

Market Transformation Through Nonresidential Standard Performance Contract Programs – What Drives The Participation Decision?

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ABSTRACT

In 1998, the California Board for Energy Efficiency (CBEE), working through three of the California utilities, offered a Standard Performance Contract (SPC) program for the nonresidential sector to encourage energy efficiency service providers (EESPs) to undertake a variety of efficiency services for nonresidential facilities. Reimbursement for participation was based on measured performance.

Program objectives included helping transform the market by enhancing the number and types of firms providing service in the nonresidential sector. However, only a percentage of eligible firms elected to submit applications for the 1998 program. As part of an evaluation of the program, detailed interviews were conducted with a sample of both participating and non-participating firms to identify factors that determined participation.

Perceptions and preferences regarding the specific elements of the nonresidential SPC were found to differ by the type of firm interviewed (ESCOs, contractors, etc.), and a variety of specific strengths and weaknesses were noted in the program's design. An analysis of key barriers and decision factors that led firms to decide not to participate in the 1998 version of the program provided input to recommended changes that could lead to broader program participation. The findings may be useful to other states and agencies considering similar programs.

Design And Experience Of The PY1998 Residential SPC Program

The California Board for Energy Efficiency (CBEE, or the Board) was established to oversee the development of next generation of energy efficiency efforts at a statewide level. The CBEE was tasked with guiding the transformation of the energy efficiency market in the State. Among the goals the Board established included: working to privatize the delivery of energy efficiency services, encouraging the growth and expansion of the energy service provider industry (ESP), and helping to reduce customer-related market barriers.

As a key part of these efforts, the Board developed a series of programs designed to modify delivery of energy efficiency services from the traditional utility-sponsored model to a system in which responsibility is transferred to the market sector. As part of the portfolio of programs, the CBEE developed a Nonresidential Standard Performance Program. This program provided financial incentives for installing efficiency equipment in the nonresidential sector.

An evaluation of this statewide program was conducted by the authors, and was managed by Southern California Edison, funded through the Public Goods Charge.

Program Design and Administration

For the first year, it was not possible to contract quickly enough for new independent statewide central administrators, so the utilities served as interim administrators for the program. The elements of the program, as originally offered for Program Year 1998 (PY98), include the following:

- Customers could “sign up” directly, or could use engineering firms, ESCO, or other firms as the principal “energy efficiency service provider” (EESP) or sponsor.
- Filing for funding required completion of a Basic Project Application (BPA), which requested information on the submitting firm, the customer site, the types of measures to be installed, the kilowatt-hours projected to be saved, and the amount of the incentive funding requested.
- A Detailed Project Application (DPA), including a measurement and verification plan (M&V), would be submitted later for review and approval by the administrator.
- Other program stages include a pre-installation inspection; baseline monitoring, equipment installation and inspection, incentive payments, and on-going performance monitoring and verification.

The program was popular. For some utility areas, the available funding was committed quickly and the remaining applicants were placed on a wait list to see if additional program funds would be allocated or earlier projects would become unfunded.

First Year Program Operation

In conducting the evaluation of the program, the authors interviewed participants at two stages of the program – after a few months, and again about a year after the program start. A series of interviews with non-participants were also conducted to determine factors that affected decisions to not participate. Non-participants were also asked to address issues of perceived customers needs and program design preferences. This series of interviews covered the projects sponsored by non-customer energy service providers – ESCOs, engineering firms, and others. A total of 53 detailed interviews of these sponsors were conducted (22 initial participant interviews, 17 non-participant interviews, and 14 re-interviews). A separate part of the project interviewed a sample of customers that had served as their own sponsors.¹ The following summarizes the feedback from the non-customer energy service providers regarding the program.

- *Strengths of the program:* ESCO and non-ESCO firms had different perspectives on the strengths of the program. ESCOs tended to mention the funding as a strength, along with program effects on generating customer interest in energy efficiency (and incentives to proceed) and assistance in getting projects funded. Several ESCOs also indicated that the M&V was shorter than other programs. However, the non-ESCO project sponsors were less positive; they often stated that they could not identify strengths or benefits associated with the program. Strengths that were mentioned included providing a financial incentive for customers, and optimism that the program might be more customer focused than some other programs.

¹ The results of these interviews can be found in the evaluation report. See “Evaluation of the 1998 Nonresidential Standard Performance Contract Program”, prepared for the California Board for Energy Efficiency and Southern California Edison, by Xenergy, with assistance from Skumatz Economic Research Associates, Inc., and Energy Market Innovations, May, 1999.

- ***Weaknesses of the program:*** Again, ESCOs and non-ESCO sponsors had a different perspective on weaknesses. Both groups mentioned paperwork and time lags as problems. However, while the ESCOs noted that the program ran out of funding too quickly, and the program caused customers to lose money while they waited for approval, the focus of non-ESCO comments were much more concentrated on program administration issues. They were very concerned about the very short notice time when the program was initially offered,² and that the M&V reviews are too detailed. Non-ESCO firms were concerned that the administration of the program was poorly or improperly directed, and seemed to be concerned that the interim administrators have a preference for programs that are designed and delivered in a manner similar to the status quo, and for service providers they have worked with in the past.
- ***Status of projects:*** The re-interviews were conducted about one year after the program began to accept applications. The re-interviewed firms were responsible for about 29 projects that had been submitted for consideration for the nonresidential SPC program. At that point, seven percent had proceeded as far as initial payment, and an additional 20% were in some stage of installation (or completed installation). A little less than 30% had completed DPAs that were in review or approval, and about 40% overall had been cancelled, determined not eligible, died on the wait list or fell apart waiting to be designated for funds. Virtually all the projects included lighting, and many were lighting only. HVAC measures were included in about one-third of the projects discussed with re-interviewed participants.
- ***Program Design and Initial Application Forms:*** When asked about the program's design, two-thirds of both the ESCO and non-ESCO participants reported that it was generally compatible with the ways in which they do business. Others responded that several program elements – the cumbersome process and paperwork, excessive M&V requirements, and lack of customer focus – led to high levels of investment in time and work needed to generate the incentive for the customer. The BPA forms and requirements – requesting basic information about the applicant, the project site, the measures, and similar information – were considered reasonable by almost all respondents, and the documentation was generally cited as “clear”.
- ***DPA Review and Paperwork Issues:*** Comments on the paperwork for the program focused on the DPA review time. Several noted that the utilities had not reviewed paperwork in the time allotted, and that this practice led to waits of up to a year to get off a wait list. Given the initial time limits, participants noted that the original applications should have cleared (been accepted or rejected) in a much shorter timeframe. Participants had had strong feelings about the complexity of the layout of the DPAs – particularly that the forms are not well designed for lighting measures. Two firms that did not complain about paperwork included one that had another firm complete the forms, and another that had exactly the same measure throughout the entire facility. Some did not care for the designation of Title 24 as the standard, stating that it didn't reflect reality. Others that had just gotten off the wait list had yet to complete these forms and had no immediate comment.

² Note that some of the ESCOs dedicated staff to get fairly involved in the (open) planning process for the programs, and therefore, knew the programs were going to be offered. Few non-ESCOs got involved in that process.

- **Monitoring and Verification (M&V):** Questions about M&V brought out the strongest comments from participants – and on this topic, the negative comments were more common than positive ones. On the positive side, one ESCO respondent suggested that the M&V was not very dissimilar to M&V the firm typically used. They stated that the two year M&V was a plus, that the measure savings numbers would be useful in contracting and as client references in the future. However, the M&V is considered too complex by the majority of the respondents. One characterized the balance in the program as backwards—“the M&V *is* the project.” The M&V expense was mentioned by several respondents. One stated M&V “blows project costs all to hell.” Another stated the M&V was too high in relation to the value of the projects, especially if the installation requires monitoring many sites for a two year period.³ M&V for lighting was a particular subject of discussion. Simplifications for lighting measures were recommended by a number of respondents. Specific suggestions were made that the lighting M&V should be simpler than that required for HVAC – that only watts, number of fixtures, and operating hours were really needed to estimate savings, and that lighting savings tended to exceed estimates. Other comments included concerns that requiring Title 24 as the baseline (regardless of the efficiency of equipment actually removed) was not realistic and was confusing to the customers; others noted that the review process for the M&V plan was a problem. Several perceived that M&V plans that took significant effort to prepare could be disapproved based on a difference of opinion about M&V strategies.
- **Payment Procedures:** When asked whether the program’s payment procedures and timing of payments were reasonable, respondents were hesitant, because few had gone yet through the procedures (the majority therefore answered that they didn’t know yet). Several noted that the two year time frame for the program is too long and that clients need the money more quickly than that. One responded that they would have to wait a year for reimbursement and that would be extremely difficult; another noted, with concern that they wouldn’t be paid until they were all through with construction. One ESCO that felt payment procedures and timing were not reasonable, and suggested that for smaller projects (e.g. under \$100,000), the program could pay 60% on installation and 40% after one year of verification; a longer process might only be needed for large projects.
- **Pricing/Incentives and Program-Related Costs:** The majority of the respondents think that the prices were set appropriately, or implied that they were fairly generous. One mentioned that the M&V was very complex given the 7.5 cents per kWh incentive level for lighting. Respondents were asked their opinions about the best pricing strategy – whether prices should be set at the “end use” level, as they were (different prices for lighting vs. HVAC, etc.); by using one price for all kWh regardless of source; or pricing at the specific measure level. The overwhelming majority felt that using end use pricing was the most appropriate. A few argued that one price should be listed for all kWh regardless of measure or end use, since kWh was the target; another thought measure level was more appropriate. In generic terms, most reported that if the prices had been set slightly lower, there may not have been much change in projects. Some noted, however, they would have had a harder time getting the customer to “yes”, or the projects would not have gone forward or that they would have been smaller. Very few thought that the prices needed to be higher to get their projects going.

³ Note that some report saving by renting monitoring equipment

- ***Title 24 Baseline Rules:*** The issue of whether Title 24 (or Title 20) was the appropriate “baseline” generated considerable discussion, with proponents on both sides of this issue. The majority thought it was confusing to customers because the calculations of their savings were different from those they needed to make under the program’s requirements (and, thus, they had to do two types of calculations). These respondents also felt that credit should be given for all savings generated. One thought Title 24 was irrelevant because they did not believe that their project was new construction.
- ***Measures Installed:*** When asked to describe, generally, the types of measures that were to be installed as part of their applications, a variety of measures were mentioned. Mentions included lighting (several stating their projects were 100% lighting), refrigeration (including controls), a few chillers and variable speed drives. Among ESCOs, M&V was not mentioned as a significant factor influencing the types of measures proposed. Some of the non-ESCOs felt differently, however. They felt that the M&V encouraged very simple measures and did not lead to creativity in measures; one noted they explicitly omitted more sophisticated (and less widely utilized) lighting measures because of the complexity of M&V that would be involved (specifically mentioning controls and daylighting measures).
- ***Aggregation Rules and Market Share Limits:*** The majority of respondents did not attempt to aggregate smaller customers using the rules. Those that examined the aggregation rules generally felt that the M&V requirements for aggregated customers were onerous and made it impractical to develop projects large enough to meet project minimums using multiple smaller sites. Those that cared about involving smaller sites suggested that the major way to increase participation by smaller firms was to “keep it simple” (something they didn’t think the current program did), require less paperwork, speed it up to a 3-6 month program so the customers are paid more quickly, or provide additional program funds (so more funds are available and not all tied up by a few large projects). With respect to the market share limits, about 20% (all ESCOs) noted that they had come up against the limitations in planning or execution, or they hadn’t been able to do work for some of their major customers.⁴ The vast majority had no problems staying under the limit, and felt there were many smaller projects that were attractive.
- ***Information Sources:*** The participants were asked how they were keeping up on information about the program. Responses included, in decreasing order of frequency included: email lists and/or the web sites, utility administrator calls or calls to the administrators, and sporadic technical advisory committee (TAC) meetings (a number of ESCOs and other EESPs are members of this committee). Some respondents suggested that the administrators should update their web sites more often. During the interview, the EESP being interviewed looked up a particular administrator web site and found information on training to be undertaken in 1998 (in a 1999 interview) and saw that their projects were still shows as being on the wait list even though they had been removed from that list.

⁴ This result seems contrary to the program database information, which indicates that only one firm was near the limits in the first phase of the program, and that none should have been at limits after fourth quarter funding.

- **Marketplace Impacts:** Participants were asked about the impacts of the SPC on the marketplace and on their business activities. Most indicated that it had not had an impact on the performance contracting market because the program was not large relative to the market, and because few projects had been implemented to date. Half stated that the SPC had a positive effect on their business, with half noting significant increases, one noting “some” increase, and another stating the program “helped, but it doesn’t make the project a go”. A few noted negative impacts from the program because their projects were “stuck” in the bureaucracy or because participation was costly. Some reported that the program had caused them to increase their M&V capabilities; a few others said that their standard M&V was similar, and a couple indicated that if many projects came through they would likely subcontract M&V to others. Most respondents indicated that program participation did not generate significant increases in business leads or client prospects.
- **PY98 Summary:** Although there were some differences in feedback on the PY98 program between ESCO and non-ESCO firms, and between large and small firms, responses on the major issues were remarkably similar. Paperwork, turnaround times, and M&V were noted as problems, and several firms noted that the program’s design did not lead to creativity in measures installed. As a result, a number of changes were suggested for PY99.

Feedback From Program Nonparticipants

Interviews were conducted with a number of firms that might be eligible to participate in the program as EESPs, but elected not to.

Perceived Strengths and Weaknesses of the NRSPC Program

The ESCOs and RESCOs that were familiar with the program were concerned about a number of issues related to the NRSPC. Three mentioned M&V concerns; three mentioned delays and concerns about bureaucracy and issues of a non-customer focus in program design. The number of times an item was mentioned – for both ESCOs/RESCO and “other” firms – is shown in Table 1 below.

Table 1: Non-Participant Concerns With NRSPC Program

| Concerns about NRSPC (multiple responses permitted) | Number of Mentions by ESCO/ RESCO firms | Number of Mentions by “Other” firms |
|--|---|-------------------------------------|
| • M&V complexity | 3 | 1 |
| • Delays, timing, window issues | 3 | 1 |
| • Bureaucracy, and not designed with customer in mind | 1 | 1 |
| • Complicated, not simple enough; headache/hassle | 2 | 0 |
| • Designed to serve ESCOs | 0 | 1 |
| • Designed to benefit small firms | 1 | 0 |
| • Communication about program not even | 0 | 1 |
| • Funds may not be available by time application submitted | 1 | 0 |

Three key strengths of the program were mentioned by non-participants:

- The program provided relatively high incentives, and another noted that people (EESPs and customers) were willing to respond to economic signals.
- The program is relatively simple (with the exception of M&V), and is simpler than previous bidding program.
- The planning process involved many stakeholders.

Non-participant respondents mentioned the following concerns about the NRSPC Program. A large ESCO thought that the program went a long way to try to support small players in the market. However, they felt the program did not protect customers because the California Board For Energy Efficiency (CBEE) was not liable for customers to sue should the small firms perform poorly or go out of business. One suggested that the size of the incentive is not large enough to “pitch” to clients, compared to the size of the project. Another firm felt the M&V period was too long -- that you cannot “book” the margin over a multiyear period. They noted that the business arrangement and payment schedule would need to be different to make it financially attractive. Several firm felt that the M&V procedures were “no big deal” for mechanical measures (and were similar to FEMP), but were “crazy” for lighting. The length of the approval process was noted as a problem. Simplification of the bureaucracy and speeding up of the application / approval process was suggested by several firms. Table 2 summarizes the key strengths and weakness of the SPC as reported by the non-participants interviewed.

**Table 2: Reported Strengths and Weaknesses of the 1998 NRSPC
From Program Non-Participants
(number of mentions – multiple responses permitted)**

| Strengths | No. of Mentions | Weaknesses | No. of Mentions |
|---|------------------------|--|------------------------|
| • None mentioned / said there were none | 3 | • Time consuming, headache, hassle | 4 |
| • Well organized | 1 | • Not well known | 2 |
| • Moved fast | 1 | • Turmoil about administration | 2 |
| • Simpler than previous bidding programs | 1 | • Delays lost savings for customers | 1 |
| • Many involved in planning | 1 | • Not well managed/ not well planned / monetary scrutiny inappropriate | 3 |
| • Standardized | 1 | • M&V too expensive/complex” | 4 |
| • Incentives / respond to signals | 2 | • Long approval process | 1 |
| • Simple | 1 | • Not guaranteed money after submitting forms | 1 |
| • Provided education process/opportunity | 1 | • Program not stable | 1 |
| • M&V and proving/quantifying savings is a good thing | | | |

Reports On Customer Needs / Preferences

In order to try to understand those elements that would provide useful marketplace assistance, the non-participants were asked about the kinds of obstacles that they and customers face when trying to increase the efficiency of equipment in the marketplace. Open-ended questions probing for market

concerns encountered (and possible interventions) by non-participant EESPs led to the following comments:

- A number of the firms were clear that customers do not purchase energy efficiency; rather, they purchase other services that the equipment provides, and one firm called efficiency a “financing method” to help achieve positive cash flow.
- Timing is an important issue, and strategies to improve the penetration of efficiency into the marketplace would need to align well with the sales cycles of businesses – “hurry up and wait” doesn’t work well. Requiring fast decisions may not get many projects that weren’t already contemplated. Several respondents noted that programs require hurrying to get customers signed up for the program, and then require an extended waiting period while the applications are approved do not fit well. Customers become enthusiastic and make a decision because they see monthly financial cash flow benefits, and then are asked to forgo those savings – and actually lose “out of pocket” money -- while they wait for the approval.
- Project economics was often cited as a primary barrier and incentives to help improve the payback, and programs that make paybacks short enough for business perspective were mentioned often as customer needs by respondents. Several pointed out that efficiency equipment purchases are looked at as one of a number of competing possible investments for capital dollars in a company, and that the ones with the best payback or ROI are the ones that will generally be selected. Improving payback can help.
- Complexity in programs is a real barrier for some customers. Assistance that comes with low complexity and minimal bureaucracy are ones that will be favored. “Keeping it simple” was often mentioned, along with suggestions that any programs be simple and consistent (not revised) over a relatively long horizon. Related to this, one barrier mentioned was the “turmoil” around the Nonresidential SPC program, its administration, funding and other uncertainties, and the delays.
- Information was cited as a barrier, and programs need to provide high quality information on efficiency, savings potential, and technologies.
- Addressing the ultimate decision- maker was identified as a barrier, and it was recommended that EESPs, and programs, use several points of intervention and not just rely on committing the site manager.
- Facility maintenance and upgrading is often a lower priority unless the economics are good. Efficiency improvements tend to be “invisible” and that made it more difficult to communicate project benefits. Moreover, paybacks with a very short horizon are employed by most businesses.
- Turmoil in the electric industry was cited as a barrier, noting that deregulation and what one person termed “propaganda about lower rates” has become a barrier for some.
- One firm suggested that helping reduce the uncertainty of equipment performance -- demonstration projects or “insurance” products -- might be helpful in gaining greater acceptance of newer technologies.

Feedback On Preliminary Suggestions For PY99 Modifications

The program participants were asked about their feedback on a number of preliminary suggestions on PY99 modifications to the Nonresidential SPC program. The suggestions were new (as of February/March 1999), and many had heard about the list less than a week prior to the interview – and others had not heard about them at all. Respondents noted the following items as important changes in PY99.

- *Lower Incentives:* Proposals to lower the incentives were viewed negatively, but none thought the reductions would “kill” deals. However, it was mentioned that reducing incentives might lead to even less innovation in measures proposed.
- *Simplifying M&V:* Most reacted very positively to the possibility of simplified M&V requirements – particularly for lighting.
- *Lowering the cap:* There was strong support for reducing the maximum project size, and the change was expected to increase the number and variety of projects.
- *Getting paperwork flowing more quickly:* There were positive reactions to initiatives to streamline paperwork, with the caveat “if it works...”
- *Increasing BPA requirements:* Adding a site visit requirement to the BPA was generally viewed as a positive change. It was felt this would make the BPA more substantial and make sure they weren’t submitted as “placeholders” for money.
- *Wattage changes:* Lowering baseline wattages for lighting was viewed as a negative change for the program, because it meant it would reduce the calculated savings (and incentives) from projects.

In response to a question about whether the changes will help or hinder their participation in the program, most said that the lower prices would hinder their participation. One said that with the changes, the PY99 program would, on balance, be considered about the same as their overall assessment of last year’s program. One said they hadn’t had enough time to review the changes to make a judgment. One wanted limits on motors eased, and another thought that the program changes were all fairly negative. Positive feedback on the changes included compliments on the larger budget and the introduction of the small program.

Summary

Feedback on the 1998 program is mixed. However, there were a number of perceptions from the participant point of view that came through fairly clearly in the interviews.

- *Relatively low perceived estimates of market impacts from the program:* Although participants reported some limited changes in business practices and market conditions, few attributed any of these changes to the SPC. Most stated that the SPC was too small to affect the market, and that there have been too few projects actually implemented to date to lead to any market effects.
- *M&V considered too expensive and out of proportion by many:* A few respondents stated that M&V practices similar to those required for the SPC have been adapted for use in other projects. However, the majority – especially those associated with lighting measures, which were the most commonly installed measures – stated that the M&V requirements were onerous, expensive, and overly complex. There were strong feelings that, at least for lighting, stipulated savings or simpler

checks of operating hours, with on-site confirmations that the measures were in place should suffice to estimate and verify those savings. Several stated that, even for non-lighting measures, the M&V costs were very expensive, and that waiting two years for verification and payment was too long to be compatible with their business.

- *Program perceived to be designed to benefit ESCOs and not other potential EESP types or deliverers of efficiency services:* Although some respondents thought that the SPC had brought the efficiency industry to a higher level, a more common perception was that the program was designed to benefit the traditional ESCO model only, and did not necessarily meet the needs of other business models within the evolving “EES” industry. These respondents expressed the opinion that the paperwork requirements, M&V, project size threshold, and other features of the program did not work for them.
- *Significant delays in paperwork have caused difficulties and relatively few projects have been implemented:* Many of the respondents stated that the program’s paperwork was onerous, but in particular, they cited significant problems with delays in review and approvals. The participants noted several particular consequences to them, including: (1) problems with customer sites affected by delays; (2) a year after submittal, some projects have not been approved, and EESPs are still expending time and money to gain approval; (3) projects are being cleared from the wait list to begin the process for approval nearly a year after submittal; and (4) very few projects have been installed and are generating savings for the end users. Although clearly there are start-up issues, many stated that the paperwork review process needed to be faster.
- *Perception that simpler programs would have delivered more efficiency:* A number of the respondents noted that they had had favorable experiences with simpler programs that they felt had been more effective in delivering energy efficiency services to the marketplace. Particularly cited were “express” rebate programs and other programs with less burdensome paperwork and M&V requirements, and consequently, fewer delays. They feel that the greater complexities associated with this program have delayed getting savings to customers.
- *Most plan to participate in PY99, but additional changes are desired beyond those already made or proposed (as of 3/99) for PY99:* Regardless of their opinion of the PY98 program, the funding is attractive, and the majority plan to consider participating in PY99. Importantly, several noted that their participation will be contingent on a review of the changes, and a determination of whether the new revised program was a better fit within their business model and customer mix. Although a number of the respondents feel that there have been positive aspects to the changes made to the PY99 program offering (in the limited time they had to review them), others note remaining deficiencies from their point of view. The reduction in the cap was applauded. Most were comfortable with the site visit as part of the BPA procedures. Many noted that the lower prices would hurt the program economics, none seemed to feel that deals would be lost because of the lower incentives. Many hoped that the M&V would be much simpler, and significant changes for lighting were especially desirable. Faster paperwork flow was one of the most desirable changes. The concept of the small program was welcomed because respondents felt these customers were paying PGC charges. However, several respondents seemed skeptical that the “small” program had been simplified sufficiently to encourage participation, and were concerned about the restriction that customers could not serve as their own EESP for the small program.