Savings By Design Market Assessment Study and Process Evaluation

Final Report

Project 0701e Savings By Design Process Study

Date: May 19, 2009

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1. EXECUTIVE SUMMARY

The purpose of the study is to provide a process and market study of the Savings By Design program based on staff and customer feedback to further refine and develop program design and implementation plans. The overall goal of the study is to produce findings for key decision makers as an aid in decision support in order to enhance program design and implementation effectiveness for PY2009-2011.

Data collections activities included the interviews with program staff to gain an understanding of program activities, issues, and goals, and interviews with program participants and nonparticipants to gain customer feedback. Study participants included ten staff members and eighteen customers, including both program participant and non-participants.

Based on the interviews we conducted, several consistent themes emerged, helping define recommendations for ways to enhance the program. We also note some of the recommendations may have already been implemented or are underway. In these cases, conclusions from our research can further justify such program revisions.

1. Collect Project Lead Data– Gather Information on current construction market data and trends to allow the program staff to generate concentrated marketing efforts on sectors not currently reached by the program.
2. Increase Marketing Efforts – Conduct frequent outreach to the building construction community[1]. Utilize Best Practices marketing and outreach approaches.
3. Take Advantage of Increased Sustainability Awareness – Provide information and outreach on how Savings By Design complements other sustainable building programs, such as LEED.[2]
4. Review Marketing Materials – Create specific program information and tools based on customers' program needs.[3]
5. Value staff performance metrics not tied to energy savings – Emphasize to program staff outreach and marketing metrics that lead to future program participation.

[1] PY09-11 includes new program goals to join building industry organizations

[2] Savings By Design staff members are in the process of acquiring LEED certification and participating in local USGBC chapters.

[3] For PY09-11, SBD will be creating customizable program presentations in order to personalize information to customers

2. INTRODUCTION

The purpose of the study is to provide a process and market study of the Savings By Design program based on staff and customer feedback to further refine and develop program design and implementation plans. The overall goal of the study is to produce findings for key decision makers as an aid in decision support in order to enhance program design and implementation effectiveness for PY2009-2011.

The study concentrated on three study questions used in formulating the interview guides:

- Identifying Program Recruitment Opportunities
- Streamlining Project Documentation Requirements
- Incentive Payment Process Evaluation

In the first study question, program and market information were explored to determine the best growth potential to reach new customers, either in market sector type (such as hospitals) or project type (speculative developer projects). Strategies to pursue opportunities and overcome any potential barriers to participation were discussed.

In the second study question, the study focused on opportunities for streamlining program documentation requirements. An analysis of the current process was conducted in order to identify opportunities for stream-lining and creating a more effective program process procedure

For the third study question, the effectiveness of the incentive payment process was explored by studying external and internal process flows. The documentation procedures of similar utility programs were reviewed as well as opinions of SCE staff and program participants to determine plausible opportunities for the program to consider. The overall goal of this portion of the study was to provide a business case for how to optimize the processing time and delivery method for incentive payments.

3. LOGIC MODEL

1. Projected Program Budget	**$**	**28,458,461**
2. Projected Program Impacts		
MWh		128,617
MW (Summer Peak)		26.32
3. Program Cost Effectiveness		
TRC		2.81
PAC		3.95

Savings By Design encourages high-performance nonresidential building design and construction. The program offers building owners and their design team a wide range of services:

1. Design Assistance provides information and analysis tailored to the needs of customer projects
2. Owner Incentives help offset the costs of energy-efficient buildings.
3. Design Team Incentives reward designers who meet ambitious energy efficiency targets.

The program offers assistance around two alternative approaches to energy efficiency:

- Whole Building Approach - Used for projects where the design team can work closely to integrate the building's energy systems
- Systems Analysis- Used for projects where design of energy systems is done at different phases, or where one energy system predominates.

3.1 Market Barriers

Previous research studies point to a number of challenges for ensuring program success. These studies have revealed the following critical difficulties that have hindered program success:

- Industry reliance on using “lower initial cost” for making project decision instead of life-cycle analysis which favors more efficient building designs.
- The increasing stringency of Title 24, leading to difficulty in reaching program requirements.
- The reliance on Title 24 in determining efficiency standards. As SBD becomes increasingly ambitious, it may become necessary to update the analysis methods to credit measures that lie outside the T-24 compliance domain.

[1] Southern California Edison. PY2006-2008 Savings By Design Final Program Implementation Plan. 2006. Irwindale, CA.

- Relying on markets from prior projects and not expanding to previously unreached markets
- Increasing incentive tiers to match market conditions
- Reaching customers early enough in the building design process to provide program assistance

3.2 Program Goals

The Savings By Design program is designed to encourage and incent the nonresidential new construction building community to implement energy efficiency feature in their building projects. In 2006 through 2008, desired results include the following:

- Motivate customers and design industry professionals to integrate energy use and environmental considerations into their standard process of design to achieve cost -effective levels of energy and resource efficiency.
- Move customers to design their facilities to achieve long term energy, resource, and cost savings, not just minimal compliance with mandated government regulations.
- Support industry trends and developments, such as the US Green Building Council's Leadership in Energy and Environmental Design (LEED) building certification program and the California Energy Commission's new Title 24 energy standards.
- Reduce customer confusion through appropriate alignment of SBD marketing materials with other applicable programs such as Education, Training, and Outreach, Codes and Standards, Emerging Technologies, the Business Incentive Program, and the Sustainable Communities Program.
- Efficiently extend the reach of Savings By Design through support and coordination with utility-sponsored partnership programs such as the UC/CSU Partnership program, the Collaborative for High Performance Schools, and the various, and city/county partnership programs.
- Provide customers with a full spectrum of sustainable energy design consulting and resources through active collaboration with a network of other "energy" agencies and programs (water, gas, renewable generation).
- Promote available resources to the new construction market players regarding Title 24 Code changes and how to exceed them cost-effectively.

3.3 Program Strategies and Activities

The Savings By Design program is designed to overcome these issues by incorporating the following elements:

- Continue program assistance and incentive offerings
- Coordinate with the statewide Savings By Design team to share and coordinate program process "best practices" and marketing strategies, and

contribute to tools and resources that enhance the overall cost-effectiveness of the statewide program.

- Design and implement several focused efforts to more effectively reach customer and market segments where a traditional design assistance/financial incentive offering has been marginally successful.
- Develop a program component that applies incentives to offset increased design costs rather than increased construction costs.
- Develop and include a full spectrum of energy use and sustainability program offerings by collaboratively working with applicable gas, water, and other industry

3.4 External Influences

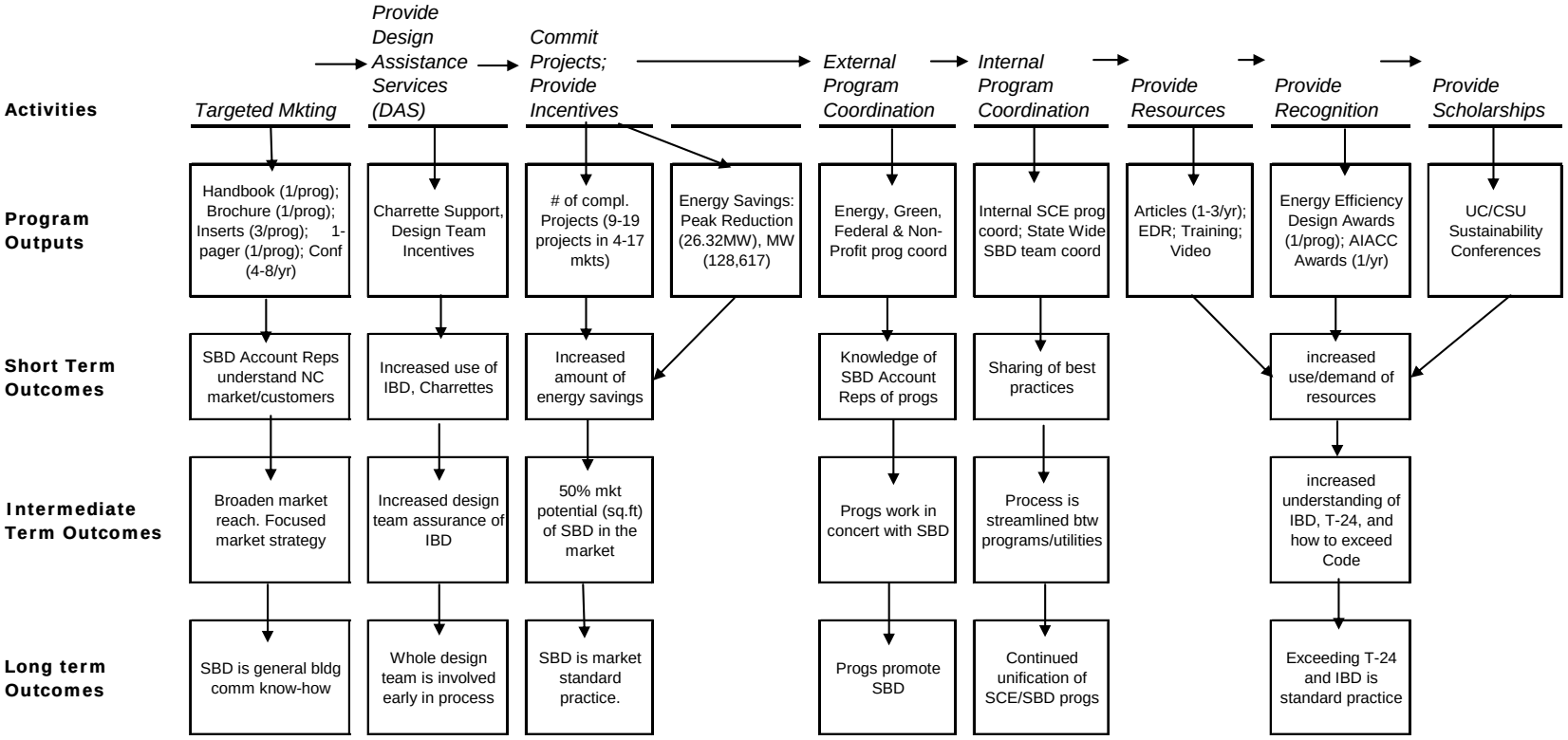
As a new construction program, Savings By Design is directly impacted the economic state of the building community. Given the current downward economic conditions, it will be difficult for the program to maintain similar program activity levels without increased market penetration. In addition, Savings By Design customers are influenced by the growing presence of other sustainable programs, such as LEED and CHPS.

3.5 Relationship to Other Programs and Activities

Savings By Design is highly impacted by the Codes & Standards program because the program's incentive structure is tied directly to Title 24. In addition, Savings By Design's prescriptive components provides similar measures to the same customer population as Express Efficiency and Standard Performance Contracting, albeit in different delivery methods. Express Efficiency provides prescriptive rebate, in which deemed savings are used. Standard Performance Contracting pays customized incentives based on project performance. Savings By Design also works with the Education & Training program in providing educational opportunities for its customers.

3.6 Program Logic Model

The following figure portrays the program theory of how the activities, outputs, short and long term outcomes expected for the SCE's PY2006-2008 Savings By Design program. The logic model was developed at the end of PY06-08 cycle. A revised logic model has been development for the PY09-11 cycle and submitted as part of the 2009-2011 PIP proposal to the CPUC.



key:

Compl	completed
Mkting	Marketing
bldg	building
comm	community
coord	coordination
conf	conference
IBD	integrated building design

3.7 Program Indicators

Performance indicators for the program have been identified and are presented in this section. The table below provides anticipated success criteria, its relevant program goal, and potential indicators.

Program Goals	Potential Indicators	PY06-08 Success Criteria
Reach more customers to increase industry program knowledge	Number of marketing materials and activities Number of qualified prospects identified Number of qualified prospects enrolled	Handbook (1/prog); Brochure (1/prog); Inserts (3/prog); 1-pager (1/prog); Conf (4-8/yr)
Achieve energy savings for SCE program portfolio	Number of projects completed Amount of energy savings and peak reduction achieved	Complete 9-19 projects in 4-17 markets Achieve 26.32 MWh energy savings and peak reduction of 128,617 MW
Support and educate building design community	Number of training courses offered Number of presentations at seminars & conferences	Articles (1-3/yr); EDR; Training; Video Energy Efficiency Design Awards (1/prog); AIACC Awards (1/yr) Provide design team incentives

3.8 Researchable Issues for Future Program Evaluations

Process Evaluation

1. Are recruitment methods effective? Are recruitment goals met?
2. Do information and materials provided to the building communities increase interest in the program? Are they satisfied with the information?
3. Are incentives associated with decision to participate?
4. Do customers show an increased awareness, knowledge and attitude toward energy efficiency?
5. Are changes in awareness, knowledge and attitudes associated with EE behavior, measure installations, and retrofits?
6. Are participants satisfied with the type and quality of information provided?
7. Have program activities resulted in non-energy benefits?

Impact Evaluation

8. Are kW and kWh goals met? Are the savings estimates reasonable and correct?
9. Do applications to other programs result in future incorporation of efficiency in building projects?
10. Are changes in awareness, knowledge and attitudes associated with EE building design and projects?
11. Have program activities resulted in non-energy benefits?
12. Have program activities resulted changing the market?

4. PROCESS METHODOLOGY

This section describes data collection and analysis activities for the process evaluation portion of this study. The data collection effort consists of two stages. In the first stage, HMG interviewed Savings By Design program staff to gain an understanding of their current and planned program activities, issues, and goals. In the second stage, HMG conducted interviews with SCE customers to gather their insights and recommendations for improving the program.

Upon completion of the interviews, responses were organized by interview segment and analyzed by topic. Using the responses as our guide, we looked for themes and patterns across the multiple interviews. Next, we added our interpretation by theorizing the development of the interview patterns and meanings. Finally, we presented the findings to the program management team to get their feedback to support our interpretation of the results through further clarification, contextualization, and refinement of the interview findings.

4.1.1 Staff Interviews

Savings By Design program staff (program managers, customer account representatives, and program engineers) were identified and recruited each for an in-depth interview that drew out detailed information about program activities, issues, and goals. A total of 10 telephone interviews were conducted. Individuals came from the following positions

- Energy efficiency division regulatory group
- Energy efficiency division staff
- New construction staff
- BCD account representatives

In phrasing the questions, the interview were structured to give SCE directly-applicable information on which existing services and potential new services are most highly valued and where improvements should be made. The interviews were conducted according to an interview guide written by HMG and approved by SCE. The staff interview guide is listed in the Appendix. The interview questions explored program staff's views on issues including:

- Role of design team incentives in encouraging participation and improving energy efficient design
- Role of owners incentives in encouraging more efficient buildings
- Perceived value of education and technical assistance
- Perceptions of program procedures (applications and project documentation requirements, energy analysis, incentive payments, verification, etc.)
- Consideration of customized program offerings for each product type

- Opportunities to increase program participation with existing or new market segments.
- Other ideas/suggestions for program improvement

4.1.2 Customer Interviews

This second stage of data collection gathered information from Savings By Design participants and non-participants from the building industry (owners, developers, and design team members). The initial plan was to conduct three focus groups with 6-8 participants at a focus group facility, or facilities, in the SCE service territory. However, after difficulty in recruitment, phone interviews were completed to maximize to reach more customers. A total of 18 interviews were conducted.

The purpose of the participant interviews were to determine:

- The perceived value of energy efficient building design
- The building design process – key decision-makers and how the program can influence their choices
- The influence and role of SCE and Savings By Design in the nonresidential new construction market, in general, and in the participants' projects, in particular
- Impression of, and satisfaction with, Design Assistance Services
- Opinions on the Savings By Design program process - timeliness of incentive payments specifically
- Program improvement suggestions

The purposes of the non-participant interviews were to determine:

- Attitudes towards green building concepts, especially energy efficient building practices.
- Experience with and interest in green building design and construction
- Awareness of the program and knowledge of program features and benefits
- Perceptions about the program for those who are aware of the program
- Which features and benefits of the program would most likely lead to program participation?
- What barriers to participation exist, both perceptual and real?
- What communication channels are most appropriate for marketing and communication?
- How best to structure the program offerings in a way that works best with their existing processes?

The interviews were conducted according to an interview guide written by HMG and approved by SCE. The customer interview guide is listed in the Appendix. The customers' interviews were divided into the following groups:

- 6 SBD program participants - owners/developers
- 6 SBD program participants - architects/engineers
- 6 SCE customers (owners/developers/design team members) who have not participated in SBD

5. PROCESS RESULTS

5.1 SBD Staff Interviews

5.1.1 Whole Building Approach vs. Systems Analysis

The staff members interviewed with direct involvement with program measures noted that the majority of their projects use the Systems Analysis rather than the Whole Building Approach. In addition, interviewees also noted that most technical program staff focused on either Systems Analysis (SA) or Whole Building Approach (WBA), i.e. projects within their portfolio included projects that consistently chose one approach, SA or WBA. Program representatives noted that this was due largely to the fact that their assigned industry and/or project type typically lends itself better to one approach rather than both. However, despite a number of representatives having used the SA, each increased client acceptance of the WBA. Staff indicate that timing and project size were both key factors in utilizing WBA, in that projects working with Savings by Design in early design stages, and in addition, large projects more frequently used this approach. Likewise, projects in later design stages or projects that are only tenant improvements tend to use systems analysis.

The Systems Analysis typically has more stringent requirements with smaller rebate amounts, especially compared to other SCE energy efficiency programs offering similar prescriptive measures. One staff member felt the systems analysis should be modified to have streamlined requirements between all the nonresidential energy efficiency programs.

5.1.2 Program Incentives

Staff interviews indicated that most direct involvement projects applied only for the owner incentives with minimal number of projects applying for a design team incentive.

The design team incentive under the whole building approach is still considered a very useful program feature. It is considered a popular program benefit by owners and lucrative for design teams. The design team incentive is also growing in program use due to popularity of LEED and CHPS, where owners use Savings By Design incentives to help pay for these program costs.

There existed, however, conflicting responses from staff members regarding the value of the design team incentives. While most respondents felt it validated the knowledge and importance which the design team brought to the table, three SBD staff members[1] believed incentives should be given directly to the owners to spend at their discretion because they believe owners drive the ultimate decision in program participation. This may be due to the majority of the correspondence going through the owner/developer rather than through the design team directly. According to SBD program managers, this

[1] BCD account representatives and NCS staff indicated this comment. Respondents were chosen from a list of interview candidates given the SBD program managers.

appears to be a minor misconception by program staff. Management direction on program goals clearly indicate the importance of the design team.

Beyond the owner and design team incentives, respondents indicated that the technical assistance and the educational opportunities offered by the program were highly received by customers. Because the incentives are still a small value to customers in proportion to the overall project cost, the technical expertise provided by the program appears to be of more value by customers in filling technical gaps.

5.1.3 Program Procedures

All staff members indicated the external process is relatively smooth for customers due to minimal paperwork. However, there have been past issues with the internal process for obtaining incentive payment approval. This would often cause a considerable time delay between project approval and project payment. At the time of the interviews, a new system was being introduced to streamline internal procedures for payment approval. For example, this new system will eventually allow for electronic signature for SCE manager approval; thus reducing the staff approval duration. SBD program managers noted that it will take a number of years for this system to fully take effect.

One staff member recommended that there be a single program contact between SBD and the SCE Energy Efficiency Division staff who process program customer payments. There was past confusion between who should be contacted when questions arose on incentive payments for the multiple SBD projects because there were multiple program contacts depending on who was the project lead. Staff expressed that a more streamlined process where there was a single task owner for processing incentive payments might help alleviate the problem as well

As far as process recommendations were concerned, staff felt that having checklists for internal SCE requirements from regulatory, accounting, and planning departments, would be helpful to make certain the program was collecting the necessary data required for those departments. It is more difficult for staff to respond to retrospective data requests from other departments, than preparing standard data requests as a planned action.

Staff members were also asked if they felt customers needed more personal contact between the program and customers, especially when it came to final payment. Some staff members felt that at a minimum, a program participation certificate should be sent with payment as a reminder to customers on the meaning of the payment. However, most felt it was not necessary to hand-deliver payment checks, especially for projects with small incentive payments. The program management team felt that the primary concern for program participants is to insure that when accounts payable issues the check, it should identify what the payment is for.

5.1.4 Market Potential

For this study, market potential was explored using the opinion and feedback of the respondents gathered through the interviews. Thus, it was based on where the staff felt there were untapped markets for the program. An untapped market was either a building sector (such as office or warehouses), customer types (small, medium, or large), and project types (such as LEED certified or CHPS). Of the building sectors and project types, staff felt the program should take advantage of the sustainable building movement,

especially for public agencies, and increase marketing efforts in this market. Of customer types, small business customers and property management groups are also considered under-represented in the program.

One program strategy for reaching more customers, offered by a staff member, is to created web-based tools to illustrate cost-benefit analysis. However, SBD program managers felt that EDR provides business cases to illustrate this concept, emphasizing life cycle costing. Thus, utilization of EDR resources should be more heavily promoted by staff members.

Another staff member felt a regular marketing schedule is needed to communicate effectively to the building construction community. According to this staff member, there is a large marketing campaign push in the beginning of each program cycle, but it is not sustained through the three year program cycle. However, SBD program managers do create an annual plan each year to identify conferences, trade shows and other venues to attend for program promotional purposes.

One staff member felt local market forecast data should be integrated with marketing efforts to have the most informed plan. Unlike market assessment data from industry sources such as CIRB and Dodge which are retrospective, local market data could be gathered from companies that track leads for projects under development that commonly serve architects looking for project leads. Industry sources include:

1. McGraw Hill Construction - http://dodge.construction.com/Reports/Electronic/eLeads.asp
2. Reed Construction Data - http://www.reedconstructiondata.com/construction-project-leads/reed-connect/

Also, staff should continue to follow up with their personal building community contacts which they enter into their in-house project leads dataset.

5.2 Program Participants Interviews

The following section presents our observations and analysis of the customer interviews.

5.2.1 Market Perceptions towards Energy Efficiency and Sustainability

A number of responses were given by Savings by Design staff on factors which are pushing the market towards efficient and/or sustainable building design. The most frequent response is the increased marketability and competitive edge available to sustainable buildings, in particular LEED certified buildings. A respondent from a large property asset management firm offered a similar market perspective, indicating that the company was asked by their shareholders to allocate a portion of the company's portfolio to socially responsible assets.

In addition, there is growing confidence and practice in the building community of the viability of energy efficient buildings. Energy efficient design is becoming standard business practice largely due to the operational cost savings of the resulting buildings..

Lastly, government mandates are seen as being the final push towards market acceptance. Even though mandates are not widespread among all sectors, increased stringency in

specific sectors, such as schools, is believed to be influencing other sectors by increasing industry knowledge and practice.

5.2.2 Owners Are the Most Influential Drivers

All three interview groups pointed to the owners as the most influential drivers in SBD participation and in the decision to design more energy efficient buildings. Design team members did provide influence through design recommendations, however, owners ultimately determined from the onset of a project whether they would be willing to consider energy efficient and/or sustainable design features. We note that these observations are unchanged since the first focus groups conducted in early days of SBD.

5.2.3 Recruitment, Marketing, and Marketing Materials

The responses regarding the initial involvement of interviewed program participants were varied. Only two respondents interviewed attended SCE Education and Training programs. For those who participated, they felt it offered them a good introduction to the program. Other participants became aware of the program through contacts made by account representatives. A few of the respondents initiated program contact themselves, having participated in other utility programs. It should be noted that the respondents were given as the customer contact from the program project tracking database and therefore, should be a contract for program marketing materials.

Overall, participant respondents had mentioned few comments about marketing materials. Most could not recall seeing any marketing materials. Some program participants felt that more frequent and regular marketing efforts were needed to keep the program in the forefront of the industry. All but one of the nonparticipant respondents never heard of the program and thus this study inadvertently became an introduction to Savings By Design.

It must be noted that because the sample size for this study is low, the findings cannot be interpreted as being representative of the entire population for which the program is designed to serve and therefore should only be viewed as directional. A program awareness tracking study with a representative sample of the total market would be needed to determine what the true program awareness levels are for both participants and non-participants.

The majority of those interviewed (ten participants and all non-participants) perceived the need for greater marketing and promotional information to raise awareness for the program. Industry meetings and conferences were recommended as good marketing venues, as well as trade publications. As stated earlier, the program does have an annual plan for attending relevant trade shows and industry conferences. Additionally, for the next program cycle, there are plans to place ads in trade magazines to increase program awareness levels for non-participants/future potential prospects.

Email and web based marketing strategies from the program to customers were also recommended. The program currently has a branded website that provides extensive program information and is regularly updated with seminar information, educational presentations and other program related information. A bio and contact information including email addresses are listed on the website so any potential prospect can contact a

program representative directly. However, the detailed website still expects customers to take the initiative in contacting program staff.

To expand on its current online marketing efforts, the program should create a master email marketing list from past program participants, BSD account representative customer contact lists, new construction industry lists, and utilizing an opt-in feature on the program website for those who would like to be added to an email list. The individuals from the master email marketing list can receive a quarterly newsletter or another form of marketing material to facilitate regular contact between the program and interested prospects. All of this can easily be achieved through automated email marketing programs such as Constant Contact that provides options for email analytics where program administrators can track delivery rates, open rates, click through rates for content, and time spent with the material. This kind of feedback provides program administrators with the ability to continually refine and develop material that is most appealing to its audience. To incent visitors to opt in, a free white paper could be offered with information on the program features and benefits along with examples of how real program participants have benefited from the program.

5.2.4 SBD Program Influence

While program participants felt the program incentives did not influence their decisions relation to overall efficient building design, the program did allow owners to consider certain efficient features through either the program technical assistance and/or the program required building energy model. This was of particular importance for measures that were not as well known to the owner or the design team. These measures included either an individual prescriptive feature or a feature which positively impacted the performance of the entire building using the performance approach (thus allowing participants to see how individual components in a building worked together).

5.2.5 Ambivalence Toward Program Incentives

The interviews indicated a degree of ambivalence from program participants about the owner and design team incentives. While it was acknowledged that the incentives are important in helping to motivate more efficient building design, the incentives are considered not substantial enough, and the incentive payments usually are paid late in the process so they do not significantly affect their design budgets. The incentives are viewed as more of a “goodie” after the project is mostly done. Some additional incentives have been proposed for the 2009-2011 program cycle to help improve the appeal of the incentives offered through the program, for example, a design team stipend that would be offered up front rather than after the project is completed. In practice, the incentive has traditionally served as a tool to get prospects interested in the program, however, the major motivation for project participation remains the potential for cost savings over time. Life cycle costing is heavily emphasized with program prospects to insure their understanding of the cost savings benefits from program participation over time.

5.2.6 SBD Technical Assistance

The SBD technical assistance was considered a valued program asset by participants. The engineering staff is well respected, and their experience/input is seen as valuable on

projects by providing impartial review of the building design. A few respondents indicated this program feature is even more beneficial than the incentives which cover only a minimal amount of construction costs.

5.2.7 Program Application Process , Incentive Process, and Verification

Past program participants that were interviewed for this study felt the program process procedures were relatively simple and program staff facilitated the program process effectively. Program representatives were all given favorable reviews. The only participant suggestion was a request for introduction to new staff, especially account representatives, by the known program staff contact. The incentive and verification process was also considered smooth for the participants, although lengthy. Respondents did recommend that the incentive payment come with indication of the specific project participating in the program, such as letter or certificate indicating program participation. Because the incentives are received long after direct program participation contact, it is difficult for a few respondents to remember what the received incentive was for.

5.2.8 Program Suggestions

Project Coordination

The most recommended addition to program offerings was assistance for project coordination. For owners, goals and requirements for their projects have expanded to include growing issues of sustainability, occupant health and safety, and others which have increased the number of design team individuals for building projects. Not surprisingly, each additional team members requires increased need for coordination efforts between responsibilities and objectives. It was highly recommended by the owners/developers respondents that Savings By Design could assist with the design team coordination efforts as part of the program's technical assistance efforts. The evaluation team has made the assessment that this would be an ambitious goal for the program, well beyond the scope of the program. The program role is to encourage design team charettes to bring all parties together, and within this context, the program can play a coordinating role.

Design Team Meeting

The design team meeting was suggested very enthusiastically by respondents; similar to the Program Coordination section above. There was widespread agreement with one of the fundamental goals of SBD, that intervention was needed at the earliest possible stages in the project in order to be most effective. Despite this, there were many examples cited where fundamental design decisions that had substantial energy implications had been made, before the SBD energy efficiency involvement had occurred. As with the program technical assistance, this type of program feature is considered much more valuable than incentives as it allows for a systematic review all of the potential energy efficiency aspects of the project. In addition, it allows projects to explore all feasible options at an early design stage ensuring that design strategies are effectively incorporated into the project. While the program is actively promoting the whole building approach, the evaluation team has determined that in order to gain a higher participation rate in design

team meetings, there is a need for market assessment data that could support the program's ability to effectively target participant prospects who could benefit from this program feature, when the window of opportunity for them to participate in the whole building approach is still open.

Green Building Certification

Another popular program recommendation was incentives for green building certification. All of the design team respondents were quick to point out LEED certification in the beginning of each interview as a sign of their commitment to sustainability. Many also expressed desire to work on projects reaching for LEED certification and welcomed any assistance the program could provide towards this objective.

Other Program Features Not Recommended

In direct contrast to the 2007 SDG&E New Construction Process Study, respondents indicated that they felt increased recognition for SBD participation would provide little value. This differing perception on SBD recognition value could be due to several things. One reason is the larger, less cohesive construction community in SCE territory versus SDG&E. Also, for the SDG&E process study, customers were responding after past recognition efforts by the program while this study asked customers to give answers about possible future recognition efforts.

Commissioning incentives was another possible program offering receiving ambivalent responses. While acknowledging the good intent of a commissioning incentive, respondents felt the commissioning process is still too costly. One respondent expressed the desire to have the program cover the initial commissioning study.

6. CONCLUSIONS AND RECOMMENDATIONS

Based on the interviews conducted, consistent themes emerged that helped define recommendations for ways to enhance the programs. Our conclusions and recommendations are presented below.

6.1.1 Conduct Market Assessment Potential on a Regular Basis

For this study, market potential was explored using the opinion and feedback of the respondents gathered through the interviews. Thus, it was based on where the staff and customers felt there were untapped markets for the program. The staff interviews indicated there was widespread desire for more information on new construction market characteristics, especially with the current economic downturn. There was evident worry that meeting program goals would become difficult to reach with the construction slowdown and that greater market information would help program staff reach out to more customers.

To determine market potential, there are two basic approaches - retrospective and perspective. In the retrospective approach, the program dataset of projects would be compared to recorded construction data to determine market penetration. In prior program years (PY2001-2005), a Nonresidential New Construction Market Characterization and Program Tracking (MCPAT) report was completed. The report tracked trends in the nonresidential new construction market, by building sector and zip code, using F.W. Dodge datasets, as well as participation in the Savings By Design. The report determined the extent to which the market changes over a given period of time, and if necessary, modify the SBD Program to most effectively enhance energy efficiency practices in the new construction market. Using a similar methodology, program data could also be compared to other construction datasets, such as CIRB or the California Energy Commission forecasting datasets. In addition, gathering retrospective SBD market penetration data would be an additional and potentially more valuable program achievement than just counting program savings and number of projects enrolled and completed.

In a prospective approach, local market data could be gathered from companies that track leads for projects under development that commonly serve architects looking for project leads. Industry sources include:

1. McGraw Hill Construction - http://dodge.construction.com/Reports/Electronic/eLeads.asp
2. Reed Construction Data - http://www.reedconstructiondata.com/construction-project-leads/reed-connect/

In addition, program staff could create an in-house project lead dataset by mining their customer contacts on prospective projects.

6.1.2 Increase Marketing Efforts

In the 2004 Non-Residential New Construction Best Practices Report, the Marketing and Outreach section (see Appendix A) provides a best practices marketing roadmap. As the report details, programs that target the nonresidential new construction industry must "focus significant resources on building relationships with members of the design community, particularly developers, owners, architects, and mechanical engineers. These relationships cultivate the design professionals as program proponents. They are able to alert program staff to opportunities as soon as a client comes to them with an idea." The report also mentioned that "local governments can be effective in identifying projects early in the design process and getting the energy efficiency program involved. The key departments are those involved with planning and permitting."

From the customer interviews, program marketing efforts were perceived to be minimal by ten participants and 5 nonparticipant respondents. For all but one nonparticipant interviewed, this study was the first time they heard about Savings By Design. The nonparticipant interviews indicated great interest in the program and respondents asked for program staff to contact them with further information on Savings By Design. These respondents indicated affiliation with sustainable building design organizations which was the basis of their interest in the study. Thus, the PY09-11 goals to reach out to more building community organizations should help the program reach interested customers who have yet to participate in the program.

For participating owners and design team members, continued marketing efforts were advised for the program. Given the large amount of marketing materials which they receive from their industry, the respondents indicated that Savings By Design marketing efforts need to be as frequent and routine in order to keep the program in the forefront. Also, it was suggested by interviewees that program staff utilize personal marketing approaches such as a phone call or e-mail to obtain new project leads and ask about upcoming projects.

Historically, traditional "mass marketing" approaches have not been effective for the program which has emphasized highly targeted approaches to identifying and recruiting program prospects. However, the program target audience requires targeted outreach to keep the program in the forefront. In particular, marketing materials (both web and print) developed at Savings By Design program inception ten years ago should be reviewed to make certain that it is compelling to the program's target audience and contains information based on current customer needs.

Most of the program marketing materials that have been developed are provided on a one-to-one basis to qualified prospects which have grown since program inception. The program needs to increase its marketing reach to increase awareness of the program to non-participants through ads in trade magazines and other relevant media outlets.

6.1.3 Take Advantage of Increased Sustainability Awareness

With the growing presence of LEED, and other sustainable building programs and policies, Savings By Design needs to focus on how the program is complementary to these efforts. From the nonparticipant interviews, all respondents mentioned their LEED certification, but had no knowledge of Savings By Design. There appears to be a disconnect between design team members who are newly LEED certified and the

available utility energy efficiency programs that could provide assistance to their LEED projects. Utility programs could benefit from increased involvement by design team members who are actively involved with sustainable design. For PY09-11, Savings By Design staff are rectifying this disconnect by pursuing LEED certification and participating in local chapter meetings of the U.S. Green Building Council. One respondent recommended that information on how Savings By Design could assist on specific LEED requirements would be greatly beneficial.

6.1.4 Re-assess Systems Analysis Program Offerings

Among program staff, there was uncertainty about how the Systems Analysis program offering should be utilized to best serve program participants. While one of the long-term goals for the program is to encourage energy efficiency through integrated building design, the Systems Analysis program track was created for projects which did not fit with the performance requirements of the Whole Building Approach.

SCE also has other nonresidential energy efficiency programs which offer similar measures as the SBD's Systems Analysis approach. In prior program cycles, programs were in competition with one another for customer projects. For PY06-08, there was considerable effort to correct this problem. For example, in mid-2006, SBD no longer accepted new construction "process" projects unless there were building (Title 24) measures involved. Also, Standard Performance Contracting and Express Efficiency programs would not accept projects, even retrofits, if the project also involved adding new square footage. Towards the end of the 2006-08 cycle, SBD program managers reported that almost all parties (BCD Account Executives and NCS SBD reps) had a fairly clear understanding of the differences. Staff reported some isolated instances still occur where a new BCD Account Executive is unfamiliar with these differences, but in those cases, an understanding is reached before a project is placed under the 'wrong' program." However, two staff members[1] still mentioned the past program competition issue during the study interviews, resulting in losses for SBD staff to claim project savings which ultimately transferred to a different program. We believe that additional information is needed for SBD staff to clear up any program misinterpretation.

We also recommend that SBD program management review with their staff how to expand their marketing reach to new customers to find projects. Performance metrics could also be altered for staff to provide a fuller picture of their contributions, beyond energy savings goals.

6.1.5 Review Marketing Materials

The participant interviews indicated few comments about marketing materials with most participant respondents and all of the nonparticipant respondent unable to recall seeing any marketing materials. While one reason is the need for a greater outreach, another reason is the marketing materials themselves.

The marketing materials need to be reviewed to determine what type of information is needed by customers on the program. For example, the program is working on

[1] Staff respondents were chosen from a list of qualified interview candidates given by SBD program managers.

customizing their standard power point presentation to address unique needs and interests of target market segments. In addition, the Energy Design Resources group has developed case studies that address specific market segments and project types.

One respondent felt it would be beneficial for program information on how Savings By Design can help participants achieve certain LEED requirements.

7. APPENDIX A - EXCERPT FROM NON-RESIDENTIAL NEW CONSTRUCTION BEST PRACTICES REPORT[1]

PROGRAM IMPLEMENTATION: MARKETING AND OUTREACH

The programs we reviewed employed remarkably similar marketing and outreach strategies, undoubtedly reflecting common solutions to a common set of challenges. The non-residential new construction industry represents a marketing challenge because standard mass marketing methods are completely ineffective. The number of key decision makers is a small fraction of the general population so programs would have to saturate mass media channels in order to be sure of reaching target audiences. Moreover, simple messages that are suitable for mass media lack any persuasive impact on decision makers who are faced with complex technical, budgetary, and scheduling challenges.

The complexity of the marketing challenge is compounded by the fact that most projects offer only a narrow window of opportunity to positively influence the project. Unfortunately, there are few reliable information sources for identifying non-residential construction projects in the early stages before the window of opportunity closes.

In response to these marketing challenges, the programs we reviewed focus significant resources on building relationships with members of the design community, particularly architects and mechanical engineers. These relationships cultivate the A&E professionals as program proponents. They are able to alert program staff to opportunities as soon as a client comes to them with an idea. Their familiarity with the program facilitates participation because they understand program documentation requirements and can handle the application details, thus freeing the project owner to just sign the application and cash the incentive payment. As trusted technical advisers to the project owner, they are able to confirm the value of program participation. Finally, programs are able to build on these relationships to provide technical training that drives program spillover benefits.

While no programs reviewed specifically mentioned local governments as key allies or

stakeholders, anecdotal evidence from other sources indicates that local governments can be effective in identifying projects early in the design process and getting the energy efficiency program involved. The key departments are those involved with planning and permitting.

Every program employs a portfolio of outreach strategies to reach its target audience. Typical strategies include:

- Direct outreach: e.g., phone calls and face-to-face meetings
- Networking at breakfast meetings
- Brownbag workshops and “lunch and learns”
- Attendance at trade shows and construction showcases to publicize program benefits and gather contact information
- Training and education in partnership with allied industries, energy centers, and professional organizations

[1] Quantum Consulting. 2004. “Volume NR8 – Non-Residential New Construction Best Practices Report”. Pacific Gas and Electric Company. San Francisco, CA. http://www.eebestpractices.com/pdf/BP_NR8.PDF

- Design awards programs to draw attention to successful designers and their projects
- Partnerships with key industry allies and professional associations; e.g., American Institute of Architects
- Case studies and fact sheets
- Paid advertising and free stories in industry trade journals
- Newsletters, either hard-copy or electronic
- Program websites

8. APPENDIX B - INTERVIEW GUIDES

8.1 Staff Interview Guide

The purpose of these interviews is to give SCE directly-applicable information on:

- Which existing services and potential new services are most highly valued
- Where improvements should be made.

The questions are designed as open-ended. This is an interview guide and not a survey, so the interviewer should explore additional relevant topic threads that interviewees may bring up. The interviews will also give Savings By Design staff an opportunity to give their frank opinions, anonymously, for the study.

Interview Guide

Hello, this is Cynthia Austin from the Heschong Mahone Group. I'm calling to ask you some questions about the SCE Savings By Design Program, which should take 15 minutes. Is now a good time? If not, when should I call you back?

The answers you give may be used in the report we submit, but your answers will be anonymous.

Personal Details

First I'd like to confirm some details about you:

1. What is your job title?

2. What do your job duties for Savings By Design typically involve?

Program Incentives

3. How many Savings By Design projects that you have been involved with take advantage of only owner incentives? (percentage or number)

4. What kinds of benefits do the design teams and or owners mention to you most often when you have the opportunity to speak with them?

5. Do you feel the design team incentives promote added value to the building design process? If so, what type of value?

6. Based on your communications with program participants, what type of feedback are you getting on the levels of incentives currently offered by the program?

What kind of changes to the incentives offered through the program do you think could help improve customer participation and customer satisfaction with the program?

7. How do customers react to the technical assistance offered through the program? Have they been generally satisfied or have there been any problems that have occurred that need fixing?

Whole Building Paradigm vs. Systems Analysis

8. Do you feel that there is extra value derived by the design team from the whole building approach, and is worth extra effort and expense? If so, what type of value? How (or how not) is it worth it?

9. Have you worked on a project using the whole building approach and if so, did the owner feel that it was worth the extra effort and expense? What was it about the owner that led them to make this conclusion? Were they already "sold" on the concept before the joined the program?

10. Based on your experiences with and feedback from whole building project participants, what kind of changes do you think need to be made to the program? Were there any problems that needed to be worked out and if so can you describe them to me? How would you recommend fixing these problems?

Program Procedures

Now we'd like to get your feedback on certain program procedures. This is your opportunity to provide recommendations as part of the program's continuous process improvement efforts. Your responses will remain confidential and they will not be identified with you in any way.

How well do you feel the application process is working both for program staff and program participants? Do you see the need for any changes to be made, and if so, can you provide some examples?

11. What about Energy analysis?
    a. What features of this service seem to be most valued?
    b. Should the service be completed by the program staff or provided by energy consultants? For what reasons?

12. Do you think the incentive payment process is currently working optimally or do you see room for improvement? Can you provide some examples? Incentive payments?

13. Verification? Timeliness of the verification inspection and the customer experience with this "last touch point" with the customer before the incentive payment is made?

14. Do you feel there are other program procedures that could be improved? If so, what would you recommend that needs changing? Do you see a solution that would help things run more smoothly for you and your colleagues as well as program participants? Other procedures?

Market Potential

15. Which market sectors do you feel the Savings By Design program has the most future potential?

16. What types of strategies should the program use to reach more customers and potential projects?

8.2 Customer Interview

The questions are designed as open-ended. This is an interview guide and not a survey, so the interviewer should explore additional relevant topic threads that interviewees may bring up. The interviews will also give Savings By Design staff an opportunity to give their frank opinions, anonymously, for the study.

Interview Guide

Hello, this is Cynthia Austin/.Juliann Summerford from the Heschong Mahone Group. I'm calling to ask you some questions about the SCE Savings By Design Program, which should take 20-25 minutes. Is now a good time? If not, when should I call you back?

The answers you give may be used in the report we submit, but your answers will be anonymous.

Personal Details

First I'd like to confirm some details about you:

1. What is your job title and company?
2. How does energy efficiency fit into your business practice?

NRNC Market

3. What will help make buildings more energy efficient? What needs to change to make energy efficiency more sustainable?

4. Who is responsible for energy efficiency recommendations?
   - **i)** (designers only) Discussion of optimized energy design
   - **ii)** (designers only) educating owners
   - **iii)** (owners only) how your designers present energy options

5. Who is responsible for energy efficiency decision making?

6. What role does SCE play in your design decisions? In the buildings market?

SBD Program

7. Are you aware of the SBD program?
   - **i)** How did you learn about it?
   - **ii)** How favorable/unfavorable is your impression of SBD?
   - **iii)** Have you participated? In what role? How often? (WBA and SA)

8. SBD influence on your projects **(participants only)**
   - **i)** Did you change your design as a result of SBD influence? How?
   - **ii)** How influential was SBD technical assistance?
   - **iii)** How influential were the design team incentives?
   - **iv)** How influential were the owner incentives?
   - **v)** Were there other influences?

9. Now we'd like to get your feedback on certain program procedures. This is your opportunity to provide recommendations as part of the program's continuous process improvement efforts. **(participants only)**
   - **i)** How were your working relationships with the SBD program reps?
   - **ii)** How was the application process?
   - **iii)** How was the verification process?

10. What kind of changes to the incentives offered through the program do you think could help improve customer participation and customer satisfaction with the program?
    - **i)** Incentive structure
    - **ii)** to owners to offset first cost
    - **iii)** to owners for additional effort reqd.
    - **iv)** to designers for additional effort reqd.

Program Suggestions

11. What could SCE do to make SBD more effective for you?
    - **i)** Expert Assistance
    - **ii)** design assistance
    - **iii)** utility interdepartmental coordination.
    - **iv)** project coordination

12. Recognition
    - (1) Professional recognition for designers
    - (2) Bldg. and community recognition for owners & developers

13. What elements of the program should be dropped?

14. What would motivate you to implement the following on your projects:
    - **i)** Measurement and Verification
    - **ii)** Green Building Certification
    - **iii)** Commissioning