 984 was enacted in 1983, a period when regulated utilities were considered to be the monopoly suppliers of electric and natural gas services. Aside from a potential threat of self-generation, large customers, like small customers, were the "captive" ratepayers of the regulated utility. Also during that period in California, utilities were expanding their intervention into the EEPS marketplace, primarily at the urging of the Commission to help customers moderate their bills which were escalating due to substantial rate increases.

The utility industry has and is changing significantly from its structure in 1983. This Commission's efforts at developing a restructured, more competitive industry in which customers have more choices is perhaps the best example of what is going on around the country. One of the choices that customers, especially large customers, would have in a restructured industry is the ability to choose from among a variety of potential suppliers. The services that customers could choose to meet their energy needs could range from conventionally generated electric power and natural gas to energy efficiency.

This change in the nature of the regulated public utility industry is important to understanding the potential role of utility affiliates such as ENvest[SCE] and TEEM, their potential competitors, and the possible means that may be available to reconcile utility affiliates' ability to stimulate, but also control the performance contracting market at the same time. In 1983, regulated utilities were offering energy efficiency services, mainly due to Commission directive, because various market barriers were perceived as preventing that marketplace from effectively operating to capture the market potential believed to be available. This is the same motivation underlying the Commission's authorization of the ENvest[SCE] pilot. What is different between 1983 and today are the motivating forces behind individual utility energy efficiency efforts.

In the early 1970s through 1994, when restructuring discussions began to dominate the regulatory agenda in California, the primary motivating force for energy efficiency efforts for regulated utilities was regulation. It was regulators who pushed regulated utilities to intervene in energy efficiency

markets to capture as many societal benefits as possible. The ENvest[SCE] pilot typified such an intervention. It was this regulatory pursuit of a public policy goal using regulated utilities that created concern for unregulated energy conservation providers. The threat created was that regulated utilities would be used to directly provide services and/or that regulated utilities would be allowed by regulators to intervene in the market to favor one group of providers over another. In essence, either regulatory prodding to achieve a societal objective or regulatory inability to assure non-discriminatory market intervention was the threat perceived by unregulated providers as much as the potential self-interest of the pursuit of new profit sources by utilities. Chapter 984 is aimed as much at restraining the Commission's pursuit of energy efficiency goals as ensuring the Commission restrained those of regulated utilities.

The anticipated restructuring of the electric and natural gas industries fundamentally changes the potential level of activity and the competitiveness in large customer energy efficiency markets. It does so in two primary ways:

(1) It changes the nature of regulatory policy toward energy efficiency by individual utilities. While the Commission has committed to seeking funds available for energy efficiency in a restructured environment, the model for doing so has been a non-discriminatory charge (e.g., an access on line charge) that would not competitively disadvantage any particular energy provider. This movement to a non-discriminatory charge is a response to the concern about the adverse impact on effective competition in a restructured market that might be created by unequal obligations among potential competitors.

The restructured model is predicated on developing an overall framework to meet public interest goals within which individual competitors pursue their own self-interest subject to appropriate regulatory restriction and oversight to attain the desired objectives. This model changes the motivation for an individual utility to pursue energy efficiency from a societal perspective as mandated by regulators to a self-interested perspective as to what best serves the interests of the utility in a more competitive industry.

Simply, regulators in a restructured environment are unlikely to mandate the use of individual utility resources (for example, rebates) that may disadvantage the utility in an increasingly competitive marketplace.

(2) It changes the reasons that utilities will pursue energy efficiency efforts away from a regulatory mandate to attain societal objectives to a utility's perceived self-interest. In a monopoly environment, DSM, except for any resource benefits that a utility perceived were

really created, was primarily driven by customer service and regulatory driven public policy. Utilities often did it because regulators insisted on it. As long as the utility was effectively made financially whole and there was no significant adverse competitive impact (e.g. vis a vis cogenerators of because of business relocations), ratepayers resources were used despite an upward pressure on rates to achieve a public policy objective.

A restructured environment removes this "protection" that there will no adverse utility impacts from the pursuit of a public policy goal. When customers can buy from someone else the perspective on acceptable potential rate impacts, use of internal resources and the definition of private strategic interests change. Regulatory public interest motivations are replaced by perceptions of self-interest which are ultimately measured by determining what provides the greatest value to the utility and its shareholders in terms of increased profitability or improved strategic competitive position.

In a restructured environment, this test will translate into what provides the most net value to the utility and its shareholders. Potentially increased rates from the use of rebates and regulatory involvement due the use of regulated resources are not likely to pass this test. SCE's proposed non-utility replacement for ENvest[SCE] and the TEEM pilot embody the absence of regulated resources and regulatory involvement in future large customer energy efficiency effort by utilities. Rather energy efficiency efforts will be pursued if they increase net value to the utility: (1) by increasing net profits and/or (2) by retaining old or attracting new large customers by increasing the value to these customers of the bundle of services offered by the utility.

The threat to the competitiveness of energy efficiency markets in a restructured environment therefore will be driven by utility self-interest to earn profits and to protect and retain their existing large customers while successfully competing for new ones.

The future of utility affiliates such as ENvest[SCE] and TEEM cannot be divorced from this new market context in which utility self-interest rather than regulation is the primary driver of energy efficiency efforts in the large customer marketplace. The reason is that the aim of making money from energy efficiency can potentially be met in any number of ways as both the TEEM and ENvest[SCE] pilots indicate. However, if the competition is over who serves the multiple energy related or other needs of large customers, then it is imperative to the utility that the utility affiliate maintain a dominant role in the relationship with large customers.

But, the biggest risk for utilities is losing the close relationship they have cultivated with their customers over many decades.

(LeBlanc, Public Utilities Fortnightly, July 1, 1995, page 23).

Introducing potential competitors to its large customers is unlikely to seem an attractive mode of operating one's business for a utility in a more competitive industry.

The Project Team will discuss the options available to the Commission within the above context of either retaining the benefits available from utility affiliates which continue to use ratepayers resources and/or preventing any unfair advantages to utility or non-utility affiliates from their affiliation with regulated utilities.

OPTIONS CONCERNING THE STRUCTURE AND OPERATION OF UTILITY AFFILIATES PROVIDING ENERGY EFFICIENCY SERVICES

There would appear to be four primary options available to the Commission concerning the structure and operation of utility affiliates providing energy efficiency services such as ENvest[SCE] and TEEM.

(1) Allow an ENvest[SCE]-type affiliate to proceed as structured and implemented in the pilot, albeit with some program design changes intended to improve its chances to be more successful in the large commercial and industrial segments;

(2) Allow regulated utility affiliates such as ENvest[SCE] to proceed but limit their role solely to one of a facilitator which lends their tangible and intangible benefits to private businesses to develop activity in the large customer segment of the EEPS market;

(3) Promote the TEEM model which eliminates or counterbalances the primary sources of potentially unfair competitive advantages (e.g., eliminate unequal access to ratepayer funds and SCE's billing information and customer marketing systems). This option would probably require ENvest[SCE]-type functions to be provided by an unregulated affiliate which would not have unique access to ratepayer funds and resources or require the affiliate to adequately compensate the utility for the use of any tangible ratepayer resources.

(4) Modify the unregulated TEEM model by requiring compensation for the use of the intangible "assets" of a regulated utility.

The Project Team will discuss each of these options and their implications.

(1) Improve the ENvest[SCE] Model

A fundamental conclusion of this report is that ENvest[SCE] was partially successful in attaining its objective. The level of activity in the public and institutional segments of the performance contracting market in Southern California was accelerated by the presence of ENvest[SCE]. As a result, some service providers have received additional work. While less successful in other sectors, it is conceivable that a redesigned ENvest[SCE]-type program would be more effective. Therefore, one option open to the Commission would be to require an improved, regulated ENvest[SCE]-type program be implemented by utilities.

Underlying a decision to choose this option would be the conclusion that this is a valuable way to attain the desired objective of an expanded energy efficiency market. The Project Team in its discussion will consider whether this option is really the best or a viable way to capture the benefits sought, particularly in a restructured industry.

The question of whether an improved ENvest[SCE] model is a valuable way to increase energy efficiency activity involves a consideration of several issues:

(a) Whether the ENvest[SCE] pilot design increases customer demand for energy efficiency; and

(b) Whether certain features that would improve the attractiveness of the pilot, particularly to large commercial and industrial customers, could effectively be implemented in a regulated environment.

The first issue concerns which aspects of the program design influence customer decision-making. Our view, as set forth in Chapter 10, is that the primary determinant for ENvest[SCE]'s success was whether ENvest[SCE] has offered something of sufficient value to the customer in a way that the customer perceives the value of that offer. The three primary means of success for ENvest[SCE] were:

- Providing full service financing and full project development and management services for customers who did not have access to reasonably priced capital nor the internal expertise, resources, or interest in developing, managing, and/or ensuring the quality of a complex integrated energy efficiency project;

- The affiliation with SCE as an instant means of trust to overcome customers' concern about the risk and uncertainty created by such projects, including who can you trust to develop and manage such projects; and

- The ability to use tangible ratepayer resources unavailable to other competitors. The most important tangible ratepayer resources were ratepayer funds used to provide ratepayer co-investment to customers and the opportunity to repay on the utility bill.

The importance of those last two advantages to increasing activity in the large customer performance contracting market have been discussed in Chapter 10. Our conclusion was that these advantages did in the ENvest^{SCE} pilot increase and accelerate the level of activity in the marketplace.

But, the problem posed by the continuation of the core ENvest^{SCE} model relying on ratepayer resources is that it creates a substantial competitive advantage available to a regulated utility affiliate that is not available to its competitors.

The second issue has been discussed earlier in Chapter 11 concerning the potential limitation that ENvest^{SCE}'s regulated status had on its ability to offer attractive services to overcome market barriers, particularly for large commercial and industrial customers. As we speculated in Chapters 10 and 11, some large commercial and industrial customers may be more motivated to pursue complex energy efficiency projects if the non-energy efficiency benefits are substantial and/or energy efficiency projects are undertaken as components of valuable non-energy efficiency projects. If, as it appears, an ENvest^{SCE}-type affiliate is limited to only offering energy efficiency services (including fuel switching if the "three prong" test is satisfied), it may not be able to offer a substantial segment of large commercial and industrial customers what they want.

Therefore, while reducing the interest rate and increasing the flexibility of the structure of financial deals would increase the attractiveness of the ENvest^{SCE}-type offering to large commercial and industrial customers, it is not apparent that these changes alone would overcome the market barriers confronting large commercial and industrial customers. Non-standard deals of any kind may be difficult to pursue in a regulated context. Effective business practice means being able to deliver to a customer in a timely manner. The need or even the potential for extended review by regulators to protect ratepayers when ratepayer resources are used is a market barrier of its own.

The continuation of the ENvest^{SCE}-type model creates the most "unfair" competitive advantages for potential competitors of the regulated utility affiliate. In addition, the model also appears to have serious limitations in responding to the needs and desires of large commercial and industrial

customers. Thus, it would appear that this model will be unattractive to utilities in a restructured environment. Both SCE's proposed entity to follow ENvest[SCE] and SoCal's TEEM eschewed the use of tangible utility resources to avoid potential undesirable rate impacts and to avoid regulatory entanglements that limited the ability of the affiliate to be responsive to customer needs.

If the ENvest[SCE] model is to be continued as it was essentially structured in the pilot, then it would appear that: (1) its focus should be limited to the MUSH, federal government and perhaps certain large commercial niche markets (e.g., hotels and other property-type business) and (2) regulators must be willing to accept the anti-competitive impacts created on some service providers because of the unilateral ability for the utility affiliate to use ratepayer resources. Absent a Commission mandate, it does not appear that a utility would voluntarily choose this option for the reasons given above.

(2) Modify The Utility Energy Efficiency Affiliate Role To Facilitation Only

ENvest[SCE] and TEEM played an important role in accelerating activity in certain segments of the large customer performance contracting market in Southern California by facilitating the connection of customers with qualified providers. By using resources from and/or affiliation with a regulated utility, customer receptivity to large scale energy efficiency projects was increased.
As noted in Chapter 10, the pilots have functioned to address customer market barriers that exist in part due to customer perceptions of the current state of the performance contracting market. Thus, the pilots have been successful in motivating and facilitating potential customers to act.

Option 2 would alleviate potentially unfair competitive impacts on other providers by limiting a utility energy efficiency affiliate to simply a facilitation role. This approach would be similar to the marketplace that existed when utilities offered rebates and other services that were generally available to all large customers and could be used by service providers to promote their own projects or the sale of their own products and services.

The primary means of implementing this option would be to make the unique advantages for the affiliate available to open up market opportunities for other providers. This would mean that the utility affiliate would use the benefits of its affiliation with a regulated utility to increase the receptivity of a potential customer to actually pursuing a large scale project. Other service providers could then propose projects directly to the customer to meet their needs including the utilization of customer incentives such as ratepayer co-investment. Customers would be allowed to repay a project through the utility bill. Providers who used ratepayer resources such as the utility bill or

customer list, information etc. would be treated equally (e.g., if there was a cost to utilize resources, similarly situated providers would pay the same cost to use such resources).

A utility affiliate that operated in this manner would not appear to be a direct competitor to any service provider while still helping to expand activity in the market in a non-discriminatory way for all providers. This option would also address some service provider concerns that the pilots separated them from direct contact with customers so that they could more effectively address their own fate in securing business. Indeed, it appears that some full-service providers thought that Option 2 was how the ENvest[SCE] pilot might proceed when first conceived and implemented. The facilitator/general promoter role for utility affiliates would allow the benefits of market expansion or acceleration to occur without potential direct anti-competitive impacts on some potential providers.

There are three primary issues raised as to the viability or desirability of this option in a restructured industry. The first issue concerns whether a utility affiliate can play such a constrained role and still adequately overcome customers' perceptions and needs that currently limit their willingness to undertake large scale energy efficiency projects. The Project Team cannot answer this question based on the experience from the pilots alone. The reason is that both ENvest[SCE] and TEEM maintained themselves as the key, direct point of contact with customers. In essence, they used their advantages to benefit their interests. But, ENvest[SCE] and TEEM appear to have done so for two distinct sets of reasons.

One set of reasons has to do with motivating customers by instilling the sense that they were dealing with an entity which did not share the adverse traits that some customers perceived of other providers in the performance contracting market. It may not be enough to simply have a utility or a utility affiliate promote a general framework for large scale projects when customers want assurances that they can trust that the work will be done right and have confidence that savings can accrue. ENvest[SCE]'s and TEEM's oversight of the service provider network and the overall project management appear to have been key points of control that met customer needs of assurance. In addition, ENvest[SCE] and TEEM needed to have direct oversight if they were to provide effective or acceptable risk performance guarantees or assurances. There was also a strong incentive, particularly when learning about the capabilities of a broad set of providers, to remain in control because the utility's and the utility affiliate's reputation are directly impacted by how satisfied the customer is with the implementation and results of a project.

The second set of reasons for a utility affiliate maintaining the role of overall management and direct control of interaction with the customer grows out of the increasingly competitive nature of the energy services business. As noted, competition in the future is unlikely to be over simply who

provides energy efficiency benefits to large customers. Rather the competition will be over who meets the diverse energy related of large customers including providing kWs, kWhs or therms.

If the utility or utility affiliate is interested in selling these large customers services other than energy efficiency, then it makes sense for the utility affiliate to cultivate the close relationship with the customer, not to allow or help some other firm to do so. More importantly, the utility may be concerned about potential competitors trying to take these large customers away from its core business: selling and/or brokering energy. In this latter scenario, it would seem foolish in a business sense to put your traditional long-term close relationship with a customer on the back burner, while allowing a potential competitor to use your affiliation and resources to develop a close relationship with that customer.

It might be suggested that service providers, particularly full service ESCOS, are really only a limited threat who would much prefer to partner with a utility or utility affiliate than compete against it. That may in fact be true at the present time. But, the utility and energy services industries are changing and are only now developing to operate in what are likely to be more competitive energy markets in the future, in which large customers are in play. The recent consolidation of energy service companies and the trend for utilities to acquire or develop full service ESCOs to compete for other utilities' customers (particularly their large customers) has become more prominent over the last few years.[2] Under these conditions, it is not unreasonable, indeed it would seem imprudent to its shareholders, for a utility to not consider that partners today could be formidable competitors tomorrow.

> Don't worry about lost revenues from specific programs. Worry about ESCOs who are itching to steal utility customers.
>
> (LeBlanc, Public Utilities Fortnightly, July 1, 1995, page 21.)

Traditional competitive business strategy does not recommend voluntarily exposing your core business to effective competition, especially by lending your good name and resources to allow a potential competitor to secure a foothold.

Thus, Option 2 could mitigate the direct competitive impacts from ENvest[SCE]'s access to ratepayer funds and affiliation with a regulated utility by in effect allowing these unique competitive advantages to be used by potential competitors. But, it seems fairly clear that limiting a utility

[2] See e.g., LeBlanc, Public Utilities Fortnightly, July 1, 1995, pages 20-24; also Electric Utility Week's Demand-Side Report (McGraw Hill, May 11, 1995, May 25, 1995, June 8, 1995, July 6, 1995, and July 20, 1995).

energy efficiency affiliate to such a role shifts the burden of competitive disadvantage in a restructured industry to the affiliate utility. In effect, requiring the regulated utility affiliate to serve the limited facilitator role could prevent the utility from effectively competing to keep its existing large customers while requiring it to help its potential competitors gain entry to those large customers[3].

The desire to protect or shelter large customers from competitors could also affect the use of a utility's affiliate use of a qualified service providers network. The control of such a network allows the utility affiliate to assert market control over who gets the opportunity to market if the affiliate is able to get the potential customer to open the door. The only effective means to control this possibility is regulatory oversight which, as previously discussed, is unlikely to be very appealing to a utility that feels that regulation inhibits the ability to effectively deliver competitive services to customers.

Finally, Option 2 is likely to be unattractive to utilities as long as it contains a requirement to expend ratepayers funds in a way that impacts rates in a non-competitive manner or uses utility resources to attain socially desirable objectives at the expense of self-interested strategic business objectives. Using your resources for what is perceived to be someone else's benefit in a competitive industry is not something that many businesses would voluntarily choose to do or conversely, would certainly want the option to decide whether to do. In a restructured, more competitive market, utility assets and resources can be expected to be used to meet the strategic interests of the utility and its shareholders, not to attain societal objectives that provide limited benefit directly to the utility.

Option 2 may have been a viable option in the traditional regulated utility industry prior to the 1990s. It appears inconsistent with and unsustainable in a restructured utility environment. However, as will be discussed in Option 4, there may be alternative public institutions that could be created which could serve similar functions. For example, the funds collected from a non-discriminatory access or line charge might be combined with non-discriminatory access to valuable regulated utility resources such as repayment on the utility bill or customer lists and information in order to create a structure that could better overcome large customer market barriers to large scale efficiency projects. A public institution focused on promoting energy efficiency would not have the internal conflict of interest faced by utilities in a restructured environment.

[3]The consequences of losing the fixed margin from large customers could fall on the remaining utility customers who have the fewest alternatives.

(3) Require the Formation of a Non-Utility Affiliate With No Unique Access to Ratepayer Funds or Resources

Option 2 seeks to eliminate the potential anti-competitive impacts from a utility energy efficiency affiliate by limiting the role that the affiliate could play. Option 3 seeks to prevent unfair competitive impacts by establishing a "level playing field" in which the utility affiliate is put on the same terms as other independent providers to use the unique advantages available from a regulated utility. In essence, the utility energy efficiency affiliate would have to be formed as a non-utility affiliate subject to all of the Commission's affiliated interest requirements and reviews. In addition, if the regulated utility wished to offer certain services to the affiliate, they would have to be available on comparable terms to the affiliate's potential competitors.[4]

This Option would appear on its face to respond to both anti-competitive concerns as well as concerns that utilities should be allowed to determine what resources will be applied to individual energy efficiency projects and how those funds will be expended. For example, Option 3 would not require utilities to continue the use of ratepayer-funded rebates as customer incentives. If a utility wished to do so, those rebates would have to be available on comparable terms to other providers.[5] Indeed, it is unlikely that utilities, as exemplified by SCE's design for NEWCO or the TEEM pilot design, want to use ratepayer-funded incentives for the reasons discussed at the end of Option 2.

The use of a form of a discretionary "Golden Rule" for utility energy efficiency efforts would mean that the objectives of those efforts will be utility self-interested ones, not the traditional regulatory objectives of maximizing the capture of cost-effective societal benefits. Eliminating certain ratepayer funded resources, such as access to utility personnel or information when easily available sources of public information for marketing efforts are available is unlikely to significantly diminish the ability to stimulate greater activity in the large customer performance contracting market. But, as noted in Chapter 10, the elimination of customer incentives is likely to affect the level of activity by eliminating some increment of additional activity that would not likely otherwise occur.

An issue raised by Option 3 is whether "market driven" DSM (generally DSM without the use of incentives) will increase the level of activity in markets? Indeed, Chapter 10 concludes that the more comprehensive integrated designs in these pilots when coupled with regulated utility affiliation benefits increased or accelerated the level of activity that would otherwise have occurred. But such

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[4] For the reasons stated in Option 2, it would not be sustainable to mandate that an individual utility in a competitive market must provide customer rebates or pay program administrative costs for all potential competitors when the source and impact of expending those funds falls exclusively on utility ratepayers.

[5] This assumes that the Commission authorizes the use of ratepayer funds for such purposes.

a comparison is obviously a relative one. It is quite possible, if not probable, that better integrated designs that attempt to effectively overcome multiple integrated customer barriers will be more effective than designs that rely primarily on rebates to the neglect of other important non-financial barriers. But the ultimate issue would seem to be whether these improved designs when coupled with rebates would increase the level of societal benefits attained. The ENvest[SCE] pilot certainly suggests the answer is yes.

This does not mean however that designs such as the unregulated TEEM pilot in which no ratepayer-funded customer incentives are used will not increase activity over existing levels. Indeed, these pilots indicate that TEEM-type designs due to intangible benefits from affiliation with a regulated utility can increase activity and provide the utility affiliate an advantage in securing the benefits from such increased activity. Simply, the TEEM design has the potential to expand the market to create sufficient profitable opportunities that may justify utility shareholder efforts to participate in the performance contracting market. Whether utility affiliates can overcome the limited profits and high transaction costs experienced by other providers that may limit potential interest in entering or staying in this market, only time can tell.

The primary benefit, in terms of program effectiveness, of an unregulated affiliate would be to allow a utility affiliate to offer large commercial and industrial customers non-energy related project elements that are currently in conflict with the DSM guidelines that ENvest[SCE] had to abide by. Based on both the experience in this pilot and other industry experience, being able to offer these non-energy related options would increase the attractiveness of offerings to these customers[6]. In addition, ratepayers would not be risking their funds for such projects, but would enjoy the potential for direct resource benefits and indirect benefits (e.g., more economic activity in Southern California).

The questions is: must ENvest[SCE] move to an unregulated status to be able to respond to large commercial and industrial customer needs, or could existing restrictions caused by the current DSM guidelines be modified? An effective response would require that ENvest[SCE], if maintained as a regulated entity, have the flexibility to make real-time business decisions and to offer customers something that will not be changed subsequently, except by agreement of all the parties involved. In addition, important issues of risk would also need to be addressed if ENvest[SCE], as a regulated entity, was to offer services and products to meet customer needs that were not appropriately part of a service that ratepayers should support. While shareholders may be willing to risk investing their

[6] See e.g., Industrial Demand-Side Management Programs: What's Happened, What Works, What's Needed by Jennifer A. Jordan and Steven M. Nadel (American Council for an Energy Efficient Economy), March, 1993, pages 49-51; 65-66.

funds in electrotechnology or environmental compliance projects for large commercial and industrial customers, these have not traditionally been the types of investment that ratepayer funds have been allowed to be used for. How to separate the risk of potentially commingled shareholder and ratepayer-funded investments in a project, if possible, is a difficult problem.

Moving ENvest[SCE] to an unregulated status would mean that a "level playing field" would need to be established concerning access to any ratepayer-funded benefits or resources. As previously noted, except for the federal market in which ENvest[SCE]'s regulated affiliation created an initial competitive advantage, access to information and utility resources, including to the utility billing system or rebates, could be implemented in a non-discriminatory manner.

Simply, Option 3 is a recognition that the traditional regulatory goal of maximizing the capture of cost-effective energy efficiency savings would be replaced by design objectives that favor provider profitability and the elimination of potential adverse impacts on utility competitiveness in core energy markets and on non-participants in utility energy efficiency services. The public policy decision implicit in Option 3 is that private utility interest will drive the extent of utility activity in this market.[9]

Option 3 would in effect recreate the ENvest[SCE] pilot into the TEEM pilot. In that pilot, TEEM had no greater access to ratepayer-funded resources than its potential competitors (e.g., customer lists) or had to pay the fully allocated or market costs of such resources when they were used (e.g., the use of utility customer representative for marketing). Absent the unique advantages of using tangible ratepayer funds or resources, TEEM's only competitive advantage was the intangible benefits from its affiliation with a regulated utility.

The issues that arise from the presence of intangible benefits of affiliation with a regulated utility such as name recognition, reputation etc. are:

(1) Are these competitive advantages "unfair" to competitors or simply shareholder "assets" similar to those used by many private firms for competitive advantage? and,

(2) If they are ratepayer "assets," what value, if any, should a non-utility affiliate be required to pay for them in order to prevent "unfair" discrimination against potential competitors and to "level the playing field."

[9] This change could also affect decisions on the extent of the market that is of interest. Profitability could exclude certain cost-effective projects because they were not profitable enough or alter project design by focusing attention on short-term profitability rather than on capturing all potential benefits.

Each of these issues is discussed in more detail below in our discussion of Option 4.

4. Modify the Unregulated TEEM Model to Require Compensation for the Use of the Benefit Received From the Use of Intangible "Assets" of a Regulated Utility

The information received from both pilots is that ENvest[SCE]'s and TEEM's affiliation with a regulated utility was an important competitive advantage because of its ability to effectively overcome existing customer market barriers and to differentiate ENvest[SCE] and TEEM from other providers.

The issue underlying this option is whether a utility energy efficiency affiliate should be required to compensate utility ratepayers for the value of the intangible benefits received from affiliation with a regulated utility.

There are in fact three basic aspects to this question of compensation for this affiliation: (1) who benefits from the use of the intangible assets; (2) who owns the intangible assets; and (3) what is the value if compensation is due.

(1) Who Benefits?

In either pilot, it could be argued that both ratepayers and shareholders benefited from intangible assets such as the regulated utility's name recognition, reputation, experience, perceived longevity, and perception of acting more in the public interest than an unregulated firm. Ratepayers benefited from increased resource benefits produced by the pilots' ability to accelerate energy efficiency activity in Southern California. Economic and environmental benefits were also created for the residents of Southern California. But, at the same time, these intangible benefits were of benefit to shareholders to the extent that they allowed ENvest[SCE] or TEEM to profit on work that would otherwise have gone to competitors or to deter successful competition in the future for large customers. Ratepayers may also benefit from this latter result if any stranded investment from "lost" customers is allowed to be recovered in rates by the Commission.

Under the ENvest[SCE] pilot as structured, there would appear to be no need for compensation for intangible utility assets. The intangibles were part of a regulated offering intended to produce resource and societal benefits to ratepayers. In that sense, the use of SCE's intangibles would be no different than when they were used as part of prior utility DSM programs. Their impact on competitors however would still have been adverse and arguably inconsistent with Chapter 984, if equally effective options with less adverse competitive impacts were available.

The more difficult issue is, of course, if the unregulated affiliate choice in Option 3 is implemented, as it has been by TEEM. Assuming that other advantages such as access to information or other utility systems are precluded or equalized for all providers, the key issue becomes should the affiliate have to pay for using those intangible assets such as name recognition, trust, reputation, and an image as a perceived long-term player in the Southern California region? The answer to that question would appear to depend on who owns the intangible "assets."

If the shareholders own these intangible "assets" then their transfer to the unregulated utility affiliate might be no different than the common practice of private business using such affiliations for competitive advantage. Pepsi uses its corporate name recognition and reputation to sell soda and clothes. However, if these intangible "assets" were determined to be ratepayer funded "assets" then the charge could be made that they are a source of "unfair" competition unless the affiliate pays for the value received or the affiliate is precluded from creating such a close affiliation. If the affiliate is not required to pay, it would receive the benefit of the full use of these "assets" which competitors must pay for and recover in the price of their products and services.

(2) Who Owns SCE's Name Recognition, Reputation, and Other Related Benefits

The Commission has previously ruled in a trilogy of cases who owns the right to a utility's name and reputation (i.e., good will). In Southern California Edison Company, 90 P.U.R. 4th 45, the Commission ruled that:

> The name and reputation of a utility is not as asset to which ratepayers have a claim. Indeed, the Commission has never included good will in the rate base of a utility for rate-making purposes. It follows that ratepayers have never had to pay for through rates a return on the value of good will. Ratepayers have paid nothing for the enhancement of the utility's name and reputation. Those have been built by the management of the utility if they are of any value.

The Commission repeated its conclusion in The Matter of the Investigation on the Commission's Own Motion into the Pacific Telesis Group's "Spin-Off" Proposal, Decision 93-11-011 (November 2, 1993), page 53 where it stated:

> The company's management is successful in its duty, and succeeds in adding value to the name, then the value of the name belongs to the owners of the company.

In this latter decision, the Commission distinguished an earlier decision (Decision 86-03-09 in 1986) involving the formation of a holding company by San Diego Gas & Electric (SDG&E) in which royalty payments had been required for the transfer of intangible assets from the utility to unregulated affiliates.

The Commission in the SDG&E case had found that name recognition from affiliation with SDG&E might confer a competitive advantage on the newly formed unregulated affiliates and thereby, justified the payment of a royalty from the affiliates to utility ratepayers. The Commission distinguished the SDG&E decision from the PacTel situation by the fact that the PacTel affiliate had existed separately for almost ten years prior to moving to an unregulated status, and after becoming unregulated would be divested from PacTel and have no association with PacBell in the future. (Ibid., page 57). In making this distinction, the Commission noted:

> All of the three decisions applied to the creation of a holding company in which the expectation was a continued association into the future between the holding company, its future affiliates, and the regulated monopoly. In that instance, the claim that affiliates or the holding company entity are benefiting from the historical reputation of the utility which preceded the corporate structure may be expected to be the strongest.
>
> (Ibid., page 57.)

But, while the Commission found the SDG&E holding inapplicable to the PacTel circumstances, it repeated its support for the prior Southern California Edison decision that shareholder owned the name recognition and reputation of a utility. This is also the view of the Illinois and North Dakota commissions.

The SCE decision is premised on the view that because ratepayers never paid a return on good will, including name recognition and reputation, "it follows" that ratepayers have no claim to its value. The assumption in this argument is that because good will was not a part of rate base, that ratepayers contributed nothing to its development. But, good will has not been accepted for purposes of utility rate-making for a specific reason:

> To include good will in the rate base would involve circular reasoning: its value depends on a utility's earnings which, in turn, depend on that rates established by the commission. Its inclusion, therefore, would permit the capitalization of expected future earnings.
>
> (Phillips, The Regulation of Public Utilities, Second Edition, page 318)

Simply, ratepayers should not be made to pay a return on capitalized earnings that they will pay in the future. For regulated utilities, valuing good will for ratemaking purposes makes no sense. But, that does not mean that good will does not have value in an unregulated market or that ratepayers and the government grant of a regulated franchise did not provide the basis for a utility being able to acquire this intangible value. Indeed, good will is the value of customer loyalty and is recognized as an element in the market value of competitive firms.

The good will gained by a utility depends on several factors including a franchise having been granted to the utility which helps provide its reputation as a long-term player in a region. The fact that regulation ensures that management performed adequately or loses its franchise has promoted a reputation for technical competence. Because regulated utilities have been limited to providing energy services, not selling specific brands of goods, utilities have established their product-neutral reputation. Simply, name recognition, reputation, and impartiality are difficult to separate from franchise or certificate value.

Other jurisdictions, based on these factors, have found that the value of name recognition, reputation, and image should be repaid to utility ratepayers when such value is transferred to an unregulated affiliate. The New York Public Service Commission has held that:

> The authority to make royalty imputations is found to flow from the commission's statutory obligation to protect ratepayers from improper transactions between a utility and its affiliates. The commission reasons that because ratepayers have funded utility activities that generate good will and other intangible benefits, ratepayers are entitled to rate recognition of revenues that the utility would be expected to receive if the intangibles were transferred as part of an arm's length transaction, regardless of whether any payment were actually received by the utility.
>
> Commission concludes that the fact that good will does not appear as a discrete item in rate base has no bearing, for good will is nonetheless a utility asset funded by rates, and the courts have long sustained the authority of the commission to both recognize in rates revenues from the transfer of utility assets and to impute such revenues for rate-making purposes when they are not in fact received.

> Utility ownership of the intangible assets is not disputed; nevertheless, the commission finds that a royalty imputation is an appropriate means of ensuring that utility assets are devoted to serving ratepayers and not dissipated for the sole benefit of shareholders.
>
> (re: Rochester Telephone Corporation, 145 P.U.R. 4th 419, 420
> New York Public Service Commission, July 6, 1993.)

The Minnesota Court of Appeals has upheld a Minnesota Public Utility Commission ruling that good will should be valued and assessed to the extent that it benefits unregulated operations. (See Public Utilities Fortnightly, vol. 133, no. 10, May 15, 1995, page 12.)

The resolution of who owns the benefits of utility affiliation with a regulated utility would appear to depend on the precise nature of those benefits. As discussed in Chapters 10 and 11, there appears to be two interwoven aspects of affiliation with a regulated utility that should be considered.

First, as discussed above, name recognition, reputation, good will and similar attributes are arguably the product of good management and/or the product of good regulation which ensured that a utility provided the quality and level of service that justified its position as a franchised monopoly provider. Who else could have established a reputation and history of experience of working with customers to provide regulated electric or natural gas service in the territory?

Second, as noted in Chapter 11, some of the intangible benefits promoted and enjoyed by ENvest[SCE] and TEEM may have more to do with the presence of regulation than performance. Marketing that promotes a "higher level of responsibility" to customers due to the presence of regulation, the perception of a place to seek redress if problems occur and the assurance that the utility (and by inference, its responsibility for its affiliate) will be around for the long-term are premised on the fact that the utility is subject to regulation.

The truth of the matter is probably in the middle in this instance. The monopoly franchise allowed SCE and SoCal the opportunity to establish good will and a reputation for service and expertise. Management (although perhaps at times with Commission mandate and prodding) appears to have established such a reputation with many large customers.

However, under these circumstances, it is difficult not to conclude that it is to a substantial degree the regulatory status of the utility that provided intangible benefits that were of substantial value to ENvest[SCE] and TEEM. The regulated status qualities conveyed the trust, lack of self-interest and protection from risk and uncertainty that helped ENvest[SCE] and TEEM get in the door first or to find a more receptive audience for their proposals. These qualities differentiated ENvest[SCE] and TEEM in

an "immature" industry. Prior involvement with the regulated utility reinforced these perceptions where SCE and SoCal had been responsive to customer concerns by providing quality service.

Thus, it is difficult to separate these two sources that underlie the value of the benefits from affiliation with a regulated utility. These benefits from regulated status were not available to competitors. To counteract these benefits, competitors either had to partner with ENvest^{SCE} or TEEM or expend funds and resources to offset these advantages which affected the price of their products or services.

As we noted in our interim report, the use of intangible ratepayer assets would justify a royalty payment similar to that ordered in the SDG&E holding company case. Such a payment would compensate ratepayers as well as recognize that affiliation with a regulated utility avoids marketing costs that must be borne by competitors.

SoCal proposed a "banded sharing" approach to address the issue of compensation for the use of the "intangible" assets of a regulated utility. Ratepayers would earn 25% of any earnings that exceeded a return of 20% on project investment costs. The 20% was perceived by SoCal as an appropriate return considering the risk exposure of its shareholders. Compensation to ratepayers would be provided only in excess of that amount to reflect that the "intangible" assets would only have been of value if projects actually earned an appropriate return.

The "banded sharing" approach is an alternative to a royalty fee-type payment. It certainly could be easier to calculate. But, the approach is based on the assumption that the use of the utility's intangible assets are only valuable if positive returns are created. This assumption ignores that the "assets" may in fact be valuable, but that desirable returns are not earned for reasons entirely unrelated to the presence of those "assets." Only paying for an input if everything turns out well is not something potential competitors have the opportunity to do.

As will be discussed in the conclusion to this Chapter, the restructuring of the utility market, the difficulty in establishing a value for such a royalty fee or even a profit-sharing plan and potential vulnerability of this advantage suggest that alternatives to the use of a royalty fee may be a preferable choice than trying to value a difficult to quantify and changing benefit.

Finally, the ENvest^{SCE} pilot provided a wealth of practical, real world experience to SCE if it pursues large customer performance contracting on an unregulated basis as it appears to be doing. In this sense, it is no different than any lessons learned by a regulated utility which may be valuable when entry into an unregulated business is allowed or encouraged. However, it cannot be ignored that

SCE's ratepayers contributed $23 million to develop a niche for an unregulated SCE effort in the performance contracting market in Southern California that will provide on-going benefits to SCE.

During the ENvest[SCE] pilot, ratepayers paid the administrative costs of ENvest[SCE] as well as expended funds that allowed ENvest[SCE] or subsequent SCE efforts to enter and gain a considerable foothold in the performance contracting market in Southern California. The $8 million from ratepayers for administrative expenses allowed ENvest[SCE] to assemble a qualified and competent business team, to have the organization and its employees go up a learning curve of experience and to avoid booking such costs against revenues. The use of SCE's status as a regulated utility allowed ENvest[SCE] a privileged position to enter the federal energy efficiency market sector and to gain a significant competitive advantage in that market which will persist in terms of project opportunities for SCE for the foreseeable future.[8]

In short, the ratepayer funds provided during the ENvest[SCE] pilot created a "going concern" capability which has and will be able to continue to gain SCE entry and secure market share in the performance contracting market in Southern California on an unregulated basis. The Commission should consider whether this ratepayer contribution should be returned in whole or in part to ratepayers because of the potential significant benefits created for unregulated SCE efforts and ultimately SCE shareholders potential competitors have to include such costs in the price of their services. Such funds could be used to partially fund the establishment of the alternate institution discussed in the conclusion to this Chapter.

Changes In The Potential Value of Affiliation Benefits In a Restructured Industry

There are two important caveats that should be noted about the potential value of the benefits of affiliation with a regulated utility due to the likely restructuring of the energy services market. First, as noted in Chapters 10 and 11, the benefit of affiliation depends on the customer perception that the attributes of the regulated utility are those of the utility affiliate. In an environment in which regulated status is likely to be only relevant to distribution utilities, the perception of large customers may change as multiple suppliers of energy services market to them. As information and experience indicate to customers that regulated status is not what it used to be, the benefits of affiliation based on status may be short-lived or of less value than they were in a more traditional monopoly industry.

Second, as noted earlier in this Chapter, the nature of the competitors to serve the energy needs of large customers has and is likely to continue to change. The presence of multipoint competitors

[8] The potential contracts from future federal government work have been discussed in Chapter 3.

(firms that compete with each other not only in one business unit but in a number of related business units[9]) can be expected to increase. These multipoint competitors will have many of the same intangible affiliation benefits that ENvest[SCE] and TEEM had during the pilots. Utility affiliated energy services providers (who supply brokering services, energy management and efficiency, environmental remediation, asset productivity improvements) are and will be large, well capitalized, experienced and formidable competitors in an environment where regulated status probably referred to past history rather than present or future reality.

These changes in the expected restructured industry could be expected to limit the advantages that flow from being the current local regulated provider of service to large customers. ENvest[SCE]- and TEEM-type entities are likely to be selling multiple energy services as noted. Marketing efforts will focus on who can best meet customer needs. While incumbent utilities may maintain an advantage in the short term in the large customer performance contracting market because of the element of established customer contact, other providers with proven expertise, experience, the absence of a "fly by night" image, an energy service product comparable to or perhaps better than the incumbent's offer and/or a history of affiliation with a large regulated utility in an another jurisdiction can be expected to enter the market.

This multipoint competition from large competitors who possess many of the same attributes that ENvest[SCE] and TEEM used to overcome customer market barriers can reasonably be expected to increase the level of competition in the energy services market, including in the large customer performance contracting market.

Under the above scenario, the value of utility affiliation benefits would be transitory because the source of the benefits would effectively go away and the ability to use those attributes to distinguish oneself from other large, similarly derived competitors would be less effective than they are against many existing competitors in the current performance contracting market.

The issue of utility affiliation benefits therefore may be more properly considered from the ability of existing regulated utilities and their energy service affiliates efforts to gain a niche in the future energy services market, particularly by gaining some of the benefits of being a "first mover" in the performance contracting market.

> A firm that moves first may establish a reputation as the pioneer or leader that emulators will have difficulty overcoming. Leadership places a firm, at least temporarily in the position of

[9] Porter, Competitive Advantage, page 321.

being unique which can produce long-term image benefits not available to others. A first mover also may be first to serve buyers and thus to establish relationships where there may be loyalty.

Porter, Competitive Advantage at pages 186-187.

It would hardly be surprising for a regulated utility to attempt to use its current advantages to strategically position itself for an expected increase in multipoint competition. In this respect, the ENvest[SCE] and TEEM pilots may have been ultimately more valuable to the utilities because of the understanding gained on the potential nature of the competition that they will face in a restructured industry, by providing experience in how to meet such competition and by providing at least a beginning and permanent presence in the performance contracting market which will likely become one aspect of the larger, more competitive large customer energy services market.

CONCLUSIONS/RECOMMENDATIONS

The restructuring of the electric and natural gas industries will change the nature of competition and competitors in the large customer energy efficiency performance contracting market. Most non-comprehensive energy services providers will continue to seek to partner with other firms to develop business and to implement large scale projects. Full service providers however can also be expected to partner with other firms to respond to the multipoint competition that will be waged for large customers. This multipoint competition which bundles a whole range of potential energy services together is likely to make it more difficult for specialized or small energy providers to develop their own work independently.

This partnering or consolidation of full service providers with utilities or large, well-capitalized firms such as Johnson Controls, Honeywell, Landis & Gyrs etc. to offer multiproduct or multiservice offerings to large customers can be expected to increase the level of competition and the effectiveness of competition for large customers. While energy efficiency products and services will only be one of the multiple points of competition, the ability of those products and services to provide increased value to customers will mean that they will be included in the bundled and unbundled services provided by competitors. In addition as a potential source of customer value and therefore a means to retain and attract customers for a competing firm, creativity and innovation on enhancing the delivery of energy efficiency service to large customers is also likely to occur.

In this restructured environment of multipoint competition for large customers utilities should be expected, as they are doing, to choose a variation of Option 3 in which unregulated utility affiliates utilizing the benefits from affiliation with a regulated utility offer energy efficiency services to large

customers. If strategic customer incentives are needed, they are likely to be shareholder funded and based on the overall value of retaining a specific customer which will use a bundle of energy services, not just energy efficiency. The TEEM pilot and the NEWCO proposed to replace the ENvest[SCE] model will characterize this type of utility affiliate.

If public policy determines that increased activity in the marketplace is desired to capture more societal benefits or that an institutional framework is needed to allow specialized and smaller providers to independently market their products and services, the ENvest[SCE] model could be recreated but without utilities as the key institution. Utility decisionmaking in a restructured environment will have powerful incentives to focus on self-interest and to exercise control over the development of the energy service market to large customers. A public institution funded by a line or access charge could however be established to play the role of facilitator, funder and overseer of projects to large customers. Access to the funds and resources from this institution would be on a non-discriminatory basis. A public institution similar to regulation may also provide some of the elements of trust, credibility and long-term availability that appear necessary to overcome current customer market barriers to increase the level of activity in the performance contracting market. This institution could counterbalance for potential competitors, the current value that the utility affiliate receives from affiliation with a regulated utility.

The problem posed by the use of ratepayer customer incentives will however persist if a public institution is created. As, noted in our surveys and interviews, most large customers said that they would undertake energy efficiency improvements without rebates, although the scope and timing of projects could change. Rebates in these cases would expand activity if they could be targeted to those situations where they would in fact expand or accelerate a project. The problem, as it has been throughout the time that rebates have been used, is that most customers will take them if available and make no change to what they would have done anyway. This "free rider" concern is difficult to address because the distinction between customers is what they would have done without the availability of rebates: a subjective judgment at best. This problem together with the concern about the impact on core service competitiveness and a desire to avoid any entanglement with regulation from the use of ratepayer funded resources will mean that utilities will stay away from the ENvest[SCE] model in favor of the TEEM model.

The issue which the Commission will confront in a restructured environment is whether the use of the affiliation with a regulated utility in non-utility markets requires compensation to ratepayers. In a traditional monopoly utility environment, it would appear that such compensation is justified for the use of ratepayer-funded resources and to recognize that many of the benefits of affiliation are due to the presence of regulation. Such compensation would also level the playing field for existing

competitors who cannot enjoy such a unique use or claim. However, this issue becomes more clouded in a restructured environment in which affiliation with a regulated utility becomes less of a credible claim since energy service providers other than distribution utilities will effectively be unregulated. In addition, the uniqueness of the claim is also likely to disappear as many utility energy service affiliates of regulated utilities from other jurisdictions seek to provide multiple energy services to large customers in Southern California. The value of affiliation in this latter scenario seems fairly limited and vulnerable to being overcome as customers understand that the old regulated monopoly system does not exist anymore.

The problem posed in these pilots appears to involve a transitional stage in which ENvest[SCE] and TEEM developed from an improved DSM effort to a learning experience about strategic positioning in one market that will be involved in the multipoint competition over large customers. In this instance, current advantages from affiliation are being used to secure market position and knowledge for the impending competition.

Based on all of the above considerations, the most effective way to ensure increased activity and effective competition in the large customer energy efficiency performance market is:

- Through the use of non-utility affiliates such as TEEM,

- Which are either precluded from using ratepayer funds or resources of the affiliated utility or may only do so if those resources are made equally available to potential competitors. If the resources cannot be made equally available, then the market value of those resources should be assessed as compensation for the use of those resources if it is higher than the fully allocated cost. For example, rather than charge fully allocated cost for the use of utility marketing personnel, an adder to such cost should be required to reflect the value of being able to effectively use utility personnel as trained temporary labor and to avoid the cost of keeping such employees during down times. Competitors must bear such costs in the price of their products and services.

By ensuring a level playing field in terms of the use or access to tangible utility resources, the major impediments to unfair competition in the large customer performance contracting market could be avoided.

The issue of what to do about the benefits of affiliation to a regulated utility raises a different question. From a ratepayer/public policy perspective, the affiliation of ENvest[SCE] and TEEM to a regulated utility helped overcome barriers to activity in a performance contracting market

constrained by customer confusion and perceptions of risk. In this sense ENvest[SCE] and TEEM played a role as a force to stabilize and standardize practices in the industry to create a more conducive environment for customer activity. While ENvest[SCE] and TEEM created market niches for themselves, thus redistributing market share, this potential change in perception of the performance contracting market could result in increased activity for all full service providers.

In addition, as noted earlier, the intangible benefits associated with affiliation to a regulated utility are increasingly vulnerable to being overcome by competitors as restructuring continues or the utility affiliate such as TEEM or ENvest[SCE] establishes an identity of its own. Competitors can point out that a non-utility affiliate and a regulated utility are not the same thing; that the nature of regulation and monopoly utilities are rapidly being outmoded and that the quality of their experience and services are greater than those of the utility affiliates which aside from the pilots have no experience as distinct entities.

Therefore, during this transitional period to a restructured performance contracting market as well as a restructured utility industry, the focus of regulators would best be on preventing the cross-subsidization of utility affiliate offerings from the tangible resources of a regulated utility. The Commission should also require a "truth in advertising" policy so that customers are not misled as to the nature or extent of the utility affiliate's connection with the regulated utility and establish alternative public institutions that can provide credibility and trust to overcome existing market barriers for other service providers in the large customer performance contracting market. All of these elements are necessary to increase the level of activity and competition in that market.

APPENDIX A: LIST OF INTERVIEWS

Person Interviewed	Date	Interviewer
Pam Bass, Emad Hassan, Don Brundage, Randy Lisbin, ENvest[SCE]	April 19, 1996	Group Interview by George R. Edgar
Stan Knobbe, TEEM	April 18, 1996	George R. Edgar
Alan Butcher, TEEM	April 18, 1996	George R. Edgar
Rick Ellis, TEEM	April 18, 1996	George R. Edgar
Rick Morrow, SoCal	April 22, 1996	Telephone Interview by George R. Edgar
Rick Phelps, Ken Pickrahn, Emad Hassan, Pam Bass, ENvest[SCE]	June 1, 1995	Group Interview by George R. Edgar and Charles A. Goldman
Beverly Ryder, SCE/ENvest[SCE]	June 1, 1995	George R. Edgar and Charles A. Goldman
Pam Bass, ENvest[SCE]	June 1, 1995	George R. Edgar and Charles A. Goldman
Rick Phelps, ENvest[SCE]	June 2, 1995	George R. Edgar
Ken Pickrahn, ENvest[SCE]	June 2, 1995	George R. Edgar and Charles A. Goldman
Emad Hassan, ENvest[SCE]	June 2, 1995	George R. Edgar
Shaun Ayvazi, ENvest[SCE]	June 26, 1995	George R. Edgar
Joe Peters, ENvest[SCE]	June 26, 1995	George R. Edgar
Chris Martini, ENvest[SCE]	June 26, 1995	George R. Edgar
Gary Graham, ENvest[SCE]	July 6, 1995	Telephone Interview by George R. Edgar
Jacqueline Raines, SoCal/TEEM	June 27, 1995	George R. Edgar
Rick Ellis, TEEM	June 27, 1995	George R. Edgar
Bob Ballew, SoCal	June 27, 1995	George R. Edgar

Person Interviewed	Date	Interviewer
Ann Keegan, SoCal	June 27, 1995	George R. Edgar
Sara Franke, SoCal	June 28, 1995	George R. Edgar
Stan Knobbe, TEEM	June 28, 1995	George R. Edgar
Rick Morrow, SoCal	June 28, 1995	George R. Edgar
Alan Butcher, TEEM	June 28, 1995	George R. Edgar
Joel Balbieu, SoCal	June 28, 1995	George R. Edgar
John King, ENvest[SCE]	June/July, 1995	Charles A. Goldman

APPENDIX B: SURVEY INSTRUMENTS

Follow-Up Telephone Interview Protocol for ENvest[SCE] Service Providers

Introduction

This is a follow-up interview. As you may recall, we talked back in July with regard to the evaluation of the SCE's ENvest[SCE] pilot program.

The California Public Utilities Commission's (CPUC) Compliance and Advisory Division is conducting a study to assess the competitive and market impacts of SCE's ENvest[SCE] pilot program. The CPUC has contracted with Wisconsin Energy Conservation Corporation (WECC) to conduct this study. Your input is essential in order for the CPUC to have a complete record as it considers appropriate utility role(s) in the development of the energy efficiency services market.

We understand that your firms is in the ENvest[SCE] Service Provider Network We would like to ask you a few questions about your project and working with ENvest[SCE]. ALL YOUR RESPONSES WILL BE TREATED CONFIDENTIAL. Neither SCE nor ENvest[SCE] staff will see your responses.

Existing Market for Energy Efficiency Services and Products

1. Could you discuss the ways in which the ENvest[SCE] program is similar to or differs from the types of services or contractual arrangements that you would typically offer to customers?

Service Provider Network

I would like to ask you several questions that relate to your experiences as a member of the ENvest[SCE] Service Provider network:

2. What has been your involvement with Envest?

3. How many referrals (or solicitation packages) have you received from SCE on potential ENvest[SCE] projects?

4. Do you have any comments on the way in which Service Providers are used in the ENvest[SCE] program?

5. Do you have any suggestions on ways in which the Service Provider Network can be improved either in terms of selection process or implementation?

ENvest[SCE] Program: Market and Competitive Impacts

6. What do you understand to be the objectives of SCE/ENvest[SCE] Program?

7. Do you believe the program is meeting these objectives?

8. In your opinion, has the ENvest[SCE] program expanded the market for comprehensive energy efficiency services in SCE's service territory?

9. Are there certain market sectors or types of customers for which the ENvest[SCE] program is more appropriate?

10. Based on your experience working with participating customers, what were the significant factors and/or program design features that convinced customers to participate in the ENvest[SCE] program? (probe: co-payment, utility affiliation, utility bill repayment)

11. In your opinion, do any of these program design features, particularly those that involved ratepayer support, provide the utility with an unfair competitive advantage that significantly disadvantages your firm?

12. In your opinion, how likely is it that participating customers would have developed and agreed to move forward on similar energy efficiency solutions without the ENvest[SCE] program, possibly working directly with ESCOs?

Overall Assessment

13. What is you overall assessment of the ENvest[SCE] program at this time?

14. In your opinion, as structured, does the ENvest[SCE] pilot program allow the energy efficiency services market to develop and operate in a competitive manner?

15. What is the single most important piece of advice that you can give SCE or the CPUC on future programs with designs that are similar to the ENvest[SCE] Pilot?

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Telephone Interview Protocol for TEEM Customers:
Active, Signed Customers
Proposal Active Customers

Introduction

The California Public Utilities Commission's (CPUC) Compliance and Advisory Division is conducting a study to assess the competitive and market impacts of SoCal Gas' TEEM pilot program. The CPUC has contracted with Wisconsin Energy Conservation Corporation (WECC) to conduct this study. Your input is essential in order for the CPUC to have a complete record as it considers appropriate utility role(s) in the development of the energy efficiency services market.

We understand that you are, or may soon be starting, a project facilitated by TEEM. We would like to ask you a few questions about your project and working with TEEM. ALL YOUR RESPONSES WILL BE TREATED CONFIDENTIAL. Neither SoCal Gas nor TEEM staff will see your responses.

Previous Investments in Energy Efficiency

I would like to begin by asking you questions about energy efficiency investments that your firm may have made in the past.

1. Prior to the TEEM program, could you discuss your previous involvement or participation in other SoCal Gas energy efficiency programs? (Probe: what was done, when was the project done, how much did it cost)

2. Have you undertaken energy efficiency projects during the past 3-5 years without benefit of a utility program? (Probe: what was done, why was it done, part of another project, plant upgrade)

3. When you undertake a project, do you work with ESCOs or a variety of service providers? (probe for reasons why)

4. How many energy service providers have contacted you over the last 3 years. How often was the contact? (follow up with what happened)

5. How do you finance your projects - internal vs. external funds? If the funds are external, what type of financing do you normally undertake?

6. What barriers, if any, exist that prevent your firm from investing in energy-efficiency improvements? (follow up on ways to overcome)

TEEM Program

7. Would you please discuss how you were initially contacted about the TEEM program?

8. We understand that your firm is, or may be going forward, with a project through the TEEM program. Could you discuss the current status of your project? What was the role of TEEM in the process?

9. Could you describe your facilities briefly and the types of energy efficiency solutions your company is undertaking through the TEEM program?

Factors Influencing The Customer Decisionmaking Process

10. Before you decided to participate in the TEEM program, had other energy service companies approached or marketed energy efficiency services to you that were similar to those that you ultimately selected?

11. What were the primary factors that influenced your decision to participate in the TEEM program? (probe: did the SoCal Gas affiliation contribute to your decision to participate?)

    Were these factors available from other energy service providers?

12. How often has TEEM been in touch with your firm regarding this or other potential projects?

13. If it were not for the TEEM program, do you believe that you would still be going forward with this project.

Not Likely				Likely
1	2	3	4	5

What differences do you feel the TEEM program made, or will make, in your decision to complete the project? (moving along more quickly even if the company still might have done the project).

14. Describe any trade-offs that were made between the price and quality of services provided through TEEM:

Experiences with Service Provider Network

I would like to ask you several questions that relate to your experiences with members of the TEEM Service Provider Network.

15. Would you please describe your understanding of the TEEM Service Provider Network?

16. Could you discuss your experiences with members of the TEEM Service Provider Network?

17. Were you presented with a list of service providers that you could select for the project, or did TEEM take the primary lead in identifying a service provider for the project? (Probe: how dynamic was the discussion about which service provider to go with, could customers recommend a favorite service provider? Did TEEM staff mention other providers?)

18. Could you discuss the role SoCal Gas/TEEM staff played in working with you to select energy service providers?

19. Do you have any suggestions on ways in which the energy Service Provider Network can be improved either in terms of selection process or implementation?

Customer Satisfaction

20. Did TEEM provide the appropriate level of assistance in choosing the scope of your project? (please briefly explain)

21. On a scale of 1 to 5, with 5 being very satisfied, what is your feeling about the TEEM program and the implementation of your project?

Dissatisfied Very Satisfied
1 2 3 4 5

22. Do you expect to complete additional energy efficiency projects? If so, through TEEM?

Customer Decisionmaking

23. Could you discuss the ways in which your firm makes decisions about which energy-efficiency projects to pursue? Did your firm use certain criteria (e.g. payback, return on investment, etc.) to make energy efficiency decisions?

    If so, please indicate the basic criteria used: (e.g. project must have a payback in less than 2 years).

24. Would your firm be likely to make investments for energy efficiency savings alone, or do other corporate benefits have to be present?

25. How important are rebates or other types of financial incentives to your energy-efficiency decisionmaking? (probe, in the absence of rebates, would the company keep unilateral guidelines such as short payback?).

26. Did TEEM staff or their service providers discuss your project from a comprehensive perspective? For example, did they make recommendations about several projects that could be undertaken at once rather than completing a lighting project now, HVAC later, etc.

Fuel Neutrality

27. When TEEM staff discussed a project, or potential projects with you, did they provide you with any guidelines regarding the types of energy efficiency or technology information for a variety of approaches that might use either electricity or gas?

Overall Assessment

28. If you had to choose between your utility providing customer rebate programs or an TEEM type program, which would you prefer?

___ Rebates
___ TEEM
___ Neither One

Please explain why:

29. Overall, how satisfied are you with the TEEM program? If dissatisfied, then why? (probe for reasons)

___ very satisfied
___ somewhat satisfied
___ neither satisfied/dissatisfied
___ somewhat dissatisfied
___ very dissatisfied

30. Are you dissatisfied in any way with the quality of measure performance that have been installed under the TEEM program?

31. What is your overall assessment of the TEEM program at this time? (probe: strengths, weaknesses. Follow-up: Do you believe the TEEM program is meeting its objectives?)

32. What is the single most important piece of advice that you can provide SoCal Gas or the California Commission regarding future utility energy efficiency programs (or future programs that are similar to the TEEM pilot program) for customers like yourself?

act_cust.tem

Telephone Interview Protocol for TEEM Proposal Inactive Customers

Introduction

The California Public Utilities Commission's (CPUC) Compliance and Advisory Division is conducting a study to assess the competitive and market impacts of SoCal Gas' TEEM pilot program. The CPUC has contracted with Wisconsin Energy Conservation Corporation (WECC) to conduct this study. Your input is essential in order for the CPUC to have a complete record as it considers appropriate utility role(s) in the development of the energy efficiency services market.

We understand that your company/organization declined a project facilitated by TEEM. We would like to ask you three questions about your involvement with and perceptions of TEEM. ALL YOUR RESPONSES WILL BE TREATED CONFIDENTIAL. Neither SoCal Gas nor TEEM staff will see your responses.

1. Why did your company/organization get involved with TEEM initially?

2. What were the reasons why you declined the TEEM project?

3. What do you like or dislike regarding the TEEM offering, in terms of:

   Facilitation
   Service Provider Network
   Financing
   Other aspects

4. What are the main barriers you experience with regards to investing in energy efficiency?

nact_cus.tem

Telephone Interview Protocol for TEEM Trade Allies

The California Public Utilities Commission's (CPUC) Compliance and Advisory Division is conducting a study to assess the competitive and market impacts of the TEEM pilot program, TEEM being the organization which is affiliated with Southern California Gas Company. The CPUC has contracted with Wisconsin Energy Conservation Corporation (WECC) to conduct this study. Your input is essential in order for the CPUC to have a complete record as it considers appropriate utility role(s) in the development of the energy efficiency services market.

We understand that you are in the TEEM service provider network. We would like to ask you a few questions about your firm's involvement with TEEM. ALL YOUR RESPONSES WILL BE TREATED CONFIDENTIAL. We will not attribute a response to any particular firm. Neither SoCal Gas nor TEEM staff will see your responses.

Introduction

1. What has been your firm's role (involvement) in the TEEM program?

2. Why did you get involved with the TEEM program?

3. What do you understand to be the objectives of TEEM program?

4. Do you believe the program is meeting these objectives?

Service Provider Network

I would like to ask you several questions that relate to your experiences as a member of the TEEM Service Provider network:

5. Do you have comments on the TEEM service provider network application and selection process?

6. In your opinion, was this process fair and were TEEM's guidelines and criteria applied consistently?

7. Was TEEM's selection process consistent with practices used by ESCOs in situations when your firm partners with trade allies to offer comprehensive services?

8. What were your expectations regarding your firm's level of involvement and work in the TEEM program once you were approved as a member of the service provider network?

9. How many referrals (or solicitation packages) have you received from TEEM on potential projects?

10. Do you have any comments on the way in which service providers are used in the TEEM program?

11. Do you have any suggestions on ways in which the service provider network can be improved either in terms of selection process or implementation?

Existing Market for Energy Efficiency Services and Products

I would like to ask you several questions about your firm's prior involvement in the local energy efficiency services market as well as your views on the effect of the TEEM program on the energy services market:

12. Could you discuss the market sectors and types of customers that your firm has historically targeted in the SoCal Gas service territory?

13. Prior to the TEEM program, could you discuss the level of activity of your firm in providing energy efficiency services in the SoCal Gas service territory?

14. Could you discuss the ways in which the TEEM program is similar to or differs from the types of services or contractual arrangements that you would typically offer to customers?

15. Did you actively market or consider bringing your existing customer contacts into the TEEM program? If no, why?

16. Has your firm participated in other SoCal Gas DSM programs that targeted large commercial and industrial customers?

Fuel Neutrality

17. For firms which performed work under the TEEM program: Did TEEM provide you with any guidelines on the types of energy efficiency information or technologies that were appropriate under the program?

18. For example, in conducting an audit, did you look at efficiency options that could save both electricity and gas or compare the economics of potentially competing electric and gas technologies?

TEEM Program: Market and Competitive Impacts

19. In your opinion, has the TEEM program expanded the market for comprehensive energy efficiency services in SoCal Gas's service territory?

20. Are there certain market sectors or types of customers for which the TEEM program is more appropriate?

21. Based on your experience working with participating customers, what were the significant factors and/or program design features that convinced customers to participate in the TEEM program?

22. In your opinion, do any of these program design features provide TEEM with an unfair competitive advantage that significantly disadvantages your firm?

23. In your opinion, how likely is it that participating customers would have developed and agreed to move forward on similar energy efficiency solutions without the TEEM program, possibly working directly with ESCOs?

Overall Assessment

24. What is you overall assessment of the TEEM program at this time?

25. In your opinion, as structured, does the TEEM pilot program allow the energy efficiency services market to develop and operate in a competitive manner?

Telephone Interview Protocol

for

ENvest[SCE] Active Customers

Telephone Interview Protocol for ENvest[SCE] Active Customers

Firm: _____

Name: _____

Title: _____

Phone: _____

Date: _____

Introduction

The California Public Utilities Commission's (CPUC) Compliance and Advisory Division is conducting a study to assess the competitive and market impacts of SCE's ENvest[SCE] pilot program. The CPUC has contracted with Wisconsin Energy Conservation Corporation (WECC) to conduct this study. Your input is essential in order for the CPUC to have a complete record as it considers appropriate utility role(s) in the development of the energy efficiency services market.

We understand that you are, or may soon be starting, a project facilitated by ENvest[SCE]. We would like to ask you a few questions about your project and working with ENvest[SCE]. ALL YOUR RESPONSES WILL BE TREATED CONFIDENTIAL. Neither SCE nor ENvest[SCE] staff will see your responses.

Previous Investments in Energy Efficiency

I would like to begin by asking you questions about energy efficiency investments that your firm may have made in the past.

1. Prior to the ENvest[SCE] program, could you discuss your previous involvement or participation in other SCE energy efficiency programs? (Probe: what was done, when was the project done, how much did it cost)

2. Have you undertaken energy efficiency projects during the past 3-5 years without benefit of a utility program? (Probe: what was done, why was it done, part of another project, plant upgrade)

3. When you undertake a project, do you work with ESCOs or a variety of service providers? (probe for reasons why)

4. How many energy service providers have contacted you over the last 3 years. How often was the contact? (follow up with what happened)

5. How do you finance your projects - internal vs. external funds? If the funds are external, what type of financing do you normally undertake?

6. What barriers, if any, exist that prevent your firm from investing in energy-efficiency improvements? (follow up on ways to overcome)

ENvest[SCE] Program

7. Would you please discuss how you were initially contacted about the ENvest[SCE] program?

8. We understand that your firm is, or may be going forward, with a project through the ENvest[SCE] program. Could you discuss the current status of your project? What was the role of ENvest[SCE] in the process?

9. Could you describe your facilities briefly and the types of energy efficiency solutions your company is undertaking through the ENvest[SCE] program?

Factors Influencing The Customer Decisionmaking Process

10. Before you decided to participate in the ENvest[SCE] program, had other energy service companies approached or marketed energy efficiency services to you that were similar to those that you ultimately selected?

11. What were the primary factors that influenced your decision to participate in the ENvest[SCE] program? (probe: did the SCE affiliation contribute to your decision to participate?)

    Were these factors available from other energy service providers?

12. How often has ENvest[SCE] been in touch with your firm regarding this or other potential projects?

13. If it were not for the ENvest[SCE] program, do you believe that you would still be going forward with this project.

Not Likely				Likely
1	2	3	4	5

    What differences do you feel the ENvest[SCE] program made, or will make, in your decision to complete the project? (moving along more quickly even if the company still might have done the project).

14. Describe any trade-offs that were made between the price and quality of services provided through ENvest[SCE]:

Experiences with Service Provider Network

I would like to ask you several questions that relate to your experiences with members of the ENvest[SCE] Service Provider Network.

15. Would you please describe your understanding of the ENvest[SCE] Service Provider Network?

16. Could you discuss your experiences with members of the ENvest[SCE] Service Provider Network?

17. Were you presented with a list of service providers that you could select for the project, or did ENvest[SCE] take the primary lead in identifying a service provider for the project? (Probe: how dynamic was the discussion about which service provider to go with, could customers recommend a favorite service provider? Did ENvest[SCE] staff mention other providers?)

18. Could you discuss the role SCE/ENvest[SCE] staff played in working with you to select energy service providers?

19. Do you have any suggestions on ways in which the energy Service Provider Network can be improved either in terms of selection process or implementation?

Customer Satisfaction

20. Did ENvest[SCE] provide the appropriate level of assistance in choosing the scope of your project? (please briefly explain)

21. On a scale of 1 to 5, with 5 being very satisfied, what is your feeling about the ENvest[SCE] program and the implementation of your project?

Dissatisfied				Very Satisfied
1	2	3	4	5

22. Do you expect to complete additional energy efficiency projects? If so, through ENvest[SCE]?

Customer Decisionmaking

23. Could you discuss the ways in which your firm makes decisions about which energy-efficiency projects to pursue? Did your firm use certain criteria (e.g. payback, return on investment, etc.) to make energy efficiency decisions?

    If so, please indicate the basic criteria used: (e.g. project must have a payback in less than 2 years).

24. Would your firm be likely to make investments for energy efficiency savings alone, or do other corporate benefits have to be present?

25. How important are rebates or other types of financial incentives to your energy-efficiency decisionmaking? (probe, in the absence of rebates, would the company keep unilateral guidelines such as short payback?).

26. Did ENvest[SCE] staff or their service providers discuss your project from a comprehensive perspective? For example, did they make recommendations about several projects that could be undertaken at once rather than completing a lighting project now, HVAC later, etc.

Fuel Neutrality

27. When ENvest[SCE] staff discussed a project, or potential projects with you, did they provide you with any guidelines regarding the types of energy efficiency or technology information for a variety of approaches that might use either electricity or gas?

28. If gas was an alternative, did ENvest[SCE] staff offer to put you in contact with the local gas company? (probe: or)

Overall Assessment

29. If you had to choose between your utility providing customer rebate programs or an ENvest[SCE] type program, which would you prefer?

___ Rebates
___ ENvest[SCE]
___ Neither One

Please explain why:

30. Overall, how satisfied are you with the ENvest[SCE] program? If dissatisfied, then why? (probe for reasons)

___ very satisfied
___ somewhat satisfied
___ neither satisfied/dissatisfied
___ somewhat dissatisfied
___ very dissatisfied

31. Are you dissatisfied in any way with the quality of measure performance that have been installed under the ENvest[SCE] program?

32. What is your overall assessment of the ENvest[SCE] program at this time? (probe: strengths, weaknesses. Follow-up: Do you believe the ENvest[SCE] program is meeting its objectives?)

33. What is the single most important piece of advice that you can provide SCE or the California Commission regarding future utility energy efficiency programs (or future programs that are similar to the ENvest[SCE] pilot program) for customers like yourself?

Telephone Interview Protocol

for

ENvest[SCE] Full Service Providers

Telephone Interview Protocol for ENvest^{SCE} Full Service Providers

Firm Background

Introduction

1. What has been your firm's role (involvement) in the ENvest^{SCE} Program?

2. What do you understand to be the objectives of SCE/ENvest^{SCE} Program?

3. Do you believe the program is meeting these objectives?

Service Provider Network

I would like to ask you several questions that relate to your experiences as a member of the ENvest^{SCE} Service Provider network:

1. Do you have comments on the ENvest^{SCE} Service Provider Network application and selection process?

2. In your opinion, was this process fair and were Edison's guidelines and criteria applied consistently?

3. Was SCE's selection process consistent with practices used by ESCOs in situations when your firm partners with trade allies to offer comprehensive services?

4. What were your expectations regarding your firm's level of involvement and work in the ENvest^{SCE} program once you were approved as a member of the Service Provider Network?

5. How many referrals (or solicitation packages) have you received from SCE on potential ENvest^{SCE} projects?

6. Do you have any comments on the way in which Service Providers are used in the ENvest^{SCE} program?

7. Do you have any suggestions on ways in which the Service Provider Network can be improved either in terms of selection process or implementation?

Existing Market for Energy Efficiency Services and Products

I would like to ask you several questions about your firm's prior involvement in the local energy efficiency services market as well as your views on the effect of the ENvest^{SCE} program on the energy services market:

1. Could you discuss the market sectors and types of customers that your firm has historically targeted in SCE's service territory?

2. Prior to the ENvest[SCE] program, could you discuss the level of activity of your firm in providing energy efficiency services in the SCE service territory?

3. Could you discuss the ways in which the ENvest[SCE] program is similar to or differs from the types of services or contractual arrangements that you would typically offer to customers?

4. Did you actively market or consider bringing your existing customer contacts into the ENvest[SCE] program? If no, why?

5. Has your firm participated in other SCE DSM programs that targeted large commercial and industrial customers?

6. In terms of annual revenue from your firm's projects in the SCE service territory, could you estimate the split between projects that involved some type of financial incentive from the utility versus those projects that only involved transactions between you and the host customer?

7. Could you estimate the size of the current market for energy efficiency services among large commercial and industrial customers in the SCE service territory?

8. Could you estimate the size of the current market for performance contracting among large commercial and industrial customers in the SCE service territory?

Fuel Neutrality

1. When you performed work under the ENvest[SCE] program, did SCE provide you with any guidelines on the types of energy efficiency information or technologies that were appropriate under the program?

2. For example, in conducting an audit, did you look at efficiency options that could save both electricity and gas or compare the economics of potentially competing electric and gas technologies?

ENvest[SCE] Program: Market and Competitive Impacts

1. In your opinion, has the ENvest[SCE] program expanded the market for comprehensive energy efficiency services in SCE's service territory?

2. Are there certain market sectors or types of customers for which the ENvest[SCE] program is more appropriate?

3. Based on your experience working with participating customers, what were the significant factors and/or program design features that convinced customers to participate in the ENvest[SCE] program?

4. In your opinion, do any of these program design features, particularly those that involved ratepayer support, provide the utility with an unfair competitive advantage that significantly disadvantages your firm?

5. In your previous or current marketing efforts, could you discuss the types of information on customers that is useful, particularly information that SCE has access to?

6. Have you requested this information from SCE, and if so, what has been the response? Are you aware of the types of customer information that SCE used in its marketing for ENvest[SCE]?

7. In your opinion, how likely is it that participating customers would have developed and agreed to move forward on similar energy efficiency solutions without the ENvest[SCE] program, possibly working directly with ESCOs?

Overall Assessment

1. What is you overall assessment of the ENvest[SCE] program at this time?

2. In your opinion, as structured, does the ENvest[SCE] pilot program allow the energy efficiency services market to develop and operate in a competitive manner?

3. What is the single most important piece of advice that you can give SCE or the CPUC on future programs with designs that are similar to the ENvest[SCE] Pilot?

Qualified Service Provider Mail Survey

Qualified Service Provider Mail Survey

Date: July 17, 1995

To: 1~ 2~
4~

From: George Edgar

Re: ENvest[SCE] Service Provider Evaluation Survey - CONFIDENTIAL

As described in our June 27, 1995 letter, the California Public Utility Commission has hired Wisconsin Energy Conservation Corporation to conduct an evaluation of the competitive impacts of Southern California Edison's ENvest[SCE] pilot program. We would appreciate if you could take a few minutes to complete the following survey and then FAX it back to us at 608-249-0339 or mail it in the enclosed return envelope. **ALL RESPONSES WILL BE KEPT COMPLETELY CONFIDENTIAL.** Neither ENvest[SCE] nor SCE staff will have access to your response.

I. Company Background

1. Please indicate which of the following services your company provides:

___ Arranger / Facilitator
___ Engineering Studies / Analysis
___ Engineering Design
___ Financing
___ Construction Management
___ System Installation
___ System Commissioning
___ Training of on-site personnel
___ System Monitoring
___ System Maintenance
___ Other (please specify below)

2. Does your firm solely market energy efficiency services? ___ Yes ___ No

3. What is the size of your business (annual revenue)? _____

4. What percentage of your firm's business is in energy efficiency services? _____ %

5. What percentage of your energy efficiency business is in the Southern California area? _____ %

6. In column A, please indicate the type of customers you have worked with over the past two years. In column B and C, please indicate how many energy efficiency projects your firm has completed for different customers and your firm's approximate total project costs over the past two years?

Business Type	A. Worked with	B. # Projects	C. Project Cost
Manufacturing			
Paper & Allied			
Food, Dairy, Tobacco			
Chemicals & Allied			
Industrial Machinery			
Rubber & Plastics (misc.)			
Primary Plastics			
Printing & Publishing			
Electrical Equipment			
Fabricated Metals			
Transportation Equipment			

6. (continued)

Business Type	A. Worked with	B. # Projects	C. Project Cost
Government & Institutional			
Schools, Hospitals			
Municipal Facilities			
State Facilities			
Federal Facilities			
Commercial & Retail			
Commercial Office Buildings			
Grocery & Supermarket			
Other (please specify)			

7. How often do you directly compete with other firms for individual jobs? Percentage of jobs involving another competitor or bidder: _____ %

8. What criteria does your firm use to select individual energy efficiency options to be included in the package of options presented to the customer? (e.g. payback, cash flow years, return on investment, etc.)

Criteria (e.g payback): _____

Value to assess criteria (e.g. payback < 2 years): _____

II. Involvement with ENvest[SCE]

9. What has been your firm's level of involvement with ENvest[SCE]?

___ On Service Providers list
___ Responded to SCE solicitations..... Number of responses _____
___ Working on a project.....Number of projects _____
___ Other. Please specify below

10. What was your primary reason(s) for participating in the ENvest[SCE] program?

_____ To increase overall sales
_____ Reasons beyond increasing sales (please briefly explain below)

11. Was the application process reasonable to complete? ___ Yes ___ No

Comments:

12. Were the qualifying criteria: (please check all that apply)

Reasonable? ___ Yes ___ Somewhat ___ No

Applied fairly? ___ Yes ___ Somewhat ___ No

Comments:

13. Was the ENvest[SCE] selection process consistent with practices used when your firm partners with others to offer comprehensive services? Please briefly explain:

III. Marketing Your Services To Industrial Clients

Definitions: Energy Efficiency Retrofits = making modifications to an existing system or process with the specific goal of reducing energy consumption or electrical demand.

14. On a scale of 1-5, with 1 being "Passively" and 5 being "Proactive," how actively does your firm market energy efficiency retrofits to commercial/industrial/institutional customers? Please circle your rating below.

Passively Proactive

1 2 3 4 5

15. How do you currently market and sell energy efficiency retrofits to commercial/industrial/institutional customers? Please check all that apply:

___ Utility requests an analysis and identification of potential opportunities.

___ Utility requests proposals for projects which are pre-specified by utility staff

___ Utility provides leads and we contact the clients about the ENvest[SCE] program.

___ Utility contacts the client, and the client discusses energy efficiency with us during normal interaction.

___ We provide clients and leads to ENvest[SCE]

___ Clients interested in retrofits contact our firm and we conduct studies for them outside utility-sponsored programs.

___ We actively market to clients whom we know are conducting retrofits.

___ We actively market to clients whether we know they are conducting retrofits or not.

___ Other. Please briefly explain below.

16. How important are utility rebates or other customer financial incentives to significantly expand market opportunities for your firm?

___ Very important
___ Somewhat important
___ Not important

Please explain:

17. What percentage of projects which your firm has been involved with would likely not have occurred without the availability of rebates? _____ %

18. Of the projects which your firm has been involved with, what is the percentage which would not have occurred as early as they did without the availability of rebates? _____ %

19. To what extent do you feel that your firm's ability to market and sell energy efficiency products and services will be improved through your participation in the ENvest[SCE] Service Providers Network?

___ Greatly
___ Somewhat
___ A little
___ Not at all

Please explain why:

IV. ENvest[SCE] Program: Market and Competitive Impacts

20. In your opinion, has or will ENvest[SCE] expand the market for comprehensive energy efficiency services in SCE's service territory? ___ Yes ___ No

Please briefly explain why or why not:

21. In your opinion, what significant features of ENvest[SCE] might persuade customers to participate in the program?

22. Is ENvest[SCE] well designed to positively affect customer decisions to purchase your services or products?

___ Yes
___ Somewhat
___ No

Comments:

23. In your opinion, what is the likelihood customers would have undertaken or will undertake similar energy efficiency projects without ENvest[SCE]? Please circle your ranking below:

Unlikely Very likely

1 2 3 4 5

24. In your opinion, does ENvest[SCE] offer some features to induce customers to act that are not available to other providers?

___ Yes ___ No

If yes, please list these special advantages:

25. Where do you get your information to target potential customers from?

26. In your opinion, what are the best aspects of the ENvest[SCE] program for firms such as yours?

27. In your opinion, what are the worst aspects of the ENvest[SCE] program for firms such as yours?

28. If you had to choose between having a utility provide customer rebate programs or an ENvest[SCE] type program, which would you prefer?

___ Rebates
___ ENvest[SCE]
___ Neither One

Please explain why:

Other comments:

Thank you for taking the time to complete this survey. YOUR RESPONSES WILL BB KEPT STRICTLY CONFIDENTIAL

Please Fax your completed survey to Edward M. Carroll,
Wisconsin Energy Conservation Corporation, Madison, WI
Fax: 608-249-0339
Phone: 608-249-9322

Or mail the survey in the enclosed envelope

Non-Active Customer Mail Survey

Non - Active Customer Mail Survey

Date: July 28, 1995

To: 1~ 2~
4~

From: George Edgar

Re: ENvest[SCE] Evaluation Survey - CONFIDENTIAL

The California Public Utilities Commission (CPUC) is conducting a study to assess the competitive impacts of Southern California Edison's (SCE) ENvest[SCE] pilot program. The CPUC has contracted with Wisconsin Energy Conservation Corporation (WECC) to conduct this study. Your input is essential in order for the CPUC to have a complete record as it considers appropriate utility role(s) in the development of the market for energy efficiency services.

We understand that you were contacted by an ENvest[SCE] staff member regarding your company's interest in undertaking an ENvest[SCE] energy efficiency project. The CPUC would like to determine what types of utility services are desired and would be most beneficial from customers' perspective. Therefore, we would appreciate if you could take a few minutes to complete the following survey regarding your company's involvement and opinions regarding ENvest[SCE].

Once completed, please return the survey by FAX at 608-249-0339 or mail it in the enclosed return envelope. **ALL RESPONSES WILL BE KEPT COMPLETELY CONFIDENTIAL.** Neither ENvest[SCE] nor SCE staff will have access to your response.

ENvest[SCE] Program

1. Were you working with or talking with an energy service company (ESCO) prior to your contact by an ENvest[SCE] staff member?

___ Yes ___ No

2. Were you working with or talking with an SCE customer representative about an energy efficiency project prior to your contact by an ENvest[SCE] staff member?

___ Yes ___ No

3. Would you please describe how you were initially contacted about the ENvest[SCE] program?

4. How far have or did discussions with ENvest[SCE] staff proceed concerning an energy efficiency project:

___ initial discussion of ENvest[SCE]
___ preliminary, walk-through type audit
___ proposal for a feasibility study
___ project is pending (decision to move forward or decline ENvest[SCE] project has not been made)

5. Were you presented with a list of service providers that you could select for a project, or did ENvest[SCE] take the primary lead in identifying a service provider for the project?

___ Presented with a list to choose from ___ ENvest[SCE] took primary lead

Did ENvest[SCE] staff mention other providers? ___ Yes ___ No

6. What information did ENvest[SCE] provide regarding the scope of potential projects? Please comment on the adequacy of information:

7. If your company has decided not to undertake an energy efficiency project facilitated by ENvest[SCE], what was the reason(s) for your decision? Please check all that apply:

___ Unfamiliar with firms participating in ENvest[SCE]'s Service Provider Network
___ Energy efficiency investments are not competitive with other projects our company is currently undertaking
___ Project does not meet internal investment guidelines
___ Unproven technology
___ Financing through ENvest[SCE] is not competitive
___ Firms in the ENvest[SCE] Provider Network do not specialize in my industry
___ Absence of utility rebates
___ SCE/ENvest[SCE] affiliation
___ Factors independent of the ENvest[SCE] program (e.g., economic uncertainty)
___ Other (please describe below):

8. Even if your company has decided not to participate in ENvest[SCE], are there any ENvest[SCE] program characteristics which your company finds attractive?

___ Yes ___ No

If yes, what are these characteristics?

9. Does ENvest[SCE] have any advantages over typical ESCOs? ___ Yes ___ No

If yes, what are these advantages?

10. Is your company currently undertaking an energy efficiency project outside of ENvest[SCE]?

___ Yes ___ No

If yes, is this project being completed solely for energy savings or for a combination of other factors such as proper equipment operation, comfort, or a production improvement?

___ Energy Savings ___ Combination of factors (please specify)

Previous Investments in Energy Efficiency

11. Has your company participated in utility sponsored energy efficiency programs other than ENvest[SCE]?

___ Yes ___ No

If yes, which programs:

Please briefly describe the approximate date(s) and scope of the project(s):

12. Has your company undertaken energy efficiency projects during the past 3-5 years <u>without</u> benefit of a utility program?

___ Yes ___ No

If yes, please briefly describe the scope of the project(s) and why the work was completed (e.g. as part of another project or a plant upgrade?)

13. Does your company prefer working with an energy service company (ESCO) or directly with individual service providers (e.g., contractors, installers, etc.)?

___ ESCO ___ Individual Service Providers ___ Other (please specify below)

14. Please estimate how many different energy service providers have contacted your company over the last 3 years? _____

How often have these firm(s) contacted your company? _____

Did your company complete any projects with these energy service providers?

___ Yes ___ No

If yes, how many and what type of projects?

Decisionmaking

15. Does your firm use certain criteria (e.g. payback, return on investment, etc.) to make decisions about which energy efficiency projects to pursue? If so, please indicate the value criteria used: (e.g., project must have a payback in less than 2 years).

Decision criteria: _____

Value to assess criteria: _____

16. Is your firm likely to make investments for energy efficiency savings alone, or do other corporate benefits have to be present (e.g., environmental compliance)?

___ Savings alone ___ Other benefits (please provide examples below):

17. How important have utility rebates been to your company's decisionmaking regarding energy efficiency investments?

___ Very important
___ Somewhat important
___ Not at all important

18. How do you finance your energy efficiency projects - internal vs. external funds?

___ Internal Funds ___ External Funds ___ Both

If the funds are external, what type of financing do you normally undertake? (e.g., bank loans, etc.)

19. What barriers, if any, exist that discourage your firm from investing in energy efficiency improvements?

Do you have suggestions for ways to overcome or minimize these barriers?

20. Please rank order the following types of assistance in terms of which would be most helpful in encouraging your company to invest in energy efficiency improvements, where:

1 is the "most helpful" and
6 is the "least helpful"

___ Information regarding product availability
___ Facility energy audits
___ Rebates / cash incentives
___ Financing
___ Savings guarantee
___ Assistance in arranging installation of equipment/measures

Overall Assessment

21. If you had to choose between your utility providing customer rebate programs or an ENvest[SCE] type program, which would you prefer?

___ Rebates
___ ENvest[SCE]
___ Neither One

Please explain why:

22. What is the single most important piece of advice that you can provide the California Commission to improve future utility energy efficiency programs for customers like yourself?

Thank you for taking the time to complete this survey. YOUR RESPONSES WILL BE KEPT STRICTLY CONFIDENTIAL

Please Fax your completed survey to Edward M. Carroll,
Wisconsin Energy Conservation Corporation, Madison, WI
Fax: 608-249-0339
Phone: 608-249-9322
Or mail the survey in the enclosed envelope

APPENDIX C: SERVICE PROVIDER QUALIFICATION APPLICATIONS

ENVEST
ENERGY EFFICIENCY SOLUTIONS

Service Provider Application

ENVEST
ENERGY EFFICIENCY SOLUTIONS

SERVICE PROVIDERS QUALIFICATION APPLICATION

GENERAL INFORMATION

1. Company Name: _____

   Address: _____

   Mailing Address (if different): _____

   _____

   Telephone: _____

   Contact Person: _____

   Title: _____

   Federal Tax I.D. Number: _____

2. In what area(s) are you requesting qualification:

   - ☐ Comprehensive Service Provider
   - ☐ Manufacturing
   - ☐ Energy Audits
   - ☐ Equipment Installation
   - ☐ Measurement and Monitoring
   - ☐ Consulting Services (Specify_____)
   - ☐ Other (Specify_____)
   - ☐ Training and Education
   - ☐ Engineering/Design
   - ☐ Operations & Maintenance
   - ☐ Project Management
   - ☐ Construction administration & management
   - ☐ Commissioning

3. Identify area(s) of technical expertise:

   - ☐ Lighting
   - ☐ HVAC
   - ☐ Thermal Storage
   - ☐ Industrial Processes
   - ☐ Commercial/Industrial Refrigeration
   - ☐ Chillers
   - ☐ Central Facilities
   - ☐ Motors/Drives
   - ☐ Building Automation Systems
   - ☐ Other (Specify _____)

4. Identify industry experience:

   - ☐ Large Commercial Buildings
   - ☐ Schools (K-12)
   - ☐ Colleges & Universities
   - ☐ Hospitals
   - ☐ Industrial Facilities
   - ☐ Other (Specify _____)
   - ☐ Retail Establishments
   - ☐ Government Facilities
     - ☐ Federal
     - ☐ State
     - ☐ Municipal

Edison will keep all non-public information about a service provider disclosed in this application confidential and shall not disclose any such information to any third party without the service provider's consent, except as required by any governmental agency or pursuant to legal process.

ENVEST
ENERGY EFFICIENCY SOLUTIONS

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

GENERAL INFORMATION

5. Form of Organization:

- ☐ Publicly Held Corporation
- ☐ Privately Help Corporation
- ☐ General Partnership
- ☐ Limited Partnership
- ☐ Sole Proprietorship
- ☐ Other (Specify _____)

A) If a subsidiary or affiliate, list name and address of parent company:

B) List subsidiaries of your company:

C) List the company officers, principals, partners:
Attach a current organization chart

6. Is your company qualified to do business in California?

7. List your California Contractor's License Number and Expiration Date.
List all other contractor licenses, by state (FORM A-1, attached)

8. Are you a Minority/Women/Disabled Veteran owned business?
If so, please complete the following:

- ☐ Women Owned
- ☐ Disabled Veteran Owned
- ☐ Minority Owned
  - ☐ African American
  - ☐ Asian American
  - ☐ Hispanic American
  - ☐ Native American
  - ☐ Filipino American
  - ☐ Polynesian American
  - ☐ Other_____

Are you a verified by California's WMBE Clearinghouse?
If so, please indicate your verification number_____.

9. List the number of permanent full time employees in your company.

10. Are you a union or non-union company? If your employees are represented by a union, please list the union name(s) and date(s) of contract expiration.

ENVEST

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

GENERAL INFORMATION

11. Has your company been in litigation with any customers or with Southern California Edison within the last five years? If so, provide details of any past or current outstanding litigation, settlements and the basis of the settlement.

12. Does your company have any outstanding government or regulatory actions? If so, please provide details.

ENVEST
ENERGY EFFICIENCY SOLUTIONS

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

PART B: PROFESSIONAL EXPERIENCE AND TECHNICAL EXPERTISE

1. Provide a company organization chart identifying the retrofit construction and technical experience of the key individuals in your company. Use FORM B-1 and attach additional sheets if necessary. Provide resumes describing past experience.

2. List major projects in progress. Use FORM B-2 and attach additional sheets if necessary.

3. List all projects completed in the past three years, under your company's current or a previous name. Use FORM B-3 and attach additional sheets if necessary.

4. What is the average dollar value of the average size project that you normally work on?

   What is the dollar value of the largest project you have completed?

5. Describe the type of work you normally perform with your own personnel.

6. Which of the following services do you provide directly and which do you subcontract?

	SELF	SUBCONTRACT
a) Energy Audits	☐	☐
b) Comprehensive Feasibility Studies	☐	☐
c) Engineering/ Design	☐	☐
d) Construction Administration and Management	☐	☐
e) Equipment Installation	☐	☐
f) Commissioning	☐	☐
g) Measurement and Monitoring	☐	☐
h) Training and Education	☐	☐
i) Operations & Maintenance	☐	☐
j) Project Management	☐	☐
k) Other (Specify _____)	☐	☐

ENVEST
ENERGY EFFICIENCY SOLUTIONS

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

PART B: PROFESSIONAL EXPERIENCE AND TECHNICAL EXPERTISE

7. Are you currently a qualified service provider of Southern California Edison?

8. If you are applying as a comprehensive service provider, please provide a sample project proposal which illustrates the types of integrated services that you provide.

9. Provide a list of Women/Minority Business Enterprise companies you have employed on your projects. Use FORM B-4

10. If you are a manufacturer, please provide a listing and description of your product warranties.

ENVEST
ENERGY & PROJECT SOLUTIONS

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

PART C: FINANCIAL INFORMATION

1. What is the total revenue and income of your Company for the last three fiscal years?

YEAR	TOTAL REVENUE	NET PRE-TAX INCOME
1992		
1991		
1990		

2. Attach your annual financial statement (audited preferred) that includes your balance sheet, income statement, and statement of cashflow for the past three years. Provide the name of the firm that prepared the financial statement.

3. Within the last five years, has your company (under the present or a previous name) filed for bankruptcy? If so, indicate date(s) and the current status of the bankruptcy proceeding.

4. Complete FORM C-1 and attach copies of your company's insurance certificates for (a) fire and property damage, and (b) comprehensive general liability, including bodily injury, property damage, worker's compensation and automobile.

5. Does your company have a performance bond capacity? Payment bond capacity?

   A) What is your company's bonding level for performance and payment bonds?

   B) Through what assurance company is your bonding provided?

ENVEST
Energy Efficiency Solutions

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

PART D: REFERENCES

1. Use FORM D-1 to identify three to five customer references.
2. Use FORM D-2 to identify three to five subcontractors and/or suppliers that may serve as references.
3. Use FORM D-3 to identify utility references.
4. Use FORM D-4 to identify bank references.

DATE PREPARED: _____

AUTHORIZED SIGNER: _____

Receipt of a completed Qualification Application shall not constitute acceptance of the applicant as a ENvest℠ service provider. Qualification as an ENvest℠ service provider will not assure the selection of the service provider for any ENvest℠ projects.

ENVEST

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

APPENDIX A: LIST OF FORMS

FORM A-1 Contractors Licenses

FORM B-1 Summary of Technical Experience

FORM B-2 Major Projects in Progress

FORM B-3 Previously Completed Projects

FORM B-4 Minority and Women Enterprise Businesses

FORM C-1 Insurance Coverage

FORM D-1 Customer References

FORM D-2 Subcontractor References

FORM D-3 Utility References

FORM D-4 Bank References

ENVEST
ENERGY EFFICIENCY SOLUTIONS

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

CONTRACTOR LICENSE SUMMARY - FORM A-1

State of License	License #	Expiration Date	License Holder

ENVEST
ENERGY EFFICIENCY SOLUTIONS

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

CONSTRUCTION AND TECHNICAL EXPERIENCE - FORM B-1

NAME: _____

TITLE: _____

Length of Time With Title: _____

Current Responsibilities: _____

Professional Licenses: _____

Attach Resume describing past experience

NAME: _____

TITLE: _____

Length of Time With Title: _____

Current Responsibilities: _____

Professional Licenses: _____

Attach Resume describing past experience

NAME: _____

TITLE: _____

Length of Time With Title: _____

Current Responsibilities: _____

Professional Licenses: _____

Attach Resume describing past experience

NAME: _____

TITLE: _____

Length of Time With Title: _____

Current Responsibilities: _____

Professional Licenses: _____

Attach Resume describing past experience

ENVEST
ENERGY EFFICIENCY SOLUTIONS

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

MAJOR PROJECTS IN PROGRESS - FORM B-2

Client Name: _____

Project Name: _____

Location: _____

Description: _____

Client Contact (Name and Title): _____

Client Address: _____

Client Telephone: _____

Contract $ Amount:

___ Under $50,000 ___ $50,000 - $100,000 ___ $100,000 - $250,000

___ $250,000 - $500,000 ___ $500,000 - $1,000,000 ___ Over $1,000,000

Technologies used:

% completed with own work force:

Subcontractors Used (Name, Contact, Telephone):

Project Type: (Retrofit, New Construction, etc.)

☐ Retrofit ☐ New Construction

Equipment Installed:

☐ Private ☐ Government

☐ Federal ☐ State ☐ Municipal

ENVEST
ENERGY EFFICIENCY SOLUTIONS

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

PREVIOUS PROJECTS - FORM B-3

Client Name: _____

Project Name: _____

Location: _____

Description: _____

Client Contact (Name and Title): _____

Client Address: _____

Client Telephone: _____

Contract $ Amount:

___ Under $50,000 ___ $50,000 - $100,000 ___ $100,000 - $250,000

___ $250,000 - $500,000 ___ $500,000 - $1,000,000 ___ Over $1,000,000

Technologies used:

% completed with own work force:

Subcontractors Used (Name, Contact, Telephone):

Project Type: (Retrofit, New Construction, etc.)

☐ Retrofit ☐ New Construction

Equipment Installed:

☐ Private ☐ Government

☐ Federal ☐ State ☐ Municipal

ENVEST
ENERGY EFFICIENCY SOLUTIONS

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

MINORITY & WOMEN BUSINESS ENTERPRISE - FORM B-4

Name of Company: _____

Address: _____

Telephone: _____

Contact (Name and Title): _____

Type of Work Performed:

Name of Company: _____

Address: _____

Telephone: _____

Contact (Name and Title): _____

Type of Work Performed:

ENVEST
ENERGY EFFICIENCY SOLUTIONS

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

INSURANCE COVERAGE - FORM C-1

COVERAGE	AMOUNT	INSURER	AGENT/BROKER	TELEPHONE
Workers Compensation				
Comprehensive Liability				
Bodily Injury				
Automobile				
Other				

ENVEST

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

CUSTOMER REFERENCES - FORM D-1

Customer Name: _____

Address: _____

Telephone: _____

Description of Project:

Level of Activity:

Customer Name: _____

Address: _____

Telephone: _____

Description of Project:

Level of Activity:

Customer Name: _____

Address: _____

Telephone: _____

Description of Project:

Level of Activity:

ENVEST
ENERGY EFFICIENCY SOLUTIONS

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

SUBCONTRACTOR REFERENCES - FORM D-2

Company name: _____
Contact (name and title): _____
Address: _____
Telephone: _____

Company name: _____
Contact (name and title): _____
Address: _____
Telephone: _____

Company name: _____
Contact (name and title): _____
Address: _____
Telephone: _____

Company name: _____
Contact (name and title): _____
Address: _____
Telephone: _____

ENVEST

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

UTILITY REFERENCES - FORM D-3

Utility Name: _____

Address: _____

Telephone: _____

Contact (Name and Title): _____

Description of Work Performed:

Job Size:

Utility Name: _____

Address: _____

Telephone: _____

Contact (Name and Title): _____

Description of Work Performed:

Job Size:

ENVEST
ENERGY EFFICIENCY SOLUTIONS

Company Name: _____

SERVICE PROVIDERS QUALIFICATION APPLICATION

BANK REFERENCES - FORM D-4

Bank: _____

Contact (name and title): _____

Address: _____

Telephone: _____

Type and Level of Activity (e.g. Line of Credit, $ Amount): _____

_____

Bank: _____

Contact (name and title): _____

Address: _____

Telephone: _____

Type and Level of Activity (e.g. Line of Credit, $ Amount): _____

_____

Bank: _____

Contact (name and title): _____

Address: _____

Telephone: _____

Type and Level of Activity (e.g. Line of Credit, $ Amount): _____

_____

Bank: _____

Contact (name and title): _____

Address: _____

Telephone: _____

Type and Level of Activity (e.g. Line of Credit, $ Amount): _____

_____

Request for Qualifications Package

for

Trade Ally Providers to *TEEM*

Southern California Gas Company

August 1, 1995

Submitted under the provisions of General Order 66-C and Section 583 of the Public Utilities Code

CONFIDENTIAL

Table of Contents

Submitted under the provisions of General Order 66-C and Section 583 of the Public Utilities Code

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I. Introduction to *TEEM*

Total Energy-Efficiency Management (*TEEM*) is an innovative fuel-neutral pilot program developed by SoCalGas to help customers take advantage of energy-efficiency and energy cost-reduction opportunities. *TEEM* will build on SoCalGas' expertise in the energy field. Through *TEEM*, SoCalGas will act as an integrator of energy-efficiency projects by coordinating and managing the efforts of third-party financiers and qualified Trade Allies. SoCalGas seeks support firms (Trade Allies) to assist it in this effort. Trade Allies, qualified through this RFQ, will include engineering firms, energy services companies (ESCOs), contractors, manufacturers, and vendors. The Trade Allies will be expected to provide one or more services including detailed energy auditing and analysis, engineering design, construction management and implementation, maintenance and monitoring, commissioning and training.

TEEM projects will be designed to be fuel-neutral, to ensure the most cost-effective energy solution for the customer based upon customer requirements, including (but not limited to) project-payback and customer's rate-of-return calculations, operational requirements, etc. *TEEM* will place the customer's needs ahead of any specific fuel considerations.

TEEM's goals include:

- satisfying customers' energy-related needs for high-efficiency, lower operating cost technologies;
- removing financial barriers by coordinating financing, while placing project costs on the customer's utility bill (where requested by the customer);
- demonstrating that fuel-neutral solutions will stimulate implementation of comprehensive energy solutions, such as heating, ventilation and air conditioning (HVAC), lighting, controls, building envelope, motors, and variable frequency drives;
- encouraging equipment manufacturers to develop and produce new, cost-effective high-efficiency equipment;
- increasing the market penetration of high-efficiency equipment, potentially balancing system loads of gas and electric utilities; and
- improving utilization of the capacity of both the electric and gas systems, and reducing average operating costs for all ratepayers by retaining and leveling system loads and spreading costs over a larger base.

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The *TEEM* pilot program will continue through at least December 31, 1996. Through this pilot program, SoCalGas expects to pursue and attain commitments to install projects with an aggregate construction value of $60,000,000. SoCalGas will pre-qualify customers and their projects and serve as the project manager for all services to be provided. At the customer's request, all project costs may be included on their utility bill. The Trade Allies' services will be contracted by *TEEM* on a project-by-project basis either through a bidding process or through sole-source negotiation. The initial target market includes government facilities (including cities and counties) and institutional, commercial, and industrial customers.

Customized financing packages---arranged on a project-by-project basis---may incorporate leases, tax-exempt leases, loans, and/or other financing instruments. Projects are expected to be self-funding through energy cost-savings over the term of the agreement, thereby requiring little or no initial capital investment on the part of the customer. Technical performance assurance, at the customer's request, may be extended to customer projects as negotiated for a period of 18-36 months.

SoCalGas will increase the market opportunities available to its Trade Allies by utilizing the strength of its customer relationships, reputation, and field representatives. By providing introductions to pre-qualified customers, *TEEM's* Trade Allies will benefit through increased market potential, implementation opportunities, and long-term project referrals. The customer will benefit by having single-source accountability to *TEEM*, and by receiving services that had been pre-screened for quality, cost-effectiveness, longevity, and customer satisfaction. By placing the financial obligations in the hands of third-party financing institutions, all parties can concentrate on their specialties to create the most cost-effective approach to meeting customer needs. In short, SoCalGas---with its team of Trade Allies---intends to provide the level of customer support that motivates qualified customers to fully implement energy-efficiency and energy-cost reduction projects that would have otherwise been left undone.

2. Request for Qualifications

SoCalGas seeks qualified engineering firms, ESCOs, contractors, manufacturers and vendors with experience in commercial and industrial sector energy management services, to be its Trade Allies. Under this program, SoCalGas will pre-qualify customers based on credit, availability of a qualifying project, and willingness of customer to implement the project using *TEEM* turn-key services. Upon such qualification, SoCalGas will offer the project to one, or more than one, of the qualified applicants.

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Qualifying applicants should have demonstrated experience in providing project development and implementation services including at least one of the following:

- energy audits and modeling
- engineering design
- construction management and implementation
- maintenance and monitoring
- commissioning and training

In general, applicants will not be expected to provide project financing.

SoCalGas will seek such services for projects beginning in August 1995 and continuing throughout the pilot period. Successful applicants will be required to provide firm price bids on energy conservation projects when requested by SoCalGas. Further, they agree to provide certain reporting information as may be requested periodically by SoCalGas.

SoCalGas makes no guarantees that successful applicants will, in fact, ultimately enter into contracts for services. Although SoCalGas has identified serious and significant interest among its large customers to use *TEEM* to facilitate financing and implementation of energy conservation projects—SoCalGas will actively promote the program—it is possible that no customers will elect to participate in this program.

3. Description of Tasks

A. General Obligations

Potential energy conservation projects will be identified and pre-qualified by a *TEEM* account executive. Basic credit-worthiness evaluations will be performed, and engineering-energy audits will be conducted to determine each project's scope. A proposal will be developed outlining the project's scope, economics, and implementation plan. Once the proposal is accepted, an agreement will then be negotiated.

A detailed energy audit/analysis will be completed allowing advanced engineering design to begin. Project financing will be secured through a third-party financier. The project will be installed and an operations and maintenance plan will be prepared to insure the project performs up to design specifications. SoCalGas will not assume responsibility for operations and maintenance deficiencies caused by the customer. Throughout the life of the contract, SoCalGas will provide technical assistance to participants as specified in their agreements.

Trade Allies will keep records of data gathered from audits, installations, designs, and customer interactions such as complaints or other feedback. Trade Allies will also reconcile audit, installation, and inspection reports and will provide monthly activity reports to SoCalGas. All data collected will be the property of SoCalGas.

B. Specific Tasks

In consultation with the customer, contracts with Trade Allies will be established for specific tasks identified by SoCalGas. Trade Allies would typically be required to perform one or more of the following tasks:

1. Detailed Energy Auditing and Analysis

- SoCalGas will conduct preliminary energy audits to determine potential project scope and opportunity.
- Trade Allies will conduct detailed energy audits of pre-qualified projects to refine information on existing end-uses and to determine potential kwh savings from installing energy efficient measures, as previously identified by SoCalGas.
- The energy auditor will manage customer names and contacts, make design recommendations regarding measures to be installed, and transmit audit results to SoCalGas.
- The auditor's recommendations for installation will encompass all eligible gas and electric measures that are feasible to install. The recommendations will take into account safety, performance requirements, economic feasibility, and other site specific conditions.

2. Engineering design

- Trade Allies will provide engineering design services, procure all engineering material and obtain all necessary permits as directed by SoCalGas. Work performed must meet all applicable federal, state and local codes, laws and requirements.
- Trade Allies must provide proof of Errors & Omissions Insurance/ Coverage and Professional Liability Insurance Coverage with appropriate amounts specified by the contract.

3. Construction Management and Implementation

Construction management responsibility will reside with Trade Allies. SoCalGas and Trade Allies will maintain a close working relationship to ensure success of the project. If selected as a construction contractor, the Trade Allies' work will typically include at least the following tasks:

- Be properly licensed to perform all work
- Use established quality control measures, contracts, and tracking systems
- Oversee all construction, monitoring, and training aspects of the project
- Perform construction feasibility review and engineering drawings prior to starting construction
- Receive direct approval from the *TEEM* Project Manager for project decisions as stipulated under the contract between SoCalGas and Trade Allies
- Solicit and evaluate bids for all sub-contracted work
- Install energy efficient measures in participating customer facilities. Work performed must meet all applicable federal, state and local codes, laws and requirements, including OSHA regulations, and applicable local inspection authority
- Purchase and obtain necessary building permits to perform the construction
- Obtain certification, by an approved testing laboratory (UL, ETL, etc.) in an appropriate category, for all equipment
- Measures installed under *TEEM* will include, but not be limited to, high efficiency lighting, heat pumps, envelope measures (i.e., pipe insulation, ceiling/wall insulation, water-flow restrictors), combustion controls, energy management systems, HVAC computerized controls, HVAC non-computerized controls, temperature sensing devices, water pumping systems, motor control systems, hybrid or high-efficiency electric or gas cooling systems, gas engine-driven systems, desiccant system, air compressors, space heating, refrigeration, washing/cleaning

systems, water-heating systems, manufacturing process improvements, and transportation systems

- All hazardous materials must be disposed of in accordance with all applicable federal, state, and local regulations

- Provide performance bonds as required by customer and/or federal, state, and local regulations

4. Maintenance and Monitoring

   Trade Allies will provide equipment maintenance services and measure and report savings as requested by SoCalGas.

5. Training

   Trade Allies will provide training services as requested by SoCalGas regarding proper use of project equipment installed.

4. Qualifications

Based on initial discussions with customers, SoCalGas will try to identify and sign commitments to implement a minimum of $60 million of Qualifying Projects within two to three years. In providing these figures, however, SoCalGas makes no guarantees that any contracts will be consummated. Additionally, SoCalGas makes no guarantees that contracts which are consummated will be awarded to those applicants who are qualified at this time, and reserves the right to solicit and qualify additional applicants at any time.

Interested applicants should demonstrate the following in their responses to this RFQ:

1. That they have at least five (5) years experience implementing projects involving a variety of conservation technologies in large commercial and industrial facilities in the Southern California area. Qualified applicants must have demonstrated experience in the area of expertise they propose to offer to the *TEEM* program. Applicants who do not have successful project experience within the Southern California area will have to demonstrate how they will obtain this specialized knowledge and expertise.

2. That they have sufficient financial strength to meet the obligations that may arise under this program. Applicants who have superior financial strength will have a strong competitive advantage over applicants who do not.

3. That they have existing local offices or the ability to establish local offices with sufficient local manpower to implement bids contemplated during the term of the program. Qualified applicants should name individuals who would actually perform the services in the event the applicant is selected. This effort should identify the percentage of internal and external labor and the sub-contractors which may be used. Applicants who do not have existing staff experience within the Southern California area will have to demonstrate how they will obtain this specialized knowledge and expertise.

4. That they have experience in utility DSM or performance contracting programs.

These are guidelines for interested applicants to assess their ability to participate in this program. Notwithstanding these guidelines SoCalGas reserves the right, at its discretion, to select applicants based on criteria it deems appropriate.

5. Procedures for Responding

Interested applicants should complete and submit their RFQ (must be received by SoCalGas no later than 4:00 PM 15 September 1995) to the following address:

The Southern California Gas Company
TEEM Business Unit, M. L. ERC 8
9240 E. Firestone Blvd.
Downey, CA 90241-5388
FAX (310) 803-7440
Attn: C. Winston Lee

It is each applicant's responsibility to verify timely receipt by SoCalGas. SoCalGas reserves the right to interview applicants as the need arises. Applicants should be available to participate in these interviews at their own expense.

SoCalGas considers all non-public information, which is disclosed and clearly marked in writing by the applicant, through this qualification process as confidential information, and will not disclose any such information to any third party without the prior consent of the applicant, except as required by any government agency or pursuant to legal process.

SoCalGas is committed to the development of women-owned and minority-owned business enterprises (WMDVB) in its service territory, and subject to Public Utilities Commission General Order 156 which defines the goals for the State of California WMDVB program. Trade Allies, in their subcontracting work, are encouraged to include businesses owned by women, minorities, and disabled veterans.

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6. Insurance

Trade Allies, prior to commencement of work, will procure at its own expense and maintain in full force and effect during the life of the Agreement, with responsible insurance carriers authorized to do business in California, at the minimum amounts specified by the contract. All policies will be endorsed to provide that such insurance will be primary and not in excess of or contributing with any insurance or self-insurance maintained by SoCalGas. Such insurance shall be endorsed to require at least thirty (30) days' prior written notice to SoCalGas of any material change or cancellation. Also, Trade Allies will, prior to commencement of work, deliver to SoCalGas Certificates of Insurance or certified copies of all insurance policies signed by an agent of the insurance company evidencing such coverage and shall effect such changes as may be requested by SoCalGas. SoCalGas will at all times have the right to inspect the original, or a copy of all required policies of insurance. Trade Allies' liability will not be limited to the minimum amount of insurance coverage specified by the contract.

All insurance policies will be endorsed to include SoCalGas as an additional insured. Prior to commencement of work, Trade Allies will deliver to SoCalGas copies of all such endorsements. Mail Certificates of Insurance to:

Southern California Gas Company
Risk Management Department
Box 3249, M.L. 21EO
Los Angeles, California 90051-1249

7. RFQ Response Requirements

A complete RFQ response will include (3) Sections:

1. RFQ Response Checklist (To Be Completed by Respondent)
2. Sections 1-4 Below
3. Section 5 - Appendices

Applicants should provide a statement of qualifications that incorporates the information described below. SoCalGas requests that applicants provide the information in the suggested format to facilitate review.

Section 1. General Description - This section should provide general information about the company.

A. It should list any subsidiaries of the company and list parent company if the company is a subsidiary or affiliate of another company.

B. It should summarize company history and experience.

C. It should list the company officers, principals, and partners and include a current organization chart. It should identify the corporate structure (e.g. publicly held corporation, privately held corporation, partnership, sole proprietorship, etc.)

D. If the company is certified by California's WMDVB Clearinghouse, it should include its verification number and provide to SoCalGas a copy of the certificate.

E. It should indicate the date and status of any bankruptcy proceedings in the last five years.

Section 2. Description of Experience - As described above, Trade Allies will be allowed to offer some or all of the services required under the *TEEM* program. This section is intended to display relevant experience to support the company's offered services. It should include the *TEEM* Qualification Questionnaire (Attachment #1) and the *TEEM* Description of Experience Chart (Attachment #2). This chart should list at least five projects that were:

- completed during the past three years
- constructed in Southern California (preferably within the SoCalGas service territory or demonstrate how other experience relates to this qualification)
- otherwise comparable to the projects which *TEEM* expects to undertake

Section 3. Description of Staff - This section should list individuals, including their respective resumes, who will be directly involved in the program if the firm is selected. It should list the staff's experience, locations, and applicable contractor's licenses (with expiration dates).

Section 4. Description of How Company will Support Program - This section should describe how the company, if selected, will staff and support projects. It should describe the percentage of external labor will be used (if any) and include qualifications of sub-contractors.

Section 5. Appendices

A. Company Financial Statements (preferably audited) for the last three years. Also include those of financing company if some other company provides financial guarantees on behalf of the company's projects.

B. Copies of company's insurance certificates for (1) fire and property damage, (2) comprehensive general liability, including bodily injury, property damage, worker's compensation and automobile, 3) professional liability (where applicable), and 4) errors and omissions insurance (where applicable).

C. Names, addresses, and telephone numbers of three subcontractors or supplier references, three customer references (at least 2 must be local, preferably within SoCalGas' service territory), and any applicable bank references.

D. Other information that applicants believe is useful in clarifying or illustrating expertise, longevity, ownership or other critical selection factors.

8. **Schedule**

The following schedule is anticipated for the first round of Trade Ally selection. Depending on the level of interest and other factors affecting the process, this schedule is subject to change.

RFQ Packages Available.....August 1, 1995

Notice of Intent to Attend Q&A Conference.....August 15, 1995

Question & Answer Conference(*).....August 22, 1995

Mail Transcript of Q/A Conferences(**).....September 1, 1995

Submissions Due at SoCalGas.....September 15, 1995

Status Notification.....October 13, 1995

(*) It will be held, from 9-11 AM, at the address below. Attendance is not mandatory; however, this is the only forum in which questions pertaining the RFQ will be answered. Applicants interested in attending this conference

should complete the Notice of Intent to Attend Question and Answer Conference (Page 16) and forward it to the address below:

The Southern California Gas Company
TEEM Business Unit, M. L ERC 8
9240 E. Firestone Blvd.
Downey, CA 90241-5388
FAX (310) 803-7440
Attn: C. Winston Lee

(**) Transcript of the questions and answers will be mailed to all applicants who receive a RFQ package from SoCalGas.

Submitted under the provisions of General Order 66-C and Section 583 of the Public Utilities Code

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Submitted under the provisions of General Order 66-C and Section 583 of the Public Utilities Code

Attachment #1

SoCalGas *TEEM!* Trade Allies Qualification Questionnaire

Company Name: _____

Corporate Address: _____

Local Address: _____

Federal Tax ID Number: _____

Contact Person: _____

Title: _____

Telephone: _____

Which services are you offering?

- ❑ Detailed energy auditing and analysis
- ❑ Construction management and implementation
- ❑ Maintenance and monitoring
- ❑ Engineering design
- ❑ Training

What are your area(s) of technical expertise?

- ❑ Lighting
- ❑ Heat pumps
- ❑ Water pumps
- ❑ Thermal storage
- ❑ Chillers
- ❑ Water-heating systems
- ❑ Control systems
- ❑ Envelope measures
- ❑ HVAC
- ❑ Motors
- ❑ Refrigeration
- ❑ Transportation systems
- ❑ Manufacturing processes
- ❑ Other (specify _____)

What are your area(s) of industry expertise?

- ❑ Large commercial
- ❑ Colleges & universities
- ❑ Large industrial
- ❑ Hospitals
- ❑ Schools(K-12)
- ❑ Other (specify _____)
- ❑ Government
  - ❑ Federal
  - ❑ State
  - ❑ Municipal
  - ❑ Retail

What Certificates of Insurance Coverage can you provide?

Worker's Compensation and Employer's Liability ☐
Limit $_____

Commercial General Liability ☐
Limit $_____

Commercial Automobile Liability ☐
Limit $_____

Professional Liability ☐
Limit $_____

Errors & Omissions ☐
Limit $_____

RFQ RESPONSE CHECKLIST (*)

As a potential Trade Ally provider to SoCalGas' *TEEM* program, I have provided a complete response package as indicated below:

Narrative:		Check Here
Section 1	General Description	_____
	A. Subsidiary/Parent Company Affiliations	_____
	B. Company History & Experience Summary	_____
	C. Company Officers, Principals, Owners/Organization Chart	_____
	D. WMDVB Certification #s & Certificate Copies	_____
	E. Bankruptcy Proceedings	_____
Section 2	Description of Experience	
	A. Attachment #1 *TEEM* Qualifications Questionnaire	_____
	B. Attachment #2 Description of Experience Chart	_____
Section 3	Description of Staff	
	A. Staff Listing by Location, etc. (including resume)	_____
	B. Applicable Contractors'/Business Licenses With Expiration Dates	_____
	C. PE Certifications by State of Participating Staff Members	_____
Section 4:	Description of How Company Will Support Program	_____
Section 5:	Appendices	
	A. Company Financial Statements (**)	_____
	B. Insurance Certificates	_____
	C. References	_____
	D. Other Supplemental Information	_____

Submitted under the provisions of General Order 66-C and Section 583 of the Public Utilities Code

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(*) Failure to submit any portion of this package may result in delay in consideration or disqualification of the respondent.

(**) Privately Held Corporations must submit acceptable financial documentation. All items submitted will be held in the strictest confidence, if properly identified in writing.

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Attachment #2

TEEM Description of Project Experience Chart

Page 14

Customer Name, Address & Phone	Contact Name & Title	Project Description and Date Completed	Total Project Invoice	% Internal Labor	Sub-Contractors

NOTICE OF INTEND TO ATTEND QUESTION AND ANSWER CONFERENCE (AUGUST 22, 1995 9-11 AM)

COMPANY NAME _____

ATTENDEES (NO MORE THAN 3 PER COMPANY)

_____
NAME, TITLE

_____
NAME, TITLE

_____
NAME, TITLE

NAME OF CONTACT _____

CONTACT PHONE NUMBER _____

CONTACT FAX NUMBER _____

MAIL OR FAX THIS ATTENDANCE NOTICE TO:

The Southern California Gas Company
TEEM Business Unit, M.L. ERC 8
9240 E. Firestone Blvd.
Downey, CA 90241-5388
FAX (310) 803-7440
Attn: C. Winston Lee

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ubmitted under the provisions of General
)rder 66-C and Section 583 of the Public
tilities Code

(MUST BE RECEIVED BY SOCALGAS NO LATER THAN AUGUST 15, 1995)

APPENDIX D: ANALYSIS OF ENvest^{SCE} USING THE "FIVE FORCES" MODEL

The "five forces" model initially developed by Michael E. Porter of the Harvard Business School is a widely recognized framework for assessing the intensity or level of competition within industries and markets. [See Michael E. Porter, Competitive Strategy: Techniques for Analyzing Industries and Competitors (New York, MacMillan Press, 1980), pages 3-33]. The Project Team in this Appendix will apply this model to the performance contracting market in Southern California in light of the ENvest^{SCE} pilot.

The premise of the "five forces" model is that the state or level of competition in an industry is determined by the interaction of five basic competitive forces:

(1) The rivalry among existing firms;

(2) The threat of substitute products and/or services;

(3) The threat from new entrants into the industry;

(4) The bargaining power of suppliers; and

(5) The bargaining power of buyers.

Figure D-1 depicts the potential interaction of these five factors.

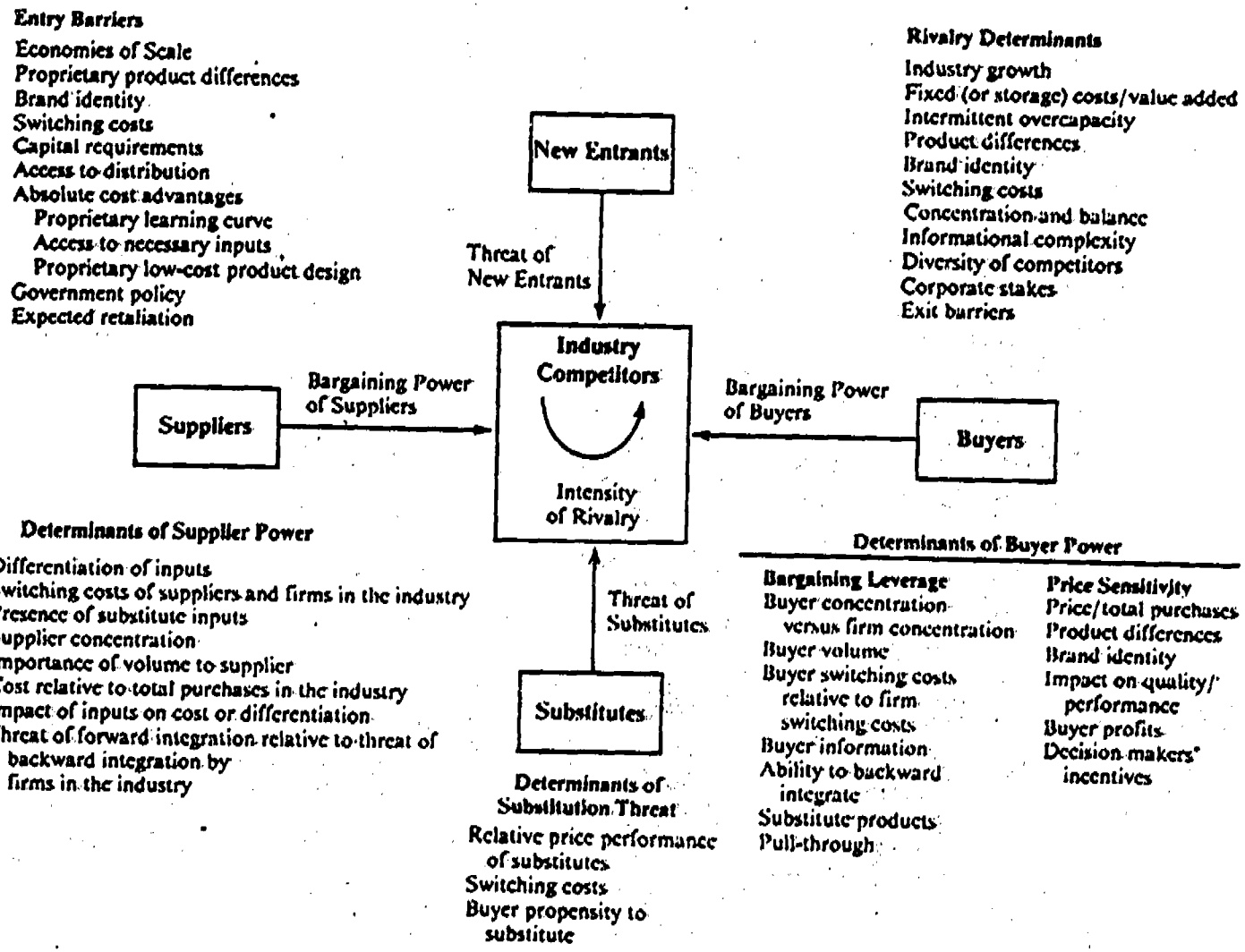

Figure D-1

(Porter, Competitive Advantage, page 6.)

The interaction of these forces is a dynamic one. Thus, the intensity of competition within an industry can change significantly over time. The greater these forces are, the higher the level of competition which should translate into lower prices, more innovation, and more options for customers.

Following is a brief discussion of the diverse factors composing each force and their relevance to the ENvest[SCE] pilot.

(1) Rivalry Among Existing Firms

The extent of or intensity of rivalry in an industry is the product of "interacting structural factors"[1]. The relevant structural factors for the ENvest[SCE] pilot are:

- The number of competitors and the relative size and perceived resources among these competitors. The more numerous and equally balanced competitors are in terms of resources, the greater the intensity of rivalry is expected to be.

- The pace of industry growth. The slower the growth of an industry the greater the potential rivalry over market share. In a rapidly growing industry, potential competitors may all expand without intense rivalry.

- The extent of and effectiveness of differentiation among providers. Significant product or firm differentiation based on factors that customers perceive as unique and valuable may insulate a business against competitive challenges. It does so because these unique means of differentiation create customer loyalty.

- The strategic importance of being successful in the industry. The more important it is to a firm to be successful, however defined, the greater the level of rivalry that can be expected.

Market shares are often calculated as a proxy to estimate the intensity of rivalry. The assumption is that a firm with a high market share is likely to exhibit dominant characteristics in the factors noted above.

ENvest[SCE] was started because the extent of rivalry in the performance contracting market did not appear sufficient to capture a significant share of the market potential available. There were four or

[1] Porter, Competitive Strategy, page 18.

five major ESCOs operating in Southern California in the early 1990s with a somewhat greater number of smaller ESCOs. The pace of industry growth was not rapid. ESCOs attempted to differentiate themselves, some by their relationship to large product manufacturers such as Honeywell and Johnson Controls. But, competitors tended to offer similar full service project development packages including third party financing. For a number of the large ESCOs, the performance contracting business, though significant, was a small part of a larger business enterprise.

While customer demand for performance contracting was not particularly strong, there appears to have been sufficient opportunities, particularly in the governmental and institutional sectors, to avoid intense competition among existing competitors. The constraining factor in the market was the inability to increase customer demand. Part of this problem was due to a perception by customers of many ESCOs as fly-by-night operations who promised more than they delivered. The need for more large, stable, well-capitalized firms to handle large scale projects also limited the ability of providers to take on a number of large projects at once as well as increased risk and uncertainty perceived by potential purchasers.

The entry of ENvest^{SCE} into the marketplace created a substantial change in the operation of the market. ENvest^{SCE} was a part of SCE, a well-capitalized and stable firm. Unlike other competitors, SCE/ENvest^{SCE} was playing for more than a share of the profits from the energy efficiency market. With potential restructuring, SCE had to determine how it was going to compete to retain its large customers, not just for ancillary service offerings but for its core product: electricity. Thus, the success of ENvest^{SCE} was important to the core business in addition to its potential to generate profit from providing other services.

But, the biggest advantage that SCE/ENvest^{SCE} had in the existing market was its name recognition, reputation, and image. ENvest^{SCE} was not perceived as a fly-by-night or self-interested business. It in fact had all of the features that most traditional ESCOs have had difficulty getting potential customers to perceive. In short, ENvest^{SCE} brought a large competitor into the market, which could differentiate itself from other providers by its unique affiliation with SCE and who had a powerful motivation to be successful. Add to these factors competitive advantages in the form of ratepayer funds and potential access to proprietary customer and market information, and it is difficult to see which existing competitor could successfully create and withstand an intense rivalry with ENvest^{SCE}. This probably explains why existing ESCOs hoped that ENvest^{SCE} would be a partner, rather than a competitor.

An open question is whether future competitors to ENvest[SCE] will create a more intense competitive market. If industry restructuring proceeds as it appears it will, there is an increasing likelihood that other well-capitalized firms with solid reputations will enter the Southern California market. These firms could include unregulated utility affiliates from around the country and consolidated ESCOs partnered with independent power producers or equipment manufacturers. The issue will be whether these new entrants could influence customer decisionmaking to the same extent as SCE/ENvest[SCE].

ENvest[SCE], due to its affiliation with SCE, can be expected to have the home field advantage in terms of differentiation: SCE has the real world experience with customers and is perceived to be in Southern California to stay. But, these advantages could be temporary in that its value can be lost by failing to offer services as well or as valuable as new entrants. The one thing that seems likely is that should the potential new competitors enter the market that competition for SCE's large customers will be intense. The stakes would be high for two or more sets of well-capitalized competitors.

(2) Threat of New Entrants

As noted above, competition comes not only from existing competitors, but also from potential new entrants. The intensity of this competitive force depends on: (1) the market barriers to entry and (2) the reaction from existing competitors[2]. If there are significant barriers to entry and/or new entrants expect stiff competition from well-capitalized, entrenched competitors, the threat of entry is likely to be low.

While there are many potential barriers to entry, the barriers relevant to ENvest[SCE] were:

- Economies of scale which are defined as declines in unit costs as more products or services are provided. Economies of scale can occur in any business function including marketing, finance, and customer service. The presence of significant economies of scale can deter potential entry by forcing a new entrant to put at risk large up-front costs or to enter the market at a cost disadvantage to established firms.

  Sharing of operations or functions between units of multi-product or service firms can result in economies similar to those of economies of scale. For example, a common situation of joint costs arises when business units within the same firm share intangible assets such as name and/or know-how. Since the cost of creating an intangible asset need only be borne

[2] Porter, Competitive Strategy, page 7.

once, the asset may be freely or inexpensively provided to another business unit[3]. These could save significant marketing costs for a firm or unit.

The potential economies of scale in the ENvest[SCE] pilot arose from: (1) special access to SCE's billing system, customer information, and customer representatives; (2) access to financing from SCE and having customers repay financing on the utility bill; and (3) the use of SCE's name recognition, reputation, and image for marketing. The special access to utility and customer billing information reduced transaction costs to develop and target marketing strategies. The potential use of SCE's billing system could avoid the need to create a billing system and to develop and input the customer and other information needed. Simply, the fact that information is collected and systems are in place avoids the time, resources, and hassle to develop those necessary items. Not having to pay for these costs creates a competitive advantage. While ENvest[SCE] did not use its privileged access to information and systems as a meaningful competitive advantage during the pilot, the potential exists for new entrants that it could.

ENvest[SCE]'s financing rate was not attractive to some customers. But, ENvest[SCE] as a part of SCE Corporation operated as part of a well-capitalized business. Thus, new entrants must consider that ENvest[SCE] would be able to sustain a long period of competition if it wished due to the financial strength of its parent. Being able to repay financing on the utility bill can be an attractive feature to customers. It also is a convenient way to reinforce to customers the affiliation with SCE while reducing the billing costs that might otherwise be included in ENvest[SCE]'s prices to customers.

But perhaps the greatest economy of scale comes from ENvest[SCE]'s affiliation with SCE. Customers trust SCE concerning information and services related to energy usage. The ability of ENvest[SCE] to differentiate itself based on its affiliation with SCE meant that it did not need to spend substantial funds trying to establish its identity in the market. Rather, it was able to market using SCE's name recognition, reputation, and image without cost. Competitors, including new entrants, face the expenditure of substantial sums of money to attempt to overcome this advantage which SCE had been establishing for decades. This would undoubtedly be a risky expenditure considering the level of customer loyalty that appears to exist for SCE.

[3] Porter, Competitive Strategy, page 9.

Overall, ENvest[SCE] as structured, enjoyed significant economies of scale compared to the costs that would have to be incurred by new entrants into the marketplace. Regardless of whether ENvest[SCE] had fully exploited these advantages in the past, a new entrant would proceed at its own peril to ignore that they existed. It should also be recognized that economies of scale lead to a cost advantage for the large-scale firm over a small-scale firm.

- Product differentiation which means that established firms like SCE have long-standing recognition and customer loyalty. This, as noted above, is more than just an economies of scale advantage. The stronger the product or service differentiation achieved by the incumbent firm, the greater the cost and risk to try and enter a market will be. As noted in the body of this report, SCE's ability to differentiate itself was significant and pervasive. This is a major barrier to entry, particularly for firms that are not willing and able to risk significant funds for an extended period.

- Government subsidies provided only to one firm can be a definite barrier to new entry. The ability of ENvest[SCE] to use its affiliation with a regulated utility to create an "indirect" franchise in the federal performance contracting sector is an example. Another relevant source of advantage was highlighted by ENvest[SCE]'s ability to use ratepayer funds to make its projects more attractive to customers and to provide some protection to shareholders for credit losses. These subsidies either gave ENvest[SCE] a preferred position in a market or allowed it to underprice competitors because it had access to ratepayer funds which need not be repaid.

- ENvest[SCE] also had its learning curve experience paid out of ratepayer funds. This cost was not reflected in prices to customers. The importance of this "free" learning curve experience is highlighted by the following observation:

> But, in contrast to the low barriers to entering the electricity brokering market, the skill sets required to succeed in EMS (Energy Service Marketing) are quite complex. Technical knowledge, energy-use modeling, sales and marketing savvy, superior customer service, financing ability and relatively deep pockets are all required.
>
> (LeBlanc, Public Utilities Fortnightly, page 23.)

While other firms may acquire such skills, there will be a cost that must be collected from customers, or else fall upon shareholders.

New entrants to the performance contracting market in Southern California faced a motivated, well-capitalized, entrenched competitor which has access to special advantages not available to others except through the use of ENvest[SCE]'s distribution system (i.e., the qualified service provider network). The barriers to entry under these conditions were substantial. While there could be potential entrants, to be successful they had to be very well-capitalized, have some immediate means to offset the differentiation achieved by SCE, seek to remove any special government advantages for ENvest[SCE] and be sufficiently motivated to risk significant up-front expenditures in an extended contest for market share.

III. Threat of Substitute Products

A substitute product or service is one that supplants another product or service in performing a particular function or functions for a buyer.[4] For example, energy efficiency products and services are substitutes for energy usage.

The presence of substitute products or services limits the ability of a firm to increase its prices or limit the value of its product or service. The more available substitutes are the more competitive an industry will be. The substitutable product or service to ENvest[SCE] would be an unbundled set of services which a customer preferred to pick and choose from rather than to buy the bundled services offered by ENvest[SCE]. For example, in the ENvest[SCE] pilot some customers wished to pursue parts of the ENvest[SCE] package but to use lower cost financing which was available to them. The problem created was that one could only get certain benefits (e.g., ratepayer co-investment) by taking the entire package.

The sharp reduction in the availability of traditional rebates made it more difficult for independent service providers to market energy efficiency goods and services. ESCOs faced the prospect of not being able to leverage utility rebates but competing against ENvest[SCE] which had access to targeted utility rebates. The limited practical ability of providers to offer attractive unbundled services on comparable terms to ENvest[SCE]'s bundled services reduced the options for customers and thereby, limited the alternatives to ENvest[SCE]'s bundled offer.

IV. Bargaining Power of Suppliers

Dominant suppliers in an industry can exert significant market control over the operation of the participants in the industry. If the supply of goods and services is highly concentrated, the extent of

[4] Porter, Competitive Advantage, Chapter 8, pages 273-314.

competition in an industry will be limited. This force does not appear relevant to the ENvest[SCE] situation.

V. Bargaining Power of Buyers

At first glance, it may appear that this force is also not relevant to the ENvest[SCE] pilot. The common characteristic of buyers in the large commercial and industrial market has been that they just say no to energy efficiency if they do not like the value of the project offered. But, this view is mistaken. The relevant "buyer" in the ENvest[SCE] situation is ENvest[SCE].

The qualified service providers, in effect, offered their services and products to ENvest[SCE]. ENvest[SCE] determined which providers would receive the opportunity for increased business. The reason that providers were willing to, indeed wanted to, participate in this network was because ENvest[SCE] had been given unique advantages that could influence customer purchasing decisions, compared to other firms. The very purpose of ENvest[SCE] was to attempt to overcome customer market barriers that existing firms did not seem able to overcome. By overcoming these customer barriers, the scope of activity for service providers would also be expanded.

The services and products offered by service providers through ENvest[SCE] represent complementary products and services to ENvest[SCE]'s arranger/manager/financier services. Complementary products are the opposite of substitutes because the sale of one promotes the sale of the other. If ENvest[SCE] was successful in overcoming customer market barriers, the sale of complementary products and services increased. But, if an individual firm goes out and sells motors directly to a customer, ENvest[SCE] sales were not promoted (indeed this acted as a substitute for ENvest[SCE]'s bundled package).

The unique characteristics provided to ENvest[SCE] to overcome customer market barriers allowed it to exert market control over the development of the complementary services and products industry as well.

> Retailers can gain significant bargaining power over manufacturers when they can influence consumers' purchasing decisions,...Wholesalers can gain bargaining power, similarly if they can influence the purchase decisions of the retailers or other firms to which they sell.
>
> (Porter, Competitive Strategy, page 26.)
> (Emphasis in original)

ENvest[SCE] had been provided that opportunity to influence consumers' purchasing decisions. This was particularly relevant to service providers whose ability to influence consumer decisions had been reduced by the substantial withdrawal of traditional rebates from the EEPS market. ENvest[SCE] through its service provider network had become the best access to significant new business opportunities to sell retrofit and replacement energy efficiency products and services.

The fact that ENvest[SCE] did not sell the complementary goods and services that it offered to customers does not change the fact that the sale of such goods was dependent on being qualified for the ENvest[SCE] network and receiving work from ENvest[SCE]. Simply, if ENvest[SCE] had the best means to increase customer demand that would increase the sale of complementary goods and services than it also had significant bargaining power over service providers.

> As with differentiation, the benefits of controlling a complement for pricing do not require that the firm sell the product and complements as a bundle, or even that the firm has a market share that is comparable to its share of the base product...Thus, a position in the complement gives the firm a leverage point with which to influence the development of the complement's industry and its position in the complement need only be big enough to allow exercising such leverage.
>
> (Porter, Competitive Advantage, page 420.)

ENvest[SCE] was the access point to the customer for providers of complementary goods and services.

SUMMARY

ENvest[SCE] was conceived because existing firms in the performance contracting market did not appear able, for a variety of reasons, to significantly expand customer demand for large scale energy efficiency projects. ENvest[SCE] was designed and has been partially successful in being able to do what other firms were not able to do. It was successful in substantial part because of the unique advantages which were provided based on its regulated status and affiliation with a regulated utility. Thus, while ENvest[SCE] was able to accelerate the level of activity of certain market segments, it had in effect done so by differentiating itself from its existing competitors, who were unable to have a similar impact on the market.

Based on the "five forces" model, there was not an intense rivalry between competitors because no other existing firm had the resources currently available to ENvest[SCE]. Indeed, potential competitors preferred to partner with ENvest[SCE] to capture the use and benefit of those advantages. Potential new entrants faced a well-capitalized incumbent firm with strong customer loyalty and special

Overall, ENvest[SCE] as structured, enjoyed significant economies of scale compared to the costs that would have to be incurred by new entrants into the marketplace. Regardless of whether ENvest[SCE] had fully exploited these advantages in the past, a new entrant would proceed at its own peril to ignore that they existed. It should also be recognized that economies of scale lead to a cost advantage for the large-scale firm over a small-scale firm.

- Product differentiation which means that established firms like SCE have long-standing recognition and customer loyalty. This, as noted above, is more than just an economies of scale advantage. The stronger the product or service differentiation achieved by the incumbent firm, the greater the cost and risk to try and enter a market will be. As noted in the body of this report, SCE's ability to differentiate itself was significant and pervasive. This is a major barrier to entry, particularly for firms that are not willing and able to risk significant funds for an extended period.

- Government subsidies provided only to one firm can be a definite barrier to new entry. The ability of ENvest[SCE] to use its affiliation with a regulated utility to create an "indirect" franchise in the federal performance contracting sector is an example. Another relevant source of advantage was highlighted by ENvest[SCE]'s ability to use ratepayer funds to make its projects more attractive to customers and to provide some protection to shareholders for credit losses. These subsidies either gave ENvest[SCE] a preferred position in a market or allowed it to underprice competitors because it had access to ratepayer funds which need not be repaid.

- ENvest[SCE] also had its learning curve experience paid out of ratepayer funds. This cost was not reflected in prices to customers. The importance of this "free" learning curve experience is highlighted by the following observation:

> But, in contrast to the low barriers to entering the electricity brokering market, the skill sets required to succeed in EMS (Energy Service Marketing) are quite complex. Technical knowledge, energy-use modeling, sales and marketing savvy, superior customer service, financing ability and relatively deep pockets are all required.
>
> (LeBlanc, Public Utilities Fortnightly, page 23.)

While other firms may acquire such skills, there will be a cost that must be collected from customers, or else fall upon shareholders.

ATTACHMENT 4

ALJ/BAR/wav **

Mailed

APR 11 1997

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Establish Standards of Conduct Governing Relationships Between Energy Utilities and Their Affiliates.	FILED PUBLIC UTILITIES COMMISSION APRIL 9, 1997 SAN FRANCISCO OFFICE RULEMAKING 97-04-011
Order Instituting Investigation to Establish Standards of Conduct Governing Relationships Between Energy Utilities and Their Affiliates.	FILED PUBLIC UTILITIES COMMISSION APRIL 9, 1997 SAN FRANCISCO OFFICE INVESTIGATION 97-04-012

ORDER

By this order, we open a rulemaking and a companion investigation to establish standards of conduct governing relationships between California's natural gas local distribution companies and electric utilities and their affiliated, unregulated entities providing energy and energy-related services, and to determine whether the utilities should be required to have their nonregulated or potentially competitive activities conducted by their affiliate companies. This order follows on Decision (D.) 97-04-041, adopted today, wherein we granted the motion of Enron Capital and Trade Resources, New Energy Ventures, Inc., the School Project for Utility Rate Reduction and the Regional Energy Management Coalition, The Utility Reform Network, Utility Consumers' Action Network, and XENERGY, Inc. (Petitioners) for such a rulemaking. In this order, we discuss generally the need for and purpose of rules governing the interactions between energy utilities and their affiliates, announce the basic standards such rules should contain and provide policy guidance, notice a prehearing conference (PHC), and require the interested parties to report back to us with proposed rules for further consideration by June 1, 1997. In addition, we identify the rulemaking and investigation as candidate proceedings for purposes of our Senate Bill (SB) 960 Experiment.

Purpose of and Need for Utility/Affiliate Rules

Fundamental marketplace changes are underway in the electric and gas markets in California. Some of these changes are maturing relatively slowly, but at our urging, as in the case of competitive natural gas procurement. Others are planned to begin soon, as in the case of consumer's direct access to competitive electric supply. Competition among service providers is now an expected characteristic of the energy market. Market players, including the regulated utilities, are taking responsive and preparatory actions in the face of these changes. For example, new ventures and mergers have been proposed.

We acknowledged in our Updated Roadmap decision (D.96-12-088) that it may be appropriate to review our affiliate transaction rules to determine whether they must be modified given potential self-dealing and cross-subsidization issues that may arise as a result of electric utility restructuring. We recognize that the existing rules governing utility relations with affiliates differ among the companies, and that the present rules may not address the manner in which electric and gas utilities and their affiliates may market services and interact in a marketplace now characterized by increasing competition. Utility entities competing to provide energy services should face uniform rules so that no advantage or disadvantage accrues to a player simply because of differing regulations. It is therefore necessary to develop new rules or standards of conduct which will govern energy utility relations with their energy affiliates. We open a rulemaking and companion investigation for this purpose. The standards of conduct or rules should 1) protect consumer interests, and 2) foster competition.

The rulemaking and investigation should establish standards of conduct for utilities and their affiliates providing gas and electric services, both those affiliates in existence today and those that may be created after the adoption of final rules. It is our intention that interactions between utilities and their affiliates marketing energy and energy-related services be covered by these standards of conduct. Clearly, the standards of conduct would apply to utility interactions with an affiliate that markets gas or electric power. Interactions with an affiliate that provides power plant construction and permitting services, energy metering services, energy billing services, energy products

manufacturing, or demand-side management services, for example, would also be covered. Energy utility interactions with affiliates engaged in businesses unrelated to energy services would not be covered by the standards of conduct.

Entry by the energy utilities and their affiliates into the unregulated market for energy products and services should be on an equal footing with respect to regulatory posture. SCG has before us a proposal for flexibility in introducing new products and services, contained in its Performance-based Ratemaking Application (A.) 95-06-002. That case is submitted.[1] The question of whether energy utilities, generically, should be required to conduct unregulated or potentially competitive activities, like the marketing of new products and services discussed in SCG's proposal, through affiliate companies, and if so, under what rules and criteria, should be addressed by the parties as they discuss utility-affiliate standards of conduct. While we expect to issue a decision on SCG's proposal this spring, we put SCG on notice that our decision in the PBR docket on flexibility in introducing new products and services may be interim.

The regulated energy utilities should participate in this rulemaking and investigation as respondents. We recognize that some of the energy utilities subject to our jurisdiction may not have any affiliation with companies providing energy or energy-related services. Given the many changes underway in the energy marketplace, however, that too could change. Any respondent with no affiliates providing energy or energy-related services that wishes to be excused from participating in the development of these standards of conduct, and our consideration of whether certain activities should be conducted by affiliates, may file a motion pursuant to Rule 45. The motion shall be filed on or before April 25, 1997. In the motion, the utility shall state its grounds for seeking to be excused. Responses to such a motion shall be filed on or before May 2, 1997. Although the Commission may excuse a utility from participating in this proceeding, we will not excuse that utility from abiding by the rules we adopt here if

[1] SCG describes its proposal in Exhibit 7, section E.

the utility's circumstances change in the future and it has affiliates providing energy and energy-related services.

The Process for Developing Proposed Rules

In response to the Petitioners' motion addressed in D.97-04-041, a number of parties indicated a readiness to work cooperatively with the Commission and interested parties to develop the rules. Below, and in D.97-04-041, we provide guidance and focus the effort needed to develop the rules. We have defined the scope of the rules (only affiliates which market energy and energy-related services) and their applicability (gas and electric utilities). We are aware of a number of good models, from FERC and other states, on which the parties could tailor California utility-affiliate transactions rules. We now look to the parties to work cooperatively and propose rules for our consideration pursuant to Article 13.5 of our Rules of Practice and Procedure.

These proposed rules, developed through discussion among respondents and interested parties, should be jointly filed with the Commission, accompanied by a motion which includes argument supporting their adoption, no later than June 1, 1997. Any party wishing to separately present proposed rules and supporting argument should file a separate motion no later than June 1, 1997. Comments and reply comments on the proposed rules and accompanying arguments will be allowed as provided under Rule 51.4.

Many of the present utility/affiliate rules were developed when new corporate structures were approved and therefore govern *all* of a utility's relations with its affiliates, and not just its relations with energy affiliates. As we point out in D.97-04-041, adopted today, the proposed rules which supplement existing rules may place a utility in the untenable position of being obligated to comply with competing rules on the same issue. Therefore, any party proposing a rule intended to address an issue or circumstance for which there already exists a rule applicable to one or more utilities should identify the specific circumstance, the existing rule and its shortcomings, and propose a remedy. The Commission may, for example, determine that any rule adopted here will supplant any competing rule previously adopted, but only with respect to

utility transactions with energy and energy-related marketing affiliates. Alternatively, the Commission may completely supplant or replace an existing rule with a rule adopted here. Either remedy may require notice and an opportunity to be heard pursuant to Public Utilities (PU) Code § 1708.

The Basic Standards the Rules Should Contain

From our prior experience in developing utility/affiliate rules, and the Petitioners' motion and related responses, we know that new rules should contain certain basic standards.

Nondiscrimination Standards The proposed rules should provide that preference should not be accorded to customers of affiliates, or requests for service from affiliates, relative to nonaffiliated suppliers and their customers.

Disclosure and Information Standards The proposed rules should prohibit disclosure of utility and utility customer information with the exception of customer-specific information where the customer has consented to disclosure. The proposed rules should address whether the utilities should be prohibited from providing leads to marketing affiliates, and whether there should be a prohibition on affiliates trading upon, promoting, or advertising their affiliation with utilities.

Separation Standards The proposed rules should provide for the utility's and the affiliate's operations to be separate to prevent cross-subsidization of the marketing affiliate by the utility customers. The proposed rules should require the utility and affiliate to maintain separate books of accounts and records.

We recognize, however, that interested parties may differ on how extensively each of these standards should be applied. For example, some parties may regard it necessary, in order to appropriately apply the disclosure and information standard, to prohibit joint marketing and bar the utility from providing leads to affiliates. Parties may regard it necessary, in order to appropriately apply the separations standard, to prohibit the utility from sharing information systems. We ask the parties to attempt to

reach agreement on each of these standards, and, absent agreement, to individually propose rules.[2]

Additional Policy Guidance

We expect our above discussion will help focus the parties in their efforts to propose standards of conduct for energy utilities in their interactions with their affiliates providing energy and energy-related services. From our own experience and various responses to the Petitioners' motion, we have additional policy guidance parties should consider. Together with our above discussion and D.97-04-041, we will use this additional guidance to assist us in evaluating the proposed rules ultimately recommended by parties.

Uniformity of rules is appropriate in a competitive market. It is in the public interest to establish rules which ensure utility affiliates do not gain unfair advantage over other market players, and to ensure utility ratepayers are not somehow subsidizing unregulated activities. Utility affiliates competing with other utility affiliates to provide energy services should face substantially uniform rules so that no advantage or disadvantage accrues to an affiliate simply because of differing regulations.

Utility affiliates should not be disadvantaged relative to competitors. The purpose of the standards of conduct is to ensure utility affiliates do not gain unfair advantage over other market players, and to ensure utility ratepayers are not somehow subsidizing unregulated activities. Within this framework, the rules should foster confidence among market players that competitors have equal opportunities to gain market share.

Proposed rules should be within the power of the Commission to enforce. We recognize that enforcement is critical to fostering competition. The Commission should not be asked to adopt rules which it is not lawfully able to enforce.

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[2] With respect to disclosure and information standards, parties are encouraged to consider our treatment of marketing leads or referrals and use by an affiliate of its affiliation in marketing in our telecommunications regulation and to argue why like or dissimilar treatment is appropriate.

Proposed rules should not conflict with the Federal Energy Regulatory Commission's (FERC's) standards, and, when taken together with the FERC's rules, should create seamless regulation. FERC has adopted rules applicable to energy companies and their affiliates consistent with its jurisdictional responsibilities. Any rules proposed for this Commission's consideration should not conflict with these FERC standards. Rules proposed to this Commission should pick up where FERC's rules and jurisdiction leave off so that the federal and state rules applicable to affiliate transactions leave no gaps in regulation. Rules proposed for this Commission's consideration should also create no overlap with or duplication of the FERC's standards.

SB 960 (Ch.96-0856)

We are currently conducting an experimental implementation of procedures that will become mandatory for our proceedings, effective January 1, 1998, pursuant to SB 960. We propose to consider these proceedings under the Experimental Rules and Procedures, adopted in Resolution ALJ-170.

Pursuant to Experimental Rule 2(e), we identify this rulemaking and this investigation as candidate proceedings to be processed under the experimental rules. We preliminarily determine the categorization of the rulemaking proceeding to be "quasi-legislative," and the investigation proceeding to be "ratesetting," as those terms are defined in Experimental Rule 1(e) and (d), respectively. In the rulemaking we will consider the rules proposed by parties for applicability to a class of regulated entities in the context of the guidance we provided earlier in this order. We propose to reserve the investigation for the consideration of issues which rescind, alter, or amend a Commission decision, which decisions we expect will involve a specifically named utility.[3] Commissioners Bilas and Knight and Administrative Law Judge (ALJ) Econome are assigned to this proceeding.

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[3] As we discussed earlier, we expect the existing utility-specific rules governing transactions with affiliates may be affected by the proposed rules which may, in turn, make evidentiary hearings pursuant to PU Code § 1708 necessary.

A PHC for both proceedings will be held on Monday, April 21, 1997, at 2:30 p.m., at the Commission Courtroom, State Building, 505 Van Ness Avenue, San Francisco, California. At this conference, we will establish a service list.

Interested parties should file PHC statements with the Commission Docket Office no later than April 17, 1997. Copies should also be served on the assigned Commissioner and ALJ that day. The PHC statements shall provide a proposed scoping memo, as described in Experimental Rule 3(c). Experimental Rule 2(e) provides for comments and objections to the inclusion and categorization of a proceeding in the first responsive pleading. Any party wishing to set forth any comments or objections regarding inclusion in the sample and the categories for the proceedings shall include them in the PHC statement. All parties filing PHC statements should bring 30 extra copies to the PHC.

ORDER

IT IS ORDERED that:

1. A rulemaking and companion investigation are instituted to establish standards of conduct governing relationships between California's natural gas local distribution companies and electric utilities and their affiliated, unregulated entities providing energy and energy-related services, and to determine whether the utilities should be required to have their nonregulated or potentially competitive activities conducted by their affiliate companies.

2. Kirkwood Gas and Electric Company, PacifiCorp, Pacific Gas and Electric Company, San Diego Gas & Electric Company, Sierra Pacific Company, Southern California Edison Company, Southern California Gas Company, Southern California Water Company, Southwest Gas Company, and Washington Water and Power Company are respondents.

3. Proposed rules, developed pursuant to Article 13.5 of the Commission's Rules of Practice and Procedure, shall be jointly filed with the Commission, accompanied by a motion which includes argument supporting their adoption, no later than June 1, 1997.

Any party wishing to separately present proposed rules and supporting argument should file a separate motion no later than June 1, 1997. Comments and reply comments on the proposed rules and accompanying arguments will be allowed as provided under Rule 51.4.

4. A prehearing conference for both proceedings will be held as expeditiously as possible, at which time the service list for the consolidated proceedings will be established.

5. Pursuant to Rule 2(e) of the Experimental Rules and Procedures to Gain Experience, Where Practicable, With Management of Commission Proceedings Under Requirements of Senate Bill 960, adopted in Resolution ALJ-170, we identify this rulemaking and this investigation as candidate proceedings to be processed under the experimental rules. We preliminarily determine the categorization of the rulemaking proceeding to be "quasi-legislative," and the investigation proceeding to be "ratesetting," as those terms are defined in Experimental Rule 1(e) and (d), respectively.

6. The Executive Director shall cause a copy of this order to be immediately served upon all electric and gas utilities, and all interested persons in Rulemaking 94-04-031/Investigation 94-04-032, Application (A.) 96-04-030, A.96-03-031, A.92-10-017, A.95-06-002, and A.96-08-043.

This order is effective today.

Dated April 9, 1997, at San Francisco, California.

P. GREGORY CONLON
President
JESSIE J. KNIGHT, JR.
HENRY M. DUQUE
JOSIAH L. NEEPER
RICHARD A. BILAS
Commissioners

ATTACHMENT 5

ADOPTED RULES, TERMS AND DEFINITIONS FOR DEMAND-SIDE MANAGEMENT PROGRAMS[1]

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. The lost opportunities reporting requirements are described in Appendix 2 to these rules.

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. The utilities should use the definitions included in the Appendix 1 to these rules when characterizing any proposed program. The burden is on the utility to justify any departure from them.

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

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[1] This attachment reflects the DSM rules, terms, and definitions adopted in D.92-02-075 (as corrected in D.92-03-007), D.92-10-020, D.92-12-050, D.93-02-041, D.93-10-063, D.93-11-017, D.94-10-059 (as corrected by D.95-05-027 and D.95-06-016) and D.95-12-054. Appendix 3 presents a schematic illustration of the rules, as depicted in D.93-11-017 and modified by D.95-06-016.

the standard for determining DSM program cost-effectiveness until a methodology is 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 which promote energy efficiency serve as such alternatives because they reliably reduce a utility's fuel and/or capacity needs. Some load management programs and fuel-substitution programs may also serve as alternatives to supply-side resource options.

The TRC test measures the net effect of a DSM program on all ratepayers by combining the net benefits of the program to participants and to nonparticipants. Therefore, financial incentives or rebates to participants cancel out in the calculation of TRC net benefits (as do revenue losses). Because we are concerned over excessive rebates to participants and the overall revenue requirement impact of DSM programs, we will require that utility-sponsored DSM activities also pass the Utility Costs (UC) test of cost-effectiveness. The requirement that a utility-sponsored DSM activity pass both the TRC and the UC test is called the Dual-Test. Unless otherwise indicated in these Rules, utility DSM programs, program components and elements must pass the Dual-Test to be eligible for funding.[2]

As an additional condition for funding beginning with the 1996 program year, the utility must demonstrate that DSM programs subject to shared-savings treatment are in aggregate cost-effective from both a TRC and UC perspective when estimated measurement and evaluation (M&E) costs that are directly related to the measurement of savings from these programs are included.

More specifically, the lifecycle costs of load impact studies for a given program year constitute the M&E costs to be included in determining the cost-effectiveness of total program portfolios subject to shared savings treatment. For funding purposes, and for purposes of completing Table D-1 in utility target earnings filings, the present value of the forecast lifecycle cost of load impact studies for a given program year will be used. For earnings purposes, and for purposes of completing Table E-1 in utility earnings claims,

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[2] Unless otherwise indicated in these Rules, all cost- effectiveness tests and program analysis should be conducted at the end use level, as defined for each program by the protocols governing the measurement and evaluation of DSM programs, as well as the level of the program as a whole. The "program as a whole" includes any miscellaneous measures for which an end use is not designated for measurement. If the adopted measurement protocols do not specify or require measurement at the end use level, cost-effectiveness analysis should be applied at the level of the program as a whole.

actual costs to date will be used for the second, third, and fourth earnings claims. For the first earnings claim, actual costs will be assumed to equal forecast costs.[3] In all cases, the lifecycle costs of load impact studies for a given program year include all such costs associated with utility pilot bidding programs, regardless of whether such measurement is conducted by the bidder and/or the utility (e.g., measurement conducted by the utility to supplement the bidders' M&E). Bidders' M&E costs will be included to the extent such costs can be identified in the bid (e.g., in some cases, measurement costs may be buried in the bid).

The M&E costs, as described above, should be allocated to the program year(s) for which the measured savings will be used to verify energy savings claimed by each utility. For programs that are measured every year, the full costs of the measurement studies for that program should be considered when calculating or forecasting the portfolio cost effectiveness. Measurement costs for programs that have skipped years should be prorated across each year for which those measurements will be used to verify energy savings claims.[4]

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 most recent State-adopted resource plans and planning assumptions for supply-side resources affect DSM programs, the utility should include them in cost-effectiveness analyses consistent with their development in that most recent State-adopted plan. Nonprice factors should be included in the Rate Impact Measure (RIM) test and both the UC and TRC test for cost-effectiveness evaluation using the Dual-Test.[5] Electric utilities should use the

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[3] This rule is predicated on the assumption that the majority of load impact study costs will be captured in the second earnings claim. To the extent this assumption does not hold true in practice, the California DSM Measurement Advisory Committee (CADMAC) will revisit this issue, for possible prospective modifications. Table D-1 in utility target earnings filings will be modified, where necessary, to include relevant measurement costs. Table D-1 revisions will be the subject of ongoing discussions amongst the parties.

[4] The methodology for prorating measurement costs should be the number of years for which the studies will apply. For example, if a program is offered in 1996 and 1997 but measurement studies are only required on the 1996 program (with 1997 being a skipped year), the cost of the load impact and two persistence studies would be divided by two, with half of the costs assigned to each of the 1996 and 1997 portfolio cost-effectiveness calculations. The utility will still have to make an estimate for the initial program forecast. By the skipped year, the costs of each measurement study for the program are no longer an estimate for that year's incentive claim, but the appropriate percentage of the recorded costs. By allocating the cost based on the number of years for which the studies will be used, one does not have to adjust costs for program participation or performance after the fact. If the utility does not offer a program in a skipped year, then the year measured should pick up all of the costs.

[5] The RIM test measures what happens to customer bills or rates due to changes in utility revenues and operating costs caused by the program. The benefits calculated in the RIM test are the savings from avoided supply costs (to which nonprice factors would apply). The costs for this test are the program costs incurred by the utility, the incentives paid to the participant, decreased revenues for any periods in which load has been decreased and increased supply costs for any period when load has been increased.

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 with avoided costs of gas and electric service derived from, for electric impacts, the latest State-adopted resource plans and planning assumptions reviewed under State proceedings addressing these issues in a public forum, and for gas impacts, the latest State adopted gas cost forecast.[6] These values should be used in applicable cost-effectiveness analyses. Should a utility desire to use something other than the most recent State-adopted resource plans and planning assumptions, the utility shall provide, for approval in the October 1 DSM Utility Forecast Filing, a different, more appropriate basis for avoided cost derivation.

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 California DSM Measurement Advisory Committee represents the appropriate forum for developing the procedure and methods for collecting data related to indirect costs.

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 (RIM), the Utility Cost test (UC) and the Societal test.

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 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.

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

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[6] For electric impacts, "State-adopted" means the marginal costs adopted in either the California Energy Commission's (CEC) Electricity Report or the utility's approved General Rate Case (GRC); for natural gas impacts, "State-adopted" means either the CEC Fuels Report, the CPUC approved BCAP marginal costs, the California Gas Report forecast, or the utility's most recently approved GRC.

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 end uses 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.[7] The utilities' cost-effectiveness analyses should be accompanied by source-BTU and other information that will be useful for CEC standard-setting.

12. Bypass deferral and load building programs lack resource value, and the TRC does not apply to these programs. The TRC may or may not apply to other load retention programs (e.g., economic development activities), as these programs may or may not have resource value. Though the focus of utility DSM activities should be on energy efficiency the pursuit of load building, bypass deferral or other load retention programs may achieve additional policy goals.

In the long term, the need for load retention and load building activities should be ameliorated by resource planning efforts which minimize the possibility of causing major imbalances between the costs of providing service from existing facilities and utility assets and the costs of new resource additions. As a long-term strategy, utility interests in retaining customer loads and responding to competitive pressures from nonutility entities to provide customer services should focus primarily on programs which reduce customer bills and provide long-term rate benefits in the form of least-cost resource planning and acquisition. As a general practice, utility resource planning should be undertaken in a way that minimizes the need for load building programs.

Proponents of load building and load retention programs, including economic development activities, carry the burden of proof to quantify social and ratepayer benefits of these programs.[8] Requests for ratepayer funding for these programs should be backed by program-specific analysis, and programs should meet the guidelines outlined below.

The program proponent must demonstrate that ratepayer benefits associated with the program outweigh the short- and long-term resource acquisition costs associated

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[7] As described in Section III of D.95-06-016, thermal energy storage and gas air conditioning projects are exempt from this requirement, effective July 1, 1995.

[8] 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.

with the program and identify the effect on core customer rates of programs that increase load in noncore markets. Expected program benefits should be identified in terms of rate effects, resource planning effects and other effects. The proponent must identify net program impacts by isolating the benefits that can be attributed to the program from those that may occur even in the absence of the program.

The proponent of any economic development activity must also demonstrate that those activities are designed to support and complement other federal, state or local efforts. For approval of each economic development activity, the utility will be required to demonstrate that it has reviewed the programs of federal, state, regional and local economic development agencies and, where appropriate, consulted with these entities to assure that each program element does not unnecessarily duplicate, and is complementary with programs being undertaken or planned by these entities to encourage economic development.

Utilities 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. Ratepayers should not fund load retention or load building programs that are primarily intended to actively solicit existing customers of other California utilities which have expressed no intent to relocate. Ratepayer funding for DSM programs should be limited to activities that directly relate to the utility's traditional responsibilities to provide safe, reliable, nondiscriminatory and reasonably-priced energy services within the utility's own service territory.

12a. Bypass Deferral

Bypass deferral programs involve negotiation of Special Contracts and provision of bypass deferral customer services authorized by this Commission. Non-DSM Special Contracts and DSM-funded bypass deferral activities should be evaluated using the RIM I test both with and without the incorporation of non-price factors identified in Rule 7, and must achieve a RIM I test value of 1.0 or greater in both cases.[9] In addition to RIM test evaluation, Special Contracts should be designed with consideration to evaluation and implementation guidelines set forth in prior Commission decisions, and should be subject to any such guidelines established by future Commission decisions which address these contracts. Special Contract treatment may be afforded to efforts to avoid gas-fired self-generation projects if these projects do not pass the TRC test and other criteria established for the evaluation of fuel-substitution programs, provided that they meet the evaluation criteria described above.

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[9] The RIM I test and RIM II test are differentiated by the fuels incorporated into the analysis. The RIM I test only includes estimates of the impacts a proposed program will have in terms of the primary fuel influenced by the program or provided by the utility. The RIM II test includes the impacts of the program on both fuels supplied by the California investor-owned utilities: electricity and natural gas.

Costs in the form of rate discounts and conservation alternatives for bypass deferral should be accounted for and recovered as specified in Special Contract provisions. Costs associated with program administration and customer financial assistance should be sought and recovered outside of DSM budgets for non-core natural gas and as a bypass deferral program within DSM budgets for electric and core natural gas. Reporting of deferred load impacts should distinguish between load impacts deferred through Special Contracts and DSM-funded activities.

12b. Other Load Retention Activities and Load Building

Other load retention programs may involve activities targeted at specific customers and activities intended to influence communities and customers in general. Activities targeted at specific customers should be evaluated using the RIM II test both with and without the incorporation of non-price factors identified in Rule 7 and must achieve a RIM II test value of 1.0 or greater in both cases. Load building programs should also be evaluated with the RIM II test both with and without the incorporation of non-price factors identified in Rule 7, and must achieve a RIM II test value of 1.0 or greater in both cases.

13. Fuel substitution programs may offer resource value and environmental benefits. Fuel-substitution programs should reduce the need for supply without degrading environmental quality.

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 TRC and UC benefit-cost ratio of 1.0 or greater. The TRC and UC tests 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. Parties may include environmental impacts beyond the residual emission factors presented in the Update. The burden of proof lies with the sponsoring party to show that the material environmental impacts have been adequately considered in the analysis.

4. For purposes of applying these tests, fuel substitution proponents must compare the technologies offered by their program with the most efficient same-fuel substitute technologies available to prospective participants that would have TRC and UC benefit-cost ratio of 1.0 or greater. The burden of proof falls on the party sponsoring the analysis to show that the baseline comparison adheres to this requirement.

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, consistent with Rule 12.

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.

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 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.

19. For program year 1995 and beyond, the shared-savings mechanism for all four respondents will have the following characteristics, as explained by our recent decisions in the shareholder incentive phase:

- The shared-savings mechanism applies to two separate portfolios: one for residential and one for nonresidential DSM programs, including new construction activities. Calculations of earnings or penalties are based on the aggregated performance of programs within each portfolio.

- Consistent with our adopted ex post measurement protocols, calculations of earnings or losses are based on the results of ex post studies conducted over a 7- to 10-year period after program implementation. Earnings (or penalties) are recovered in four equal installments over that measurement period.

- To be eligible for any earnings, the utility must achieve a minimum performance standard (MPS) equal to 75% of target performance for each portfolio, as verified at the first earnings claim.

- If portfolio performance achieves or exceeds the MPS, utility shareholders will earn 30% of net benefits (resource savings minus costs), as verified over all four earnings claims.

- The utility must reimburse ratepayers for any portfolio losses (i.e., negative net benefits) up to the total amount of DSM expenditures recovered in rates.

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.

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 have conducted a consolidated measurement and evaluation (M&E) phase in this Rulemaking and Companion Investigation. This M&E phase addressed the following types of measurement-related issues:

- 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.

- 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.

- 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.

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.

22a. The increased level and importance of the costs of measurement have increased the importance of the current regulatory practice of retaining separate funding authorization for Measurement, Forecasting, and Regulatory Reporting (MFRR) in utility DSM budgets, and for ensuring that these authorized funds remain available for the prudent use of the utilities to meet their DSM measurement and evaluation responsibilities. Funds authorized for MFRR should not be used to fund other types of DSM activities, and utilities should retain the flexibility to shift funds within this budget category and to carry forward and carryover authorized MFRR expenditures within a general rate case (GRC) authorization period. Movement of funds into MFRR from other DSM budget categories may be permitted on the basis of an Advice Letter filing.

For the next few years, however, we do not expect to authorize increased funding for MFRR activities beyond current authorized funding levels, escalated to account for inflation. We direct that each utility's MFRR budget proposal be rigorously justified and reviewed in a zero-based budgeting context during a GRC proceeding occurring during this period.[19] The cost impact of the adopted ex post measurement protocols is not expected to pose a budgeting issue until later in the 1990s. At that point, the increased costs of ex post measurement may increase to the point were it will be necessary to either increase MFRR budgets or reduce some other MFRR activities.

In the meantime, utilities should either (1) reduce total MFRR funding if and when cost-saving techniques can be established without jeopardizing the quality of MFRR activities; (2) maintain MFRR funding at current levels; or (3) augment funding for essential MFRR activities from funds not being expended in other budget categories (subject to Advice Letter approval). In any case, utilities should strive to coordinate the planning and implementation of the program measurement, load metering, and saturation survey activities in a manner which produces cost reductions, and diligently monitor costs in these MFRR areas in preparation for the likely need to prioritize MFRR activities later in this decade.

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

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[19] SCE's last GRC was for test year 1992. PG&E, SDG&E, and SoCal have had more recent GRC's in which increases have been considered to account for the increased costs of moving toward ex post measurement. Therefore, for SCE only, we will consider commensurate increases in its upcoming test year 1995 GRC, provided that such increases can be justified by a zero-based budgeting analysis.

- The rate effects of both the program incentive and programs costs to which the incentive will apply;
- The program's net resource savings; and
- 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 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 addressing generic policy and methodological issues in these rules and decisions issued in these proceedings. Determinations made in these proceedings should be used in any subsequent utility-specific proceedings.

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. Subject to our approval, the utilities have developed and implemented several DSM pilot bids, pursuant to Public Utilities Code § 747. With electric industry restructuring, we have established a new administrative framework for the provision of energy efficiency services that will facilitate the privatization of those services in the market. (See D.97-02-014.)

28. Unless otherwise indicated, changes in Commission direction should be applicable to program changes made by the utility that do not require Commission approval, as well as to utility Advice Letter filings or to funding requests filed with or considered by the Commission after adoption of the rule. Utilities should not wait until the next formal filing to effectuate these changes. Rather, utilities should make program changes

as soon as practicable after the effective date of the adopted rule, and inform their Advisory Committees of the program changes and implementation schedule.

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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.

Cream Skimming

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

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.

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.

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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 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.

Residential Weatherization Retrofit Incentives: Programs which provide financial incentives (rebates, low-interest loans) to install weatherization measures in existing buildings. Incentives are predominantly weatherization measures that affect the building shell. Incentive payments for other measures (nonbuilding shell) are included, 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,

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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).

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.

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.

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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.

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.)

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.

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.

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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.

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.

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III. Fuel Substitution

Fuel Substitution programs are defined as programs which are intended to substitute energy using equipment of one energy source with a competing energy source.[1]

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.

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 consists of programs which provide a rate discount, incentive or substantial technical assistance and which defer or change a customer decision to terminate or reduce utility service, without resulting in the substitution of one utility-supplied fuel (electricity or gas) with another. Load retention activities fall within the following two general categories:

(1) Bypass deferral consists of programs which provide a rate discount, incentive or substantial technical assistance to a customer to defer or change a customer decision to terminate or substantially reduce utility service for utility-supplied fuels (electricity,

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[1] "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.

In D.95-06-016, effective July 1, 1995, thermal energy storage (TES) and gas air conditioning (A/C) in retrofit projects are classified as measures within energy efficiency programs. Effective July 1, 1995, TES and gas A/C for new buildings are classified within new construction programs. TES and gas A/C will be subject to the applicable rules governing these programs; however, neither technology will be subject to the three-prong test established in Rule 13. Beginning July 1, 1995, the new classifications will be used for funding purposes, and agreements reached with customers on or after July 1, 1995, must adhere to the new classification.

natural gas, or electricity and natural gas) and replace this service with non-utility service or fuels. Administration costs for bypass deferral programs consist of costs of utility personnel to defer or prevent customers from obtaining non-utility service beyond those costs incurred in the form of providing rate and energy efficiency information as a part of Energy Management Services programs.

(2) Other load retention consists of programs other than bypass deferral which defer or change a customer's decision to terminate or reduce utility service for utility-supplied fuel without resulting in the substitution of one utility-supplied fuel (electricity or gas) with another. This category includes activities intended to promote economic development by reversing customer decisions to reduce corporate production or service output, or to relocate outside the state or service territory.

Load building programs are defined as programs which have the effect of increasing the annual sales/consumption of one or both utility-supplied fuels from stationary energy-using equipment without decreasing the consumption of either fuel. Economic development activities that have this effect are considered to be a load building program (e.g., programs intended to promote economic growth by attracting new customers to the state or service territory.)

V. Demand-Side Measurement, Forecasting, and Regulatory Reporting Category Descriptions

Program Measurement

Program Measurement is the set of activities needed to determine the load impacts, persistence and performance of existing individual programs or groups of programs as well as activities needed to conduct process evaluations on existing programs.

Associated data collection, analysis, and management, long-run program tracking, (statewide measurement studies), and projects which study demand-side management (DSM) program measurement methodologies are also contained in this category. Program Measurement includes demand-reducing, load management, fuel substitution, load building, and load retention programs and any other DSM program types included in future Reporting Requirements Manuals.

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Demand-Side Forecasting and Planning

Demand-Side Forecasting and Planning consists of those activities supporting data collection projects that are a common interest across all demand analysis activities within the utility, including demand forecasting, program evaluation, measure evaluation, and other ongoing efforts. These activities are significantly affected by two California Energy Commission (CEC) regulations which mandate various kinds of specific data to be collected and transmitted to the CEC for use in energy planning proceedings.[2] In addition, Demand-Side Forecasting and Planning includes activities necessary to design new DSM programs. There are five subcategories in Demand-Side Forecasting and Planning: Load Metering, Saturation Surveys, Market Assessment and Other Research and Analysis, New Technology Evaluation, and Long-Run Planning.

Load Metering

Load Metering of electricity and natural gas consists of the collection, analysis, storage, and distribution of actual consumption and demand data for customer classes and end uses through physical measurement and correlation with short units of time. Data acquisition development is also included here. 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. Examples are air conditioning load profiles for the residential and for the commercial building sectors.

Saturation Surveys

Saturation Survey activities include the planning, collection, storage, analysis, and distribution of a broad range of information obtained from customer contacts for the purposes of understanding building characteristics, appliance holdings, energy efficiency measures in place, customer behavior, and general customer energy usage of broad classes of customers. Examples include residential appliance saturation surveys, analyses of such surveys to estimate unit energy consumption, and general customer satisfaction/needs studies.

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[2] California Code of Regulations (CCR), Title 20, § 1344, regarding Data Collection and Analyses Plans, and CCR, Title 20, §§ 1301-1311, regarding SIC coding and data reporting.

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Market Assessment and Other Research and Analysis

Market Assessment and Other Research and Analysis is an open-ended category comprising formative studies to design DSM programs and market segmentation studies. It also includes other activities supporting data collection projects, energy resource planning, and evaluation projects that are of common interest across all demand analysis activities within the utility and that are not included in the categories of Program Measurement and Regulatory Compliance and Reporting. Examples include SIC coding of customers, SIC code accuracy reports, collection of weather station data, data purchases, and customer data tracking, management, and analysis expenses not accounted for elsewhere.

New Technology Evaluation

New Technology Evaluation includes projects which install, measure, record, and evaluate the performance of equipment which is a candidate for inclusion in DSM programs and which has been placed 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. Load metering of the specific load profile of each new technology is also included here as are analyses and input to the CEC's building and appliance standards update processes.

Long-Range Planning and Forecasting

Long-Run Planning consists of projects related to end-use forecasting, cost-effectiveness analyses, and least-cost planning and methodology development. This category also includes California Conservation Inventory Projects, planning model development[3] and system impact assessments[4] as well as other projects with a generally longer-term and

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[3] Planning model development is the development, improvement, or enhancement of end-use forecasting, integrated resource planning, and emission projection models for the purposes of baseline demand forecasts, committed and uncommitted DSM projections, DSM potential evaluations, or comparative studies of DSM versus generation resource additions.

[4] System impact assessments consist of activities related to use of energy demand forecasting, load impact estimation, resource planning, or emission projection models to evaluate the system impacts of DSM measures and technologies.

system-wide focus than Program Measurement projects. Examples include DSM potential studies, Electricity Report committed and uncommitted DSM projections, energy demand forecasting model development, and joint utility and CEC research activities to resolve forecasting issues and/or to provide technical information.

Regulatory Compliance and Reporting

Regulatory Compliance and Reporting is designed to capture activities that are undertaken to meet regulatory reporting oversight, and other obligations and that are not included in Program Measurement and Demand-Side Forecasting and Planning. This category has two subcategories: Regulatory Reporting and Support and Regulatory Oversight.

Regulatory Reporting and Support

Regulatory Reporting and Support consists of those activities needed to collect and report descriptive information related to the achievements and scope of all operating DSM programs, irrespective of type. Examples are annual DSM reports, filings for shareholder earnings, general rate cases, and other DSM proceedings (except CADMAC) including workshop participation, testimony, hearings, and data requests and responses.

Regulatory Oversight

Regulatory Oversight consists of activities related to the administrative costs of running the California Demand-Side Management Advisory Committee, the costs of Energy Division audits and analysis, and the funds devoted to the verification of utility DSM earnings (managed by the ORA).

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.

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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.

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 500 kW and more than 49 kW)
Small (less than 50 kW).

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.

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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(gHP)=space cooling, natural gas heat pump;
SPHT(gHP)=space heating, natural gas heat pump.

Recommended end use designations/acronymns 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;
REFR=refrigeration

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COOK(e)=electric cooking;
COOK(g)=natural gas cooking;
MISC(e)=miscellaneous electric;
MISC(g)=miscellaneous natural gas;
SPCL(g)=space cooling, natural gas;
SPCL(gHP)=space cooling, natural gas heat pump;
SPHT(gHP)=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.

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REPORTING OF LOST OPPORTUNITIES

1. By March 1 of each year, the CEC will provide to Annual Earnings Assessment Proceeding (AEAP) parties a list of what it believes to be cost-effective energy efficiency measures, including any newly emerged technologies, as well as market data (such as forecasts of building starts and retrofit measure sales data). The utilities will use the CEC's list to answer the questions outlined in Table 1 regarding lost opportunities. The information will be reported in the format shown in Table 1.

2. The utilities' reports will be descriptive and narrative in nature, responding to the list of measures provided by the CEC (e.g., they will not contain analyses such as cost effectiveness tests on measures on the CEC measure list).

3. In the 1995 AEAP, the utilities will describe their lost opportunity strategies for Program Year (PY) 1995 and accomplishments for PY94. In the October 1995 target earnings filing, the utilities will describe PY96 strategies. In the 1996 AEAP, the utilities will describe PY95 accomplishments. Similarly, in subsequent years, strategies will be filed in the October target earnings filings and accomplishments addressed in the AEAP.

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TABLE 1
LOST OPPORTUNITY REPORTING REQUIREMENTS AND FORMAT

	New Construction	Retrofit
Pre-Program Strategies	**Target Earnings Filing (10/1)** Q1: Which cost-effective measures are not being pursued and why? 1/ Q2: What percentage of new building starts are expected to participate in the utility's program for a given program year? 2/	**Target Earnings Filing (10/1)** Q1: Which cost-effective measures are not being pursued and why? 1/ Q2: What percentage of the market opportunity is the utility not addressing and why? 2/
Post-Program Accomplishments 3/	**AEAP Filing (5/1)** Q1: What were the utility's actual accomplishments compared to the scope of measures or end use forecast? Explain the differences. Q2: What were the utility's actual accomplishments compared to the penetration of measures or end use forecast? Explain the differences.	**AEAP Filing (5/1)** Q1: What were the utility's actual accomplishments compared to the scope of measures or end use forecast? Explain the differences. Q2: What were the utility's actual accomplishments compared to the penetration of measures or end use forecast? Explain the differences.

1/ The CEC's inventory of cost-effective measures will form the basis for responding to this question, and the CEC's inventory report will be submitted in each AEAP. The CEC's inventory report will be provided to parties in advance of the AEAP, by March 1 of each year, to allow sufficient time for the utilities to answer the questions posed in Table 1.

2/ For residential new construction programs, the percentage will be defined in terms of number of dwelling units. For nonresidential new construction programs, the percentage will be defined in terms of square footage. Utilities are to justify the particular forecast of building starts they use, and the CEC's forecast of building starts may be used as a default. The CEC's forecast will be included in the CEC's inventory report, to be submitted in each AEAP. For retrofit programs, the utilities answer to this question is contingent upon the CEC providing reliable retrofit measure sales data regarding appliance/equipment turnover, which the CEC has agreed to do.

3/ In their AEAP filings, utilities should clearly explain their methods for distinguishing end use savings that address lost opportunities from savings associated with measures or applications that are not lost opportunities. Utilities should work with interested parties to develop consensus on the definition of "market opportunity" for the purpose of reporting lost opportunities.

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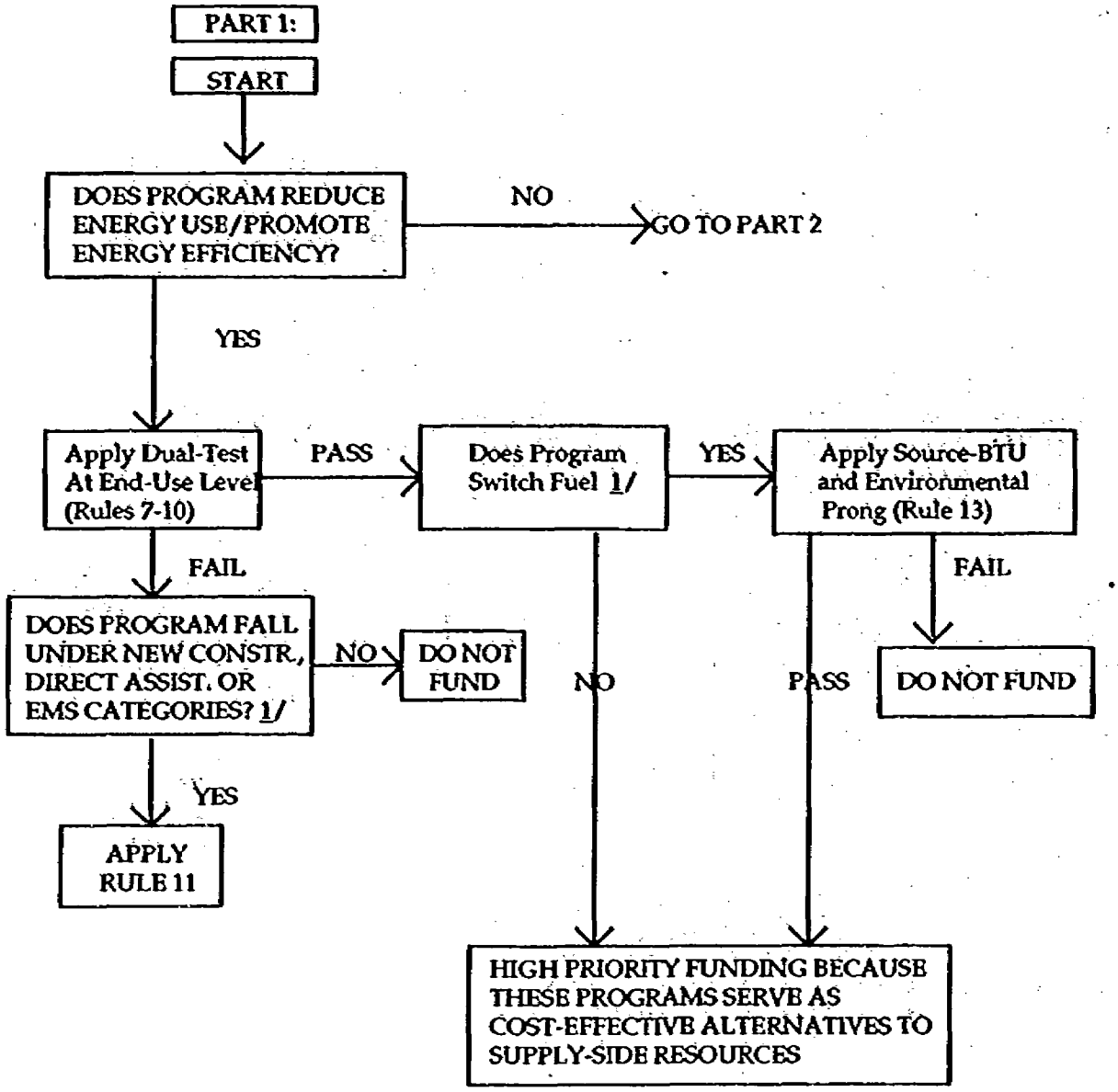
SCHEMATIC ILLUSTRATION OF DSM RULES



1/ Effective July 1, 1995, thermal energy storage and gas air conditioning technologies are not subject to the Rule 13 three-prong test for fuel-substitution programs. Retrofit applications of these technologies that pass the dual-test at the end-use would be funded. New construction applications of these technologies that pass the dual-cost test at the program level would be funded.

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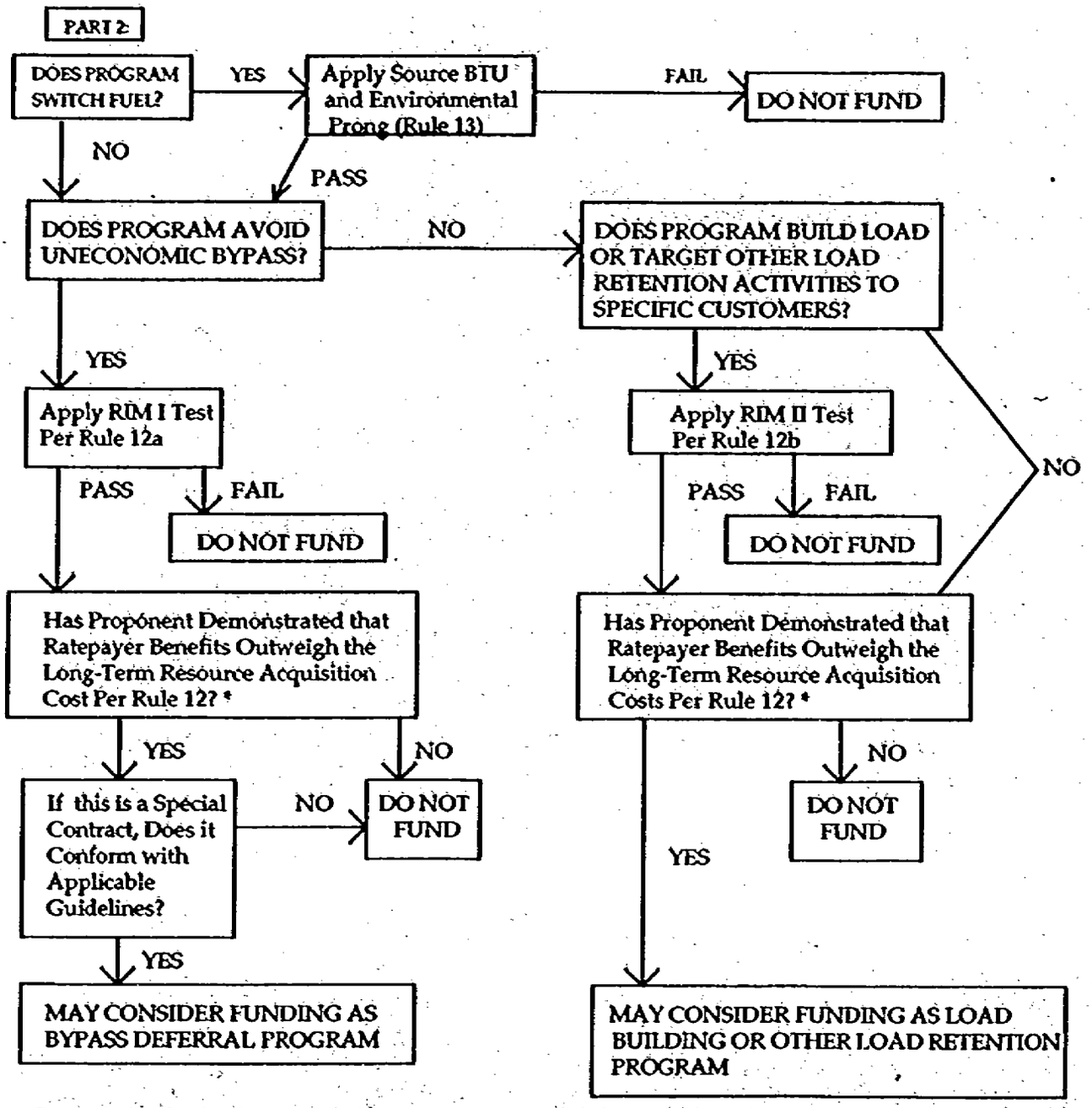
SCHEMATIC ILLUSTRATION OF DSM RULES
(Continued)



Note: Per Rule 12, the program must advance one or more of the utility's traditional responsibilities; the program proponent must also:

1. Identify effect on core customers of programs that increase load in noncore markets.
2. Identify expected program benefits in terms of rate effects, resource planning effects, and other effects.
3. Identifying net program impacts by isolating the benefits that can be attributed to the program from those that might occur even in the absence of the program.

Unless otherwise indicated in the Rules, all cost-effectiveness tests and program analysis should be conducted at the end use level, as well as at the level of the program as a whole.

(END OF ATTACHMENT 5)

ATTACHMENT 6

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