

**Final EM&V Report for  
Green Building and  
Technical Assistance Program  
(CPUC 1299-04)**

CALMAC Study ID: SDR0004.01

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July 2006

Green Building and Technical Assistance Program

Table of Contents

1. Introduction.....	1
2. Baseline Analysis.....	2
3. Program Specifics and Review of Program Materials and Procedures.....	6
4. Evaluation of Program Goals for 2004 – 2005 .....	7
5. Evaluation of Customer Satisfaction for 2004 – 2005 .....	7
5.1 Sampling Plan .....	8
5.2 Survey Implementation .....	8
5.3 Respondent Characteristics .....	10
5.4 Customer Satisfaction .....	11
5.5 Suggested Program Improvements .....	17
5.6 Overall Evaluation from Survey Data.....	17
6. Evaluation of SDREO Administered Evaluations for 2004 – 2005.....	18
7. Overall Evaluation of Green Building Education and Technical Assistance Program.....	18
8. References.....	22
Appendix – Survey Instrument .....	A-1

## ***1. Introduction***

The Green Building and Technical Assistance Program (GBETA) is an informational program designed to provide training, design assistance, and technical support to both residential and non-residential new construction projects in the San Diego Gas & Electric Service Territory. As an informational program, the goal of the program is to promote long-term sustainable energy use and peak demand savings by promoting green building practices. The residential focus is on multi-family and affordable housing projects, as well as single-family home developments. The non-residential focus is on public agency buildings, as well as targeted private sector commercial facilities.

Furthermore, the GBETA program is designed to augment existing municipal efforts to implement green building practices, transfer green building technical expertise to local governments and the local building industry, to overcome existing shortcomings in the standard design/construction delivery model, and to improve the effectiveness of existing programs. The operational goals of the GBETA program are:

- to conduct 15 training workshops;
- to provide 15 technical assistance packages to municipal and private sector program partners,
- to provide green building & sustainability policy development assistance for municipalities who wish to refine an existing program, or start a new one;
- to provide general education and support (through brochures, mailings, website, education activities); and,
- to coordinate with existing programs (e.g., Savings by Design, Emerging Renewables Program, etc.).

Program success is measured through participation and customer satisfaction.

Given the program goals, the EM&V activity for this program addresses the following CPUC goals (see page 26 of the Energy Efficiency Policy Manual).

- (1) *Baseline analysis and market assessment.* A review of evaluations for similar California programs was conducted. These were searched for relevant baseline analyses and market assessments as described in the Research Plan. No further

baseline analysis or market assessment was possible given the limited budget and scope of the evaluation project.

- (2) *On-going feedback, and corrective and constructive guidance regarding the implementation of the program.* One of the primary objectives of this final report is to provide conclusions and trends in order to inform the program so that they can be used for corrective action in future manifestations of the Green Building Education and Technical Assistance Program. For example, if we were to discover that there was excessive free-ridership, then program details could be altered to offset this behavior (see Section 7).
- (3) *An overall assessment of the performance and success of the program.* Both performance, relative to the program goals specified above and customer satisfaction with all program elements, are used as measures of program success.
- (4) *An assessment of whether there is a continuing need for the program* (see Section 7).

This final report is organized as follows. In the next section we present the baseline analysis. Our review of program specifics and program materials and procedures is the subject of Section 3. Our evaluation of program progress through December 31, 2005 is presented in Sections 4, 5, and 6. Concluding remarks are detailed in the final section.

## **2. Baseline Analysis**

The objective of the baseline analysis is to determine the existence and relevance of previous evaluations of education and training programs. We conducted a review of the literature, primarily using the California Measurement Advisory Committee website (<http://www.calmac.org/>) and the California Energy Commission website (<http://www.energy.ca.gov/>) to determine whether or not baseline data exist for programs similar to the Green Building Education and Training Program (GBETA) conducted by the SDREO.<sup>1</sup> The literature search produced four types of relevant studies: (1)

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<sup>1</sup> A more extensive literature review would include green building programs, LEED, efforts and their evaluations at least throughout the U.S. with many cites and critical analyses of articles from various ACEEE Summer Study Proceedings and IEPEC conferences. The National Best Practices Study funded by California would also be applicable, especially the chapter on best practices for commercial new construction incentive and information programs. However given the limited budget these studies were not reviewed for the current report future evaluations of the program should examine these studies in addition to the ones identified in the current report.

evaluations of general training/education programs; (2) evaluations of training/education specific to new construction activities; (3) evaluations of specific programs, such as Savings by Design; and (4) persistence or retention analyses.

### ***General Training and Education Programs***

In the most comprehensive evaluation of the type of training and education program pertinent to the GBETA program, Kema-Xenergy (2003) found that training seminars are effective in reducing many market barriers, such as information costs, performance uncertainty, and information asymmetry.<sup>2</sup> In addition, training seminars can result in behavioral changes. Furthermore, Kema-Xenergy (2003) recommended that training/education programs be expanded to include a wider variety of participants, especially the hard-to-reach, to expand tracking of participants, and to develop programs that are more “hands-on” and relevant to specific participant groups. The GBETA program seems to incorporate all these criteria.

### ***Training and Education Programs Specific to New Construction***

With regard to new construction training, Wirtshafter Associates (2001) offer the following conclusions:

1. Demand for training/education is affected by market conditions, in that as energy prices increase there is greater interest in training/education.
2. Knowledge of energy efficiency is uneven so training/education fills an information void.
3. There are significant hard-to-reach groups identified by geographic distance, size of the firm (small firms are slower to make changes than large firms), experience with training/education programs (firms that have on-going employee programs more easily adopt energy efficiency training/education), language, and market (residential vs. non-residential, single vs. multi-family, etc.).
4. Training/education programs are perceived to be valuable, and they should be expanded, while being cognizant of the hard-to-reach market segments identified above.
5. Direct assistance or a more “hands-on” approach should be employed more often.

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<sup>2</sup> Also see RLW Analytics, 2004 for similar conclusions regarding a training program.

### *Evaluations of Programs Similar to GBETA*

There have been two recent evaluations of new construction programs that offer insights into the GBETA program. The first study, RLW Analytics (2004) provides an in-depth assessment of the statewide Savings by Design program. As the following points emphasize, the Savings by Design program has been very successful.

1. Gross energy and demand impacts exceed 100 percent for commercial and industrial projects, when savings from participant spillover are taken into consideration.
2. Participant net-to-gross ratio is 60 percent, whereas the comprehensive net-to-gross ratio (includes participant and non-participant spillover) is 65 percent.
3. The program was responsible for a significant increase in building owners who considered energy efficiency improvements beyond Title 24 requirements (approximately two-thirds of participant owners, compared to 40 percent of non-participant owners).
4. The program continues to be a key factor in influencing energy efficient building design. In addition, there is significant participant spillover.

The primary programmatic problems identified were related to future funding uncertainty and incentive amounts.

Technical assistance and services to owners and managers of affordable multi-family housing in the San Francisco Bay area were the objective of the Partnership for Energy Affordability in Multi-Family Housing. This program was evaluated by KEMA, Inc. (2004). Their primary conclusions were that:

1. The program effectively engaged a subset of multi-family housing owners, thereby addressing a traditional hard-to-reach group. However, the target market remains underserved.
2. Participants positively received the program services but changes in behavior were limited. In addition, there remain significant barriers to increased energy efficiency investment and improved building operations.
3. There is a continuing need for services to the multi-family market but networking and participant tracking need to be improved.

In effect, the program was marginally successful but there remains much to be done in the multi-family market segment. This implies that the GBETA program, with its emphasis on multi-family building is directed appropriately.

### ***Persistence of Programs Similar to GBETA***

The final set of studies relevant to the GBETA program evaluated the persistence or retention of energy saving building technologies and appliances in new construction. Each of the utilities that administered new construction programs are required to undertake retention assessments as part of their on-going analysis of energy efficiency. Consider the study recently conducted by SDG&E (2004) for newly constructed residential and non-residential buildings in 1994 and 1995. The modeling results indicate that the expected useful lives exceed ex-ante useful life measures, and strongly support the earnings claims of the utilities. This may suggest that investments in training and education during the construction phase could lead directly to energy efficiency investment and changes in operating behaviors that have long-term payoffs.<sup>3</sup>

### ***Lessons Learned from Literature Review of California New Construction Program Evaluations***

The literature review of California new construction program evaluations produced the following conclusions.

1. Training/education program can provide valuable insights, reduce market barriers, and affect behavior.
2. There exist many hard-to-reach market segments.
3. Existing new construction programs have produced substantial energy savings in both the short and the long runs; the latter measured by the persistence of the installed measures.
4. The Green Building Education and Training Program is well situated since it addresses a hard-to-reach market segment and relies on direct assistance (“hands-on”). In addition, there is the possibility of significant program spillover since the program is directed at public facilities and multi-family new construction.

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<sup>3</sup> The prior programs had significant incentives and the impact of training and education versus incentives was not clearly tested. The earnings claims on these retention studies were linked to incentive programs, not education only programs.

Our evaluation of the success of the SDREO's Green Building Education and Training Program, which use program databases and surveys of program participants and non-participants, incorporates these lessons.

### ***3. Program Specifics and Review of Program Materials and Procedures***

Program participation is a multi-step process. In the initial step, the SDREO attempts to develop program interest through marketing and workshops/training events. Marketing mostly consisted of website development and direct mailings with follow-up workshops/meetings. In the case of specific project assistance; once interest is established, the potential program participant must establish eligibility by meeting the following criteria:

- the proposed project must be within the SDG&E service territory;
- the proposed project must be new construction, renovation, tenant improvement, or retrofit that uses a comprehensive green building approach; and
- the proposed project has procured the land and acquired funding.

In the next step the potential program participant completes an application that includes a project summary, contact and project information, a summary of green building measures already incorporated into the project, a green building historical profile of the project team, and a listing of any LEED<sup>®</sup> (Leadership in Energy and Environmental Design) accredited professionals on the team. After the SDREO evaluation process is completed, the program participant and the SDREO then sign a letter of intent agreement that specifies the services and responsibilities that each organization will provide. The SDREO next sets up a project intake meeting to gather relevant project information and to provide strategic green building guidance, education, and training. Finally, SDREO reviews the project documentation to assess the potential for greening the project, using LEED and other green building design guides.

Zebedee and Associates found overall program design to be excellent, utilizing an easy to follow step procedure. The program workshops and materials were informative and well designed. The education and training performed by SDREO and free to potential program participants, was found to be extremely detailed and to contain substantial information on the types of alternatives that have both energy and financial savings.



#### ***4. Evaluation of Program Goals for 2004 – 2005***

The program has well-defined goals (conduct 15 training workshops, support 15 technical assistance projects, produce program brochures and direct mail pieces). During the 2004 – 2005 program period, the SDREO conducted 18 training workshops, completed technical assistance to 17 projects, and produced 2,519 informational direct mail pieces. In addition, the SDREO provided policy development assistance to four municipalities. In total, the SDREO identified many potential participants and signed letter of intent agreements for its technical assistance participants.

In terms of budget expenditures, the SDREO spent approximately 82 percent of its budget by December 31, 2005, while conducting more than the target number of workshops, assisting on more than the target number of projects and producing over one hundred percent of the direct mail pieces. In summary, the Green Building Education and Technical Assistance program can be considered a success in that the program has satisfied its pre-determined goals while spending a disproportionately smaller amount of its budget. On the other hand, the administrative costs for the program, as a percent of total expenditures, seems high.

#### ***5. Evaluation of Customer Satisfaction for 2004 – 2005***

Zebedee & Associates, with the assistance of our subcontractor Social Science Research Laboratory (SSRL) at San Diego State University, conducted a telephone survey of program participants (as of December 31, 2005). There are two groups of program participants: (1) those who participated in all aspects of the program (workshop, application process, education and training, participation agreement, and project review); and (2) those who failed to complete the entire program. Both groups are important to help assess the success of the Green Building Education and Technical Assistance program. The survey instrument focused on the specific program goals, as well as the following general issues:

- participant issues and needs;
- the success of program implementation;
- program success in raising awareness and affecting decisions of participants to implement the energy efficiency and demand reduction measures;
- the relative values of the various elements/components of the program;

- any perceived energy savings; and,
- any unanticipated outcomes/results.

This survey instrument is attached in the appendix for the review of all interested parties.

### ***5.1 Sampling Plan***

The survey sample was developed from the list of contacts in the Green Building Education and Technical Assistance program, which during the January 2004 – December 2005 period included 43 unique individuals. These individuals constituted our initial survey list or the relevant population.

In order to determine the appropriate sample size, we began with the following formula:

$$n = \frac{\{Z_{\alpha/2}\}^2 pq}{E^2}$$

, where n is the sample size, Z is the normal distribution Z-score, 1- $\alpha$  is

the degree of confidence, p is the population proportion, q = 1-p, and E is the margin of error. Since the population was not infinite we corrected the formula above by the finite

correction factor. This produced the following equation: 
$$n = \frac{Npq\{Z_{\alpha/2}\}^2}{pq\{Z_{\alpha/2}\}^2 + (N-1)E^2}$$
,

where N is the population size (43) and all other variables are defined above (see Triola, 2001). In addition, we used a 90 - 10 sample model, consistent with CALMAC procedures, implying Z = 1.60 and E = 0.10. Without *a priori* information regarding customer satisfaction with the individual aspects of the Green Building Education and Technical Assistance program, we used p = q = 0.5. Thus, our target sample size was 26 individuals. In fact, in spite of repeated attempts to contact individuals on the survey list (e.g., each individual was telephoned a minimum of five times), we were able to survey only 24 individuals.

### ***5.2 Survey Implementation***

Individuals on the final contact list were telephoned to ascertain his/her willingness to participate in the survey. This initial inquiry resulted in one of the following outcomes:

- unknown eligibility (e.g., busy signal, answering machine, left message, unqualified refusal, language barrier, etc.);

- ineligible (Fax/Modem, disconnected number, incorrect number, pager/cell, unqualified respondent such as individual no longer employed at the organization,, etc.)
- unwillingness to participate; or,
- completed survey.

For those individuals in the first category, we left messages and/or telephoned again in an attempt to place them in the other categories, defined by willingness to complete the survey. This had the effect of reducing the number of unknown eligibles, but a significant number remained (25). Fortunately, only one individual contacted was deemed unwilling to be surveyed (qualified refusal, or early termination of the survey).

In Table 1, we present the complete attrition analysis, including both sampling and survey implementation. As illustrated in the table, 24 surveys were completed. This converts to a response rate of 55.8 percent (24 of 43) of the original list sample. Alternatively, one can calculate the following rates for the program as (all values taken from Table 1):

- Eligibility Rate =  $E^* = \text{Eligible} / (\text{Eligible} + \text{Ineligible}) = 25 / (25 + 6) = 80.6\%$
- Response Rate =  $R^* = \text{Completes} / (\text{Eligible} + \text{Unknown Eligibility}) = 24 / (25 + 12) = 64.9\%$
- Cooperation Rate =  $C^* = \text{Completes} / \text{Eligible} = 24 / 25 = 96.0\%$

As is evident, the survey implementation can be characterized as quite successful, especially in the cooperation of the respondents.

The high proportion of unknown eligibility 27.9% indicates that the original list sample was poorly developed. It would have been much more efficient if the SDREO had maintained separate lists for contacts, program participants who completed the entire program, and program non-participants (those contacted but who failed to complete the entire program). A significant expenditure of effort on the part of the survey team could have been eliminated if this had been done.

**Table 1**  
**Attrition Analysis**

<b>Sampling/Survey Step</b>	<b>Number of (Potential) Respondents</b>
<b>Initial Survey List</b>	43
<b>Attempted Calls</b>	43
<b>Remove Unknown Eligibility</b>	12
<b>Remove Ineligible Records</b>	6
<b>Remove Unwilling to Participate</b>	1
<b>Completed Surveys</b>	24

### *5.3 Respondent Characteristics*

Respondent characteristics are presented in Table 2. As is illustrated by the data in the table the following general statement can be made. The respondents are primarily male managers/supervisors with relatively high educational attainment and extensive work experience. More than one-quarter of the respondents work for local governments. Thus, the survey respondents were drawn from a narrow slice of the overall distribution of San Diego County residents.<sup>4</sup> In addition, only 4 percent of the respondents indicated that they “never” make energy decisions whereas 45.8 percent of the respondents make them frequently.

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<sup>4</sup> The Technical Assistance Program was targeted at businesses/agencies in San Diego County. Our expectation was that the relevant decision makers in these entities would mirror the San Diego population. Our conclusions regarding the effectiveness of the program success in reaching its intended target are limited to the extent that this expectation is in error.

**Table 2**  
**Respondent Characteristics**  
**Green Building Education and Technical Assistance Program**

<b>Characteristic</b>	<b>Units of Measure</b>	<b>Survey Value N=24</b>
<b>Gender</b>	% Male	87.5
<b>Education</b>	% With Education Beyond Bachelors Degree	70.8
<b>Agency Type</b>	% Local Government	29.2
<b>Position</b>	% in Management Positions	60.9
<b>Years in Position</b>	Mean Years in Current Position	9.5
<b>Supervisor</b>	Mean Number of Employees Directly or Indirectly Supervise	4.3
<b>Decisions</b>	% That Frequently Make Energy Related Decisions	45.8
<b>Energy Audit</b>	% of Organizations that Signed Participation Agreement	33.3

#### ***5.4 Customer Satisfaction***

In order to test the level of customer satisfaction, we examined seven different aspects of the program:

- the initial workshop;
- the application process;
- the participation agreement process;
- the education and training provided by SDREO;
- the project review;
- implementation of energy saving measures; and,
- overall satisfaction.

*Workshop*

In Table 3, we present the various measures of customer satisfaction pertaining to participation in one of the initial program workshops (columns 3 and 4) and the lead presenter at these program workshops (column 2). As is evident, the fourteen respondents who attended an initial workshop were overwhelmingly satisfied with the workshop presentation and corresponding materials. In fact, it is difficult to imagine doing a better job in terms of meeting the needs of the participating individuals. The most valuable aspects of the workshop, as reported by the respondents, were program details, information on the LEED process, real world examples, dissemination of program contacts, networking, and obtaining a better understanding of the green building process and the corresponding benefits of energy efficiency.

**Table 3**  
**Customer Satisfaction – Green Building Education and Technical Assistance Program**  
**Workshop Elements (n=20)**

<b>Workshop Aspect</b>	<b>“Yes” (%)</b>	<b>“Excellent” (%)</b>	<b>“Good” (%)</b>
<b>Initial Workshop</b>			
<b>Presenter Demonstrated Knowledge</b>	100.0		
<b>Presenter Communicated Clearly</b>	100.0		
<b>Workshop Organized Effectively</b>	92.9		
<b>Presenter Provided Sufficient Information</b>	100.0		
<b>Presenter Answered Questions</b>	100.0		
<b>Workshop Positive Experience</b>	100.0		
<b>Time Provided for Workshop</b>		57.1	35.7
<b>Technical Level of Information</b>		50.0	50.0
<b>Usefulness of Written Materials</b>		57.1	28.6
<b>Convenience of Location</b>		64.3	14.3

*Project Application*

The second step in the green building education and technical assistance process was to complete a project application. Eight respondents completed this step and SDREO staff assisted five of those individuals. In all categories of customer satisfaction (level of SDREO representative’s knowledge, obtaining the expected information, and the usefulness of the information) the respondents were unanimously “very satisfied.” The SDREO could not have improved their performance in this part of the program.

*Participation Agreement*

Nine of the respondents were associated with an organization that signed a letter of intent or participation agreement with the SDREO. In Table 4, we present some measures of respondent satisfaction with that process. As is illustrated, the respondents were quite satisfied with the assistance they received from the SDREO. There is only a slight suggestion that the information provided to the respondents may have been less valuable than expected.

**Table 4**  
**Customer Satisfaction – Green Building Education and Technical Assistance Program**  
**Participation Agreement Process (n=9)**

<b>Aspect of Participation Process</b>	<b>“Excellent” %</b>
<b>Level of SDREO Representative’s Knowledge</b>	100.0
<b>Obtaining Expected Information</b>	87.5
<b>Usefulness of Assistance Provided</b>	87.5

*Education and Training*

Only six respondents participated in the education and training step. For each of our customer satisfaction measures (technical level of information provided, usefulness of written materials, convenience of day/time and location) five of the six respondents found the program to be “excellent.” The only negative for this program component was that one-half of the respondents found the time provided for education and training to be somewhat less than “excellent.”

*Project Review*

Six of the respondents representing participating entities reported that their organizations had received project documentation reviews from the San Diego Regional Energy Office. In Table 5, we present information on the respondent’s level of satisfaction with the project review process. As is evident, the respondents generally found the project review process to be a positive experience. In fact, these satisfaction values are a considerable improvement over the satisfaction levels achieved by a predecessor to this program (see Thayer and Zebedee, 2004 for a review of the Public Agency Program).

The project review process was widely praised for providing innovative energy efficiency and conservation ideas, the level of detail, the overall technical information, the identification of low-cost measures that could produce immediate savings, and for the SDREO representative being available for consultation.

**Table 5**  
**Customer Satisfaction --- Green Building Education and Technical Assistance Program**  
**Audit Process (n=6)**

<b>Satisfaction Measure</b>	<b>“Very Satisfied” (%)</b>
<b>Knowledge of SDREO Representative</b>	100.0
<b>Getting Expected Information</b>	66.7
<b>Usefulness of Information</b>	83.3

*Implementation of Energy Saving Measures*

Approximately 33 percent of the participating respondents indicated that their organizations had actually implemented energy saving measures as a result of participation in the program. The most common measures were improving the building envelope (75 percent) and installing energy efficient HVAC units and lighting, 62.5 percent and 62.5 percent, respectively of the respondents that indicated they had implemented measures. Respondents also indicated that their organizations had also adopted a variety of energy saving measures such as squeezing the hours of HVAC use, and reducing outdoor lighting and nighttime energy use.

In addition, many of the respondents’ organizations have plans to adopt more extensive measures, with installing energy efficient lighting and altering the light and HVAC usage



patterns being the most common measures mentioned. Thus, it seems that the program has had a significant impact on energy usage among the program participants.

*Overall Satisfaction*

The final aspect of customer satisfaction is the overall satisfaction with the program. As indicated in Table 6, the respondents were unanimous in expressing the sentiment that they would choose to participate again in the program. In addition, 81.2 percent of the respondents indicated that they were “very satisfied” with the overall program. On the question of whether or not participation increased one’s knowledge of energy issues, approximately 87.5 percent of the respondents indicated that participation increased their knowledge of energy issues. Similarly, on the question of whether or not participation increased one’s ability to perform energy, 83.3 percent of the respondents indicated that participation increased their ability. On this latter question the respondents were split evenly between “a great deal” and “somewhat.”

**Table 6**  
**Customer Satisfaction --- Green Building Education and Technical Assistance Program**  
**Overall Satisfaction**

<b>Satisfaction Measure</b>	<b>Units of Measure</b>	<b>Survey Value N=24</b>
<b>Number of References to SDREO Technical Assistance Program</b>	% of Respondents that have Referred Others	29.2
<b>Information Sharing</b>	% of Respondents that have Shared with Others	86.9
<b>Knowledge Improvement</b>	% of Respondents whose Knowledge increased a “Great Deal”	54.2
<b>Ability Improvement</b>	% of Respondents whose Ability to Conduct Energy Efficiency increased a “Great Deal”	41.7
<b>Overall Satisfaction</b>	% “Very Satisfied”	81.8
<b>Willingness to Participate Again</b>	% “Yes”	100.0

One other aspect of the value of the Green Building Education and Technical Assistance Program can be gleaned from Table 6. This relates to the potential for spillover of

information; that is, the extent to which information provided through the program is shared not only throughout that organization but also other parties. We asked, "Have you referred any other entities to the SDREO Green Building and Technical Assistance program?" Of the 24 respondents, 29.2 percent indicated that they had referred other entities to the program. These respondents indicated that they had referred a total of 20 entities, indicating that program referrals may ultimately produce significant green building activity. However, it should be noted that there might be double counting of the referred entities within the referred group, as two or more individuals could have referred the same entity. Furthermore, it is unclear if the referred entity will subsequently participate in green building design. However, it is clear program participants were extremely satisfied with program and recommended other entities to participate.

We also asked "Have you shared any of the information you obtained from the program with any other people?" Of the 23 respondents who answered this question, 20 individuals (86.9 percent) indicated that they had shared information with other individuals. These individuals indicated that they had shared information with 198 other individuals. It is difficult to assess what these individuals did with the information received and no attempt to quantify these impacts was undertaken. However, this spillover of information is another important parameter in judging the success of information only programs and there does appear to be spillover of information for the San Diego Green Building Education and Technical Assistance Program.

Finally, we also asked "Where did you first hear about the SDREO Green Building Education and Technical Assistance program?" Most respondents had first heard about the program either through the SDREO website or SDREO information dissemination procedures. This represents a departure from other SDREO programs in which the most common method of informing respondents was via the participants networking channels (work or "other" such as SDGE). This result demonstrates that the SDREO is making inroads in its marketing/outreach efforts and may be becoming the centralized clearinghouse for energy information originally envisioned. In addition, it indicates that the building industry was eager to have green building assistance.

### *Program Non-Participants*

Respondents that did not complete all aspects of the Green Building Education and Technical Assistance Program were asked to define the primary reason why their organization failed to finish the process. Answers emphasized on time (not enough of it), affordability (too expensive), and scope (projects did not fit into the scope of the program). Future evaluations of programs similar in structure to the Green Building Education and Technical Assistance Program should include a more extensive analysis of program dropouts.

### ***5.5 Suggested Program Improvements***

Suggestions for improving the program focused on two central themes. First, several respondents wanted the program to expand and indicated this notion by stating that: (1) the program should offer workshops in the evening and at alternative locations; (2) the program should offer additional LEED training and continued assistance; and (3) the program needs to include additional aspects, especially economics. This theme was offered by respondents that were overwhelmingly satisfied with the program. The other theme implied a greater level of dissatisfaction with the overall program. This second theme included comments such as: (1) the SDREO should continue assistance until the end of LEED certification, although the long timeline of most projects did not permit this for some projects extending past the Program term; (2) the application process should be made simpler or more user-friendly; and (3) the SDREO should help identify additional financial incentives and be more knowledgeable about funding and financing options for energy efficiency options.

### ***5.6 Overall Evaluation from Survey Data***

In summary, it seems that the survey respondents were quite satisfied with the SDREO Green Building Education and Technical Assistance Program. However, several potential problem areas were identified in the survey. These include:

- although the program was designed to be “a la carte,” the overall attrition level seemed high in that most of the entities that began the process did not complete all program elements;
- the lack of in-roads into the harder-to-reach customer segments, since most of the program participants are drawn from a narrow slice of San Diego County (highly

educated individuals in management positions) – of course the program was quickly over-subscribed which may explain the lack of in-roads;

- the lack of an interactive energy database (and/or a brochure/newsletter) that includes case studies, model policies, success stories, and a list of qualified vendors/contractors (note this was not a Program Implementation Plan goal); and
- more accurate tracking of contacts, participants, and measures implemented.

#### ***6. Evaluation of SDREO Administered Evaluations for 2004 – 2005***

Zebedee and Associates also analyzed SDREO administered evaluation forms completed by participants in five Green Building workshops during calendar year 2004. These evaluation forms focused on the value of the workshop, the knowledge/expertise of the speaker(s)/trainer(s), the technical level of the workshop, the amount of relatively “new” material, the possibility of applying the knowledge gained, and the overall value of the workshop. A total of 80 evaluation forms were completed. The results indicate a general level of participant satisfaction. For example, 81 percent of the participants indicated that the technical level of the workshops was “just right,” 75 percent rated the speaker “excellent,” and 39 percent rated the workshops as “excellent” (another 50% rated the workshops “good”). In addition, 47 percent of the participants indicated that it was “very likely” they would apply information learned at the workshop to a future project.

#### ***7. Overall Evaluation of Green Building Education and Technical Assistance Program***

In our original scope of work we stated that we would develop a scoring system to be used to evaluate the long-term efficacy of the program. Our scoring system uses a 1-10 scale to evaluate the following components of the program: (1) the program theory and approach; (2) the success of program implementation; (3) the level of participation, relative to projections; (4) program success in raising awareness and affecting decisions of participants to implement the energy efficiency and demand reduction measures; and (5) any unanticipated outcomes/results. The overall scale value is then used to make conclusions regarding the program future.

The program theory and approach refers to both how the program is to operate in the field (implementation theory) and why the program is expected to lead to specific outcomes (program theory). The Green Building Education and Technical Assistance

Program is designed to flow from initial contact via marketing and workshop/training events, to application, to participation, to project review, and to implementation of ultimate energy savings. Thus, there are several linkages that affect the overall performance of the program. For example, ultimate program success (i.e., a 10 on our scale) requires that SDREO effort directly lead to participant action and corresponding energy savings. On the contrary, a flawed program theory would have linkages that are poorly designed so that the program does not meet its stated objectives (e.g., difficulty finding potential participants, failure to progress to participation, poorly designed audits, inaction).

Success of implementation refers to the quality of the program materials, the ability of the program to reach the intended audience, and the resulting action taken by participants. Success implies that SDREO effort leads to participation and ultimate action on the part of participants.

Level of participation, relative to projections is simply an analysis of program activity compared to program goals. If the program satisfies its goals we award a value of eight out of a maximum value of ten, thereby allowing for the program to receive extra credit for surpassing its stated goals.

Program success in raising awareness and affecting decisions is dependent on the program participant's response to program initiatives. For example, for an information only program we would expect that a large majority of program participants felt that the program changed their knowledge of energy issues. A program designed to create energy savings would be evaluated according to the magnitude of actual savings.

Finally, we account for any unexpected developments by evaluating the occurrence of any unusual program results. For example, excessive free ridership, or action that does not create energy savings would be cause for downgrading the program effectiveness.

Our overall evaluation of the Green Building Education and Technical Assistance Program is presented in Table 7 below. Zebedee & Associates found the program design to be sound and well executed. The level of participation, as measured by number of workshops, the number of participants, the number of technical assistance packages, the general education and support (through brochures, mailings, website, education activities), and the coordination with existing programs (e.g., Savings by Design, Emerging Renewables Program, etc.), etc. generally met expectations. In addition, the

program achieved a high degree of customer satisfaction and a significant change in energy related knowledge. Several respondents reported the program was responsible for subsequent energy efficiency installations. Finally, there seems to be significant program spillover.

An additional consideration concerns free-ridership, which is difficult to assess for an information only program. However, several portions of our research point to potential free riding behavior. For example, a high percentage of survey respondents learned about the Technical Assistance program only through the established work-related networking channels. In addition, the survey respondents were highly educated (71% with education beyond a bachelors degree), had been in their current position an average of 9.5 years, and made energy related decisions frequently (46%). These survey elements point to a group of participants that are already engaged in energy efficiency activities and should have knowledge of the benefits and costs of energy efficiency alternatives.

Finally, consider the issue of whether there is a continuing need for the Green Building Education and Technical Assistance Program. The program was well designed, seemed to fulfill a market niche, met participation goals, and altered the awareness and subsequent decisions of the participants. In addition, there were only minor implementation problems. However, there is some evidence consistent with free-ridership and the program could be markedly improved with more attention to the following:

- Effectiveness of marketing/outreach, especially to hard-to-reach agencies.
- The relative magnitude of administrative costs compared to other program expenditures.
- The participant profile relative to the San Diego population.
- Accurate tracking of implementation of energy efficiency policies and procedures suggested in the education/training audits.

Therefore, our overall evaluation is positive, although we understand that this program will not be continued into future program years.

**Table 7  
 Overall Evaluation of the  
 Green Building Education and Technical Assistance Program**

	<b>Technical Assistance Program Value</b>	<b>Comments</b>
<b>Program Theory and Approach</b>	8	Linkages well-designed, easy to follow procedure, and project reviews, performed by the SDREO, are detailed and contain substantial information on the types of alternatives that have both energy and financial savings.
<b>Success of Implementation</b>	8	Program materials informative and personal contacts valuable to establishing participation. However, participation limited to relatively known entities (i.e., failure to expand participation to hard-to-reach audiences). The overall satisfaction with the program was excellent, spillovers (references, information sharing) were significant, and the willingness to participate again was unanimous.
<b>Level of Participation</b>	7	Generally satisfied all programmatic goals, although some of the program outputs (e.g., feasibility studies) were delivered after the close of the program year.
<b>Change in Awareness, Decisions</b>	7	Fifty-four percent of respondents to survey commented that the program caused significant knowledge improvement and 42% had ability to implement energy saving measures increased “a great deal.”
<b>Unanticipated Outcomes</b>	5	Potential free-ridership, and concerns that the SDREO 1) the SDREO should continue assistance until the end of LEED certification; (2) the application process should be made simpler or more user-friendly; and (3) the SDREO should help identify additional financial incentives and be more knowledgeable about funding and financing options for energy efficiency options.
<b>Total</b>	35	

## ***8. References***

Kema Inc. 2004. "Evaluation of the Partnership for Energy Affordability in Multi-Family Housing," prepared for ICF Consulting, 2004.

Kema-Xenergy. 2003. "Evaluation of the 2002 Statewide Education, Training, and Services Program, prepared for Southern California Edison, PG&E, SDG&E, and the Southern California Gas Company, 2003.

RLW Analytics, Inc. 2004. "Measurement and Evaluation Study of the 2003 SDG&E Energy Code Training Program," prepared for SDG&E, 2004.

RLW Analytics, Inc. 2004. "2002 Building Efficiency Assessment Study: An Evaluation of the Savings by Design Study" prepared for PG&E, SDG&E, and SCE, 2004.

SDG&E. 2004. "1994 and 1995 Residential New Construction Program: Ninth Year Retention Evaluation."

Wirtshafter Associates, Inc., et al. 2001. "Summary of Findings on New Construction Training Offerings," prepared for PG&E, 2001



Appendix – Final Survey Instrument

**SDREO's Green Building Education and Technical Assistance Program Survey**  
**(Spring 2005)**

INTRO. Hello, my name is \_\_\_\_\_. May I speak with...  
**{INSERT NAME FROM LIST}? [WHEN SPEAKING WITH LISTED PERSON:]**  
I'm calling from the Social Science Research Lab at San Diego State University. We're conducting a study to follow up with organizations who have participated in the San Diego Technical Assistance program, which is sponsored by the San Diego Regional Energy Office. Do you have a few minutes right now to answer some questions?  
**[SCHEDULE A CALL BACK IF NEEDED; IF NOT THE PERSON MOST KNOWLEDGABLE ABOUT THIS ORGANIZATION'S PARTICIPATION IN THE PROGRAM, REQUEST THAT PERSON'S NAME]**

----- **QUALIFIED RESPONDENT: QUOTAS CHECKED; DATA SAVED** -----

Q1. Where did you first hear about the San Diego Green Building and Technical Assistance Program (GBETA)? **[DO NOT READ, RECORD ONLY ONE]**

- 1 - SDREO/SDERC'S WEBSITE
- 2 - SDREO/SDERC'S FACILITY (FLYERS AT FACILITY)
- 3 - WORKPLACE
- 4 - TRADE/PROFESSIONAL ORGANIZATIONS/CONVENTIONS
- 5 - OTHER, SPECIFY: \_\_\_\_\_
- 9 - DK/REF

**INITIAL WORKSHOP SECTION:**

Q2. Have you ever attended a workshop where the details of the Green Building Education and Technical Assistance Program were presented?

- 1 - YES
- 2 - NO ----- > **GO TO APPLICATION SECTION**
- 9 - DK/REF > **GO TO APPLICATION SECTION**

Q3. Thinking now about the workshop that you attended for the Green Building Education and Technical Assistance Program, please evaluate the workshop presenter regarding each of the following. Did the presenter...\*\*

	<u>YES</u>	<u>NO</u>	<u>DK/REF</u>
1) demonstrate knowledge of the subject?	1	2	9
2) communicate information clearly? 1	2	9	
3) organize the presentation effectively?	1	2	9
4) give you sufficient information to participate successfully in the workshop?	1	2	9



Q8a. **[IF YES:]** Overall, how satisfied were you, in terms of the SDREO's assistance in helping complete the Application? The first one is...\*\* Would you say very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?\*

	<u>Very Sat</u>	<u>Smwt Sat</u>	<u>Smwt Dissat</u>	<u>Very Dissat</u>	<u>DK/REF</u>
1) the level of knowledge of the SDREO representative? .....	1	2	3	4	9
2) getting the information that you expected to get from the SDREO representative? .....	1	2	3	4	9
3) the usefulness of the information that you received? .....	1	2	3	4	9

Q9. Overall, what one aspect of completing the Application was most valuable for you? **[PROBE AND RECORD ONE MAIN ISSUE]**

---

99 - DK/REF

Q10. Overall, what one aspect of completing the Application was least valuable or most problematic for you? **[PROBE AND RECORD ONE MAIN ISSUE]**

---

99 - DK/REF

**PARTICIPATION AGREEMENT SECTION:**

Q11. Did your organization sign a Letter of Intent Agreement with SDREO?

1 - YES

2 - NO ----- > **GO TO NON-PARTICIPANT SECTION**

9 - DK/REF ----- > **GO TO NON-PARTICIPANT SECTION**

Q12. Did a representative from the San Diego Regional Energy Office, or SDREO, assist your organization in completing the Letter of Agreement?

1 - YES

2 - NO ----- > **GO TO Q13**

9 - DK/REF ----- > **GO TO Q13**

Q12a. **[IF YES:]** Overall, how satisfied were you, in terms of the SDREO's assistance in helping complete the Letter of Agreement? The first one is...\*\* Would you say very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?\*

	<u>Very Sat</u>	<u>Smwt Sat</u>	<u>Smwt Dissat</u>	<u>Very Dissat</u>	<u>DK/REF</u>
1) the level of knowledge of the SDREO representative? .....	1	2	3	4	9

- 2) getting the information that you expected to get from the SDREO representative? ..... 1      2      3      4      9
- 3) the usefulness of the information that you received? ..... 1      2      3      4      9

Q13. Overall, what one aspect of completing the Letter of Agreement was most valuable for you? **[PROBE AND RECORD ONE MAIN ISSUE]**

---

99 - DK/REF

Q14. Overall, what one aspect of completing the Letter of Agreement was least valuable or most problematic for you? **[PROBE AND RECORD ONE MAIN ISSUE]**

---

99 - DK/REF

**EDUCATION AND TRAINING SECTION:**

Q15. Did your organization receive Green Building Education and Training, conducted by a representative of the San Diego Regional Energy Office, or SDREO?

1 - YES

2 - NO ----- > **GO TO PROJECT REVIEW SECTION**

9 - DK/REF ----- > **GO TO PROJECT REVIEW SECTION**

Q15a. Please evaluate the Green Building Education and Training presenter or presenters regarding each of the following. Did the presenter or presenters...\*\*

	<u>YES</u>	<u>NO</u>	<u>DK/REF</u>
1) demonstrate knowledge of the subject?.....	1	2	9
2) communicate information clearly?.....	1	2	9
3) organize the presentation effectively?.....	1	2	9
4) give you sufficient information?.....	1	2	9
5) answer any questions you had to your satisfaction?.....	1	2	9
6) make the education a positive experience? .....	1	2	9

Q16. How would you rate the education experience in terms of each of the following...  
Would you say excellent, good, fair or poor?

	<u>Exc</u>	<u>Good</u>	<u>Fair</u>	<u>Poor</u>	<u>DK/REF</u>
1) the amount of time provided for the education and training? .....	1	2	3	4	9
2) the technical level of information provided? .....	1	2	3	4	9
3) the usefulness of the written materials provided (if any)? .....	1	2	3	4	9
4) the convenience of the location? .....	1	2	3	4	9
5) the convenience of the day and time it was scheduled? .....	1	2	3	4	9

**[ONLY IF POOR ON "5"):]** When would be your preferred day and time for a workshop?

---

99 - DK/REF

Q17. What one aspect of the Green Building Education and Training was most valuable for you?

**[PROBE AND RECORD ONE MAIN ISSUE]**

---

99 - DK/REF

Q18. What one aspect of the Green Building Education and Training was least valuable for you?

**[PROBE AND RECORD ONE MAIN ISSUE]**

---

99 - DK/REF

**PROJECT REVIEW SECTION:**

Q19. Did your organization receive a review of project documentation from the SDREO?

- 1 - YES
- 2 - NO ----- > **GO TO Q22**
- 9 - DK/REF ----- > **GO TO Q22**

Q19a. **[IF YES:]** Overall, how satisfied were you, in terms of the SDREO's assistance in helping form the Energy Action Plan? The first one is...\*\* Would you say very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?\*

	<u>Very Sat</u>	<u>Smwt Sat</u>	<u>Smwt Dissat</u>	<u>Very Dissat</u>	<u>DK/REF</u>
1) the level of knowledge of the SDREO representative? .....	1	2	3	4	9

- 2) the extent of the issues that you expected to cover in a review? ..... 1      2      3      4      9
- 3) the usefulness of the project review? ..... 1      2      3      4      9

Q20. Overall, what one aspect of the Project Review was most valuable for you?  
**[PROBE AND RECORD ONE MAIN ISSUE]**

---

99 - DK/REF

Q21. Overall, what one aspect of the Project Review was least valuable for you?  
**[PROBE AND RECORD ONE MAIN ISSUE]**

---

99 - DK/REF

**IMPLEMENTATION OF PROJECT REVIEW RECOMMENDATIONS SECTION:**

Q22. Have you actually implemented any energy-saving measures as a result of participating in a Green Building Education and Technical Assistance program?

- 1 - YES
- 2 - NO ----- > **GO TO Q28**
- 9 - DK/REF ----- > **GO TO Q28**

**[IF YES:]**

Q23. What energy-saving measures have you implemented?  
**[DO NOT READ; RECORD ALL MENTIONED]**

- 1) HIGHER PERFORMANCE BUILDING ENVELOPE SYSTEM
- 2) REPLACE HVAC EQUIPMENT WITH HIGHER EFFICIENCY EQUIPMENT
- 3) CHANGE ELECTRICITY RATE SCHEDULES
- 4) REPLACE LIGHTS WITH HIGHER EFFICIENCY LIGHTS
- 5) INSTALL ENERGY MANAGEMENT SYSTEM
- 6) ALTER LIGHT USAGE PATTERN
- 7) ALTER HVAC USAGE PATTERN
- 8) OTHER, SPECIFY: \_\_\_\_\_
- 99) DK/REF

Q24. Are there any energy-saving measures that you still plan to implement?

**[DO NOT READ; RECORD ALL MENTIONED]**

- 1) HIGHER PERFORMANCE BUILDING ENVELOPE SYSTEM
- 2) REPLACE HVAC EQUIPMENT WITH HIGHER EFFICIENCY EQUIPMENT
- 3) CHANGE ELECTRICITY RATE SCHEDULES
- 4) REPLACE LIGHTS WITH HIGHER EFFICIENCY LIGHTS
- 5) INSTALL ENERGY MANAGEMENT SYSTEM
- 6) ALTER LIGHT USAGE PATTERN
- 7) ALTER HVAC USAGE PATTERN
- 8) OTHER, SPECIFY: \_\_\_\_\_
- 99) NO/DK/REF

Q25. Are there any energy-saving measures you intended to implement that you will not be implementing? **[DO NOT READ; RECORD ALL MENTIONED]**

- 1) HIGHER PERFORMANCE BUILDING ENVELOPE SYSTEM
- 2) REPLACE HVAC EQUIPMENT WITH HIGHER EFFICIENCY EQUIPMENT
- 3) CHANGE ELECTRICITY RATE SCHEDULES
- 4) REPLACE LIGHTS WITH HIGHER EFFICIENCY LIGHTS
- 5) INSTALL ENERGY MANAGEMENT SYSTEM
- 6) ALTER LIGHT USAGE PATTERN
- 7) ALTER HVAC USAGE PATTERN
- 8) OTHER, SPECIFY: \_\_\_\_\_
- 99) NO/DK/REF

**IF Q11=NO/DK/REF, GO TO NON-PARTICIPANT SECTION;  
OTHERWISE, GO TO OVERALL PROGRAM SATISFACTION SECTION**

**NON-PARTICIPANT SECTION:**

Q26. What was the one main reason why your organization did not continue with the Green Building Education and Technical Assistance Program? **[PROBE AND RECORD ONE MAIN REASON; THEN ASK:]** Were there any other reasons? **[CLARIFY AND RECORD BELOW, ONE ISSUE PER LINE UP TO FOUR REASONS]**

- 1) \_\_\_\_\_  
\_\_\_\_\_
- 2) \_\_\_\_\_  
\_\_\_\_\_
- 3) \_\_\_\_\_  
\_\_\_\_\_



4) \_\_\_\_\_  
\_\_\_\_\_

**OVERALL PROGRAM SATISFACTION SECTION:**

Q27. Have you referred any other agencies to the San Diego Green Building Education and Technical Assistance Program? **[IF YES:]** Approximately how many agencies have you referred?

\_\_\_\_\_ AGENCIES REFERRED TO PROGRAM

- 0 - NO/NONE
- 97 - 97 OR MORE
- 99 - DK/REF

Q28. Have you shared any of the information you obtained through this program with any other people? **[IF YES:]** Approximately how many people have you shared this information with?

\_\_\_\_\_ PEOPLE SHARED INFORMATION WITH

- 0 - NO/NONE
- 97 - 97 OR MORE
- 99 - DK/REF

Q29. Do you think that your participation in the Green Building Education and Technical Assistance has increased your knowledge of energy issues...\*

- 1 - a great deal,
- 2 - somewhat, or
- 3 - not at all?
- 9 - DK/REF

Q30. Do you think that your participation in the Green Building Education and Technical Assistance has increased your ability to conduct energy efficiency activities...\*

- 1 - a great deal,
- 2 - somewhat, or
- 3 - not at all?
- 9 - DK/REF

Q31. Overall, how satisfied or dissatisfied are you with the Green Building Education and Technical Assistance Program? Are you...\*

- 1 - very satisfied,
- 2 - somewhat satisfied,
- 3 - somewhat dissatisfied, or
- 4 - very dissatisfied?
- 9 - DK/REF

Q32. If you had it to do over again, would you choose to participate in this program or not?

- 1 - YES
- 2 - NO

9 - DK/REF

Q33. What one suggestion would you offer to improve this program?  
**[PROBE AND RECORD ONE MAIN RESPONSE]**

---

99 - DK/REF

SEX. In closing, the following questions are for comparison purposes only.  
**[RECORD GENDER OF RESPONDENT:]**

- 1 - MALE
- 2 - FEMALE

EDU. What is the highest grade or year of school that you have completed and received credit for...

- 1 - high school or less;
- 2 - at least one year of college, trade or vocational school;
- 3 - graduated college with a bachelor's degree; or
- 4 - at least one year of graduate work beyond a bachelor's?
- 9 - DK/REF

TYP. Which of the following best describes your agency...

- 1 - a school,
- 2 - local government,
- 3 - a public utility,
- 4 - health care,
- 5 - or another type? SPECIFY: \_\_\_\_\_
- 9 - DK/REF

FTE. Approximately how many full-time employees are there in your organization, including San Diego County locations only?

\_\_\_\_\_ TOTAL FULL-TIME EMPLOYEES (OR EQUIVALENT)  
99997 - 10,000 OR MORE  
99999 - DK/REF

POS. Which best describes your position in the organization...

- 1 - management,
- 2 - engineer,
- 3 - architect,
- 4 - designer, or
- 5 - some other position? SPECIFY: \_\_\_\_\_
- 9 - DK/REF

YRS. How long have you been in your current position?

\_\_\_\_\_ YEARS IN POSITION

99 - DK/REF

DEC. In your position, how often do you make energy-related decisions about HVAC systems, architectural designs, lighting or lighting controls, or other energy-related matters? Would you say...\*

- 1 - frequently.
- 2 - occasionally,
- 3 - rarely, or
- 4 - never?
- 9 - DK/REF

SUP. How many employees do you directly or indirectly supervise, if any?

\_\_\_\_\_ TOTAL EMPLOYEES SUPERVISED  
99997 - 10,000 OR MORE  
99999 - DK/REF

**CLOSING SECTION:**

PHN. Those are all the questions I have. I'd like to confirm that I reached you at...

**[VERIFY AND INSERT TELEPHONE NUMBER:]** \_\_\_\_\_

NAM. And that I'm speaking with...

**[VERIFY AND INSERT RESPONDENT'S NAME:]** \_\_\_\_\_

Your name and phone number will be separated from your responses to these questions and destroyed after the data has been processed. **[THANK RESPONDENT; RECORD REMAINING INFORMATION BELOW]**

TIN. **[INTERVIEWER NUMBER:]** \_\_\_\_\_

LEN. **[LENGTH OF INTERVIEW IN MINUTES:]** \_\_\_\_\_

DAT. **[DATE OF INTERVIEW:]** \_\_\_\_\_

REC. **[CATI RECORD NUMBER:]** \_\_\_\_\_

VER. **[VERSION OF INTERVIEW:]**      1 - VERSION A      2 - VERSION B\*

\* = RESPONSE OPTIONS REVERSED ON VERSION B FOR ALL QUESTIONS INDICATED

\*\* = ITEMS ON LIST RANDOMLY ROTATED FOR ALL QUESTIONS INDICATED