

PHASE 2 EVALUATION REPORT

California Residential Lighting and Appliance Program (CRLAP)

FINAL

Prepared for

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1.1 BACKGROUND

In 1997, the California Public Utilities Commission (CPUC) declared that the purpose of energy efficiency programs should be to transform the market so that individual customers and suppliers in the future, competitive market will make more rational choices. Pacific Gas & Electric (PG&E), Southern California Edison (SCE), Southern California Gas Company (SoCal Gas), and San Diego Gas & Electric (SDG&E) developed designs for the 1999 portfolio of energy efficiency program, with the major programs being statewide. One of these statewide market transformation programs was the California Residential Lighting and Appliance Program (CRLAP), which was designed to improve the availability, promotion, and sales of energy efficient residential lighting and appliances by inducing sustained changes in the behavior of market participants.

Through a competitive bidding process, an independent third party (Implementation Contractor) was hired to assume the implementation of these programs for the Sponsoring Utilities on a statewide basis. The Implementation Contractor, hired in July 1999, was responsible for proposing specific program strategies for the remainder of 1999. The Implementation Contractor will also be responsible for implementing the Program in 2000 and 2001. It is this program that is the subject of this evaluation effort.

1.2 OBJECTIVES

The evaluation was planned as a four-phase effort. In the Phase 1 report, submitted December 20, 1999, we measured key baseline market indicators and characterized the market for the relevant appliances and lighting products. The principal analysis tasks completed as part of Phase 1 included:

- Characterization of the residential lighting and appliance markets
- Description of the available lighting and appliance products
- Assessment of baseline attitudes, beliefs, knowledge, and practices among consumers, retail store managers, and retail sales associates
- Identification and assessment of primary market barriers
- Development of market effects indicators
- Development of market effects study methodology for Phases 3 and 4

This Phase 2 report includes a study and documentation of the “rationale” behind the new PY2000 Program (i.e., what was planned, why it changed, and the reasons for making those changes). Telling the “story” of how and why the Program evolved from its PY1999 to PY2000 form would be helpful to the Implementation Team. In addition, this information and documentation is essential to the evaluation team in making general recommendations regarding the focus of the Phase 3 evaluation effort.

In Phases 3 and 4, focused on the evaluation of PY2000 and PY2001, respectively, the evaluation team plans to measure the same market indicators addressed in Phase 1, as well as additional relevant indicators, to determine market effects that can be attributed to the Program.

1.3 PHASE 2 APPROACH

This Phase 2 effort involved an extensive review of program materials, utility filings, correspondence, related documentation, and tracking data, and interviews with members of the Implementation Team.

1.3.1 Review of Program Documents

The first step of this effort was to review key program documents in an attempt to identify any changes in the PY2000 Program design and their rationale. The following represents a summary of types of program materials reviewed as part of this task:

- Program Design Documents, including the scope of work for each utility, draft program design documents (dated October and November 1999), and organizational charts describing RHA team structure and reporting requirements
- Progress Reports submitted to the Steering Committee
- Sample Participation Agreement for appliance retailers
- Spreadsheets containing lists of participating appliance and lighting retailers, with dates for lighting retailer sales training
- Lighting Manufacturer RFP (and list of participating manufacturers)
- Draft Communications & Outreach Plan for 2000
- Training materials for participating appliance and lighting sales associates
- Plan for point of purchase materials

1.3.2 In-Depth Interviews

In-depth interviews were conducted with individuals representing the organizations involved in the implementation of the PY2000 Program. These organizations, and their respective roles relevant to the Program, include:

- Richard Heath Associates (RHA), Prime Contractor

- Electric and Gas Industries Association (EGIA), Appliance Subcontractor
- ECOS, Lighting Subcontractor
- ICF Consulting, Strategic Planning Advisor to RHA
- Regional Economic Research (RER), Technical Advisor to the Steering Committee

The interviews were structured to meeting the following four objectives:

1. To document any changes in the design of the Program from 1999 to 2000.
2. To assess the implications of any changes in the Program design for the program theory that is used to inform the evaluation effort.
3. To assess the implications of any changes in the program theory with respect to hypotheses tested in Phase 3.
4. To determine which program elements have received enough attention by the implementers during 2000 to make their evaluation in Phase 3 worth the effort.

1.4 REMAINDER OF REPORT

This section has provided a summary of the Phase 2 objectives and approach. The remaining sections present a summary of the PY2000 program and the rationale behind its evolution from PY1999 and a overview of our recommendations regarding the focus of the Phase 3 evaluation effort.

This section presents an overview of the PY2000 Program, providing information about each component and noting, as appropriate, where and why aspects of its design have changed from PY1999.

It is important to recognize that the PY2000 Program has nearly all of the elements of the PY1999 Program originally designed by the utilities. While the differences and the rationale are important and well thought out, they are, in the main, differences of degree and not kind. The Implementation Contractor assumed responsibility for the Program in mid-1999, leaving few opportunities to make substantive changes in the emphasis or to add new components, i.e., the Program implemented in 1999 was the utilities' Program and not the Implementation Contractor's. Rather, they continued, for the most part, to implement the state-wide program that had been set in motion by utilities and, reacting to the utility-designed Program, began to develop their own program design for PY2000.

Based on our review of PY2000 Program documents and interviews with the Implementation Team, we have found that all of the general categories of Program interventions, anticipated market barriers, potential market effects and indicators associated with PY1999 still apply. Therefore, the changes in the Program design from PY1999 to PY2000 do not necessitate any significant changes in the hypotheses we put forth in the Phase 1 evaluation effort. We have described differences between PY2000 and PY1999 below, as appropriate.

The main components of the PY2000 Program are grouped into five main areas:

- Financial Incentives
- Consumer Outreach and Education
- Retailer and Manufacturer Outreach
- Pilot Programs
- Support Activities

The following sections describe each of these five Program elements.

2.1 FINANCIAL INCENTIVES

According to the PY2000 program plan¹, financial incentives have been incorporated into the program design “only where they serve as a catalyst toward a long-term market transformation.” Financial incentive strategies are somewhat unique across technologies and have been designed to reflect current and long-range expectations regarding market conditions.

Three types of financial incentives are included in the PY2000 program plan:

- Consumer rebates,
- Manufacturer incentives, and
- Salesperson incentives (SPIFs).

2.1.1 Consumer Rebates

Consumer rebates can be used to serve several functions. For example, they can be used to convince consumers to try new products and convince retailers and manufacturers to promote new products. They also often act as “attention grabbers” helping to educate consumers about product benefits. On the other hand, consumer rebates can have substantial impacts that actually inhibit market transformation (e.g., market interference, on-again/off-again delivery, diverts program funds from other market transformation activities, etc.).

2.1.2 Manufacturer Incentives

Manufacturer incentives for lighting products were available in the PY1999 Program and are being offered again in 2000. According to the program plan, manufacturer incentives offer a number of advantages, such as reduced processing costs (as compared to mail-in rebates) and the reliance on market players (manufacturers) rather than program staff to assess the market and ensure program goals are met. Disadvantages include a lower marketing effect for consumers and price inequities as only a few manufacturers tend to participate. For PY2000, manufacturer incentives will be continued for ENERGY STAR torchiere lighting products with the intention of incorporating techniques to offer incentives to more market players and to increase the marketing effect on consumers.

¹ References to the “program plan” have been made throughout this report. Unless otherwise noted, these references are from the document entitled *California Residential Lighting and Appliance Program, Draft Program Design – PY 2000*, Submitted by the RHA Team to the sponsoring electric and gas utilities of the California Residential Lighting and Appliance Program, November 15, 1999.

2.1.3 Salesperson Incentives (SPIFs)

Salesperson incentives, or SPIFs, were offered through both the PY1999 and PY2000 Programs. According to the program plan, SPIFs can also be used strategically to educate sales staff about energy-efficient product features, increase in-store product stocking, enhance product merchandising and co-op promotions, and increase product sell-through. In addition, SPIFs can be used to compete with other product SPIFs, and typically can achieve similar results to consumer rebates but at a lower per unit cost. However, some retailers prohibit the use of SPIFs and, due to their temporary nature, some sales staff may revert to selling the “easy sell” products or those with the highest commission.

Table 2-1 summarizes the use of all three types of financial incentives in the PY2000 Program design.

Table 2-1
Financial Incentives Available in PY2000 Program

	Consumer Rebate	Manufacturer Incentive	Salesperson Incentive (SPIF)
Clothes Washer	\$75		\$25
Refrigerator (2001 DOE Compliant)	\$100		
Room Air Conditioner			\$20
Torchiere		\$10	

- Clothes Washers.** As shown, a \$75 consumer rebate will be available during the PY2000 program. For SDG&E customers, this rebate will be offered January - June 2000. For PG&E and SCE extended the consumer rebate period through September 2000 because funding was still available. SDG&E is offering a \$25 SPIF to sale associates in its service territory during July - December 2000. PG&E and SCE may offer the SPIF beginning in October - December 2000.

Prior to PY2000, ENERGY STAR qualifying clothes washers had typically been rebated by the utilities at approximately \$100 per unit (along with additional incentives available from water authorities and manufacturers). According to the program plan, a reduction in the incremental cost between standard and ENERGY STAR compliant models is expected within a few years (i.e., from up to \$600 per unit to something like \$200 per unit). In light of this trend, consumer rebates have been ramped down in PY2000 from prior years and may be eliminated in PY2001 depending on market conditions.

- Refrigerators.** A \$100 consumer rebate will be available July - December 2000 for purchases of qualifying refrigerators. SDG&E is offering rebates for the purchase of ENERGY STAR qualified and DOE 2001 compliant refrigerators. PG&E and SCE rebates are available for ENERGY STAR qualified and 30% above current standard or DOE 2001

compliant. SCE's rebates are being processed internally by the utility (i.e., not managed by the statewide Implementation Team).

The strategy for PY2000 refrigerator rebates is to "push" technology advancements prior to the introduction of the July 2001 DOE standards (which are on average 30% more efficient than the 1993 standards). Subsequent strategies (i.e., in PY2001) might include rebates for models which exceed the 2001 DOE standards.

- **Room Air Conditioners.** A \$20 SPIF will be available during June - September 2000 in all utility service territories for ENERGY STAR qualifying room air conditioners. The strategy for offering the SPIF takes into account the fact that in October 2000 there will be new efficiency standards in effect for room air conditioners.
- **Torchieres.** Manufacturers will be offered \$10 per unit for ENERGY STAR qualifying torchieres. The \$10 per unit incentive was selected in PY2000 as it better reflects market conditions. In 1999, when \$19 incentives were offered, the potential for manufacturers to ship torchieres substantially exceeded the available incentive budget for the Program. The \$10 per unit incentive is still regarded as sufficient to attract retailer and manufacturer interest and is consistent with similar incentives offered in the Pacific Northwest.

2.2 CONSUMER OUTREACH AND EDUCATION

According to the program plan, the goal of the Consumer Outreach and Education effort in PY2000 is to affect immediate demand for currently available products educating consumers about the long-term benefits of energy efficient lighting and appliances. The inclusion of this effort in the PY2000 builds on many of the in-store promotional activities initiated in 1999, but it also incorporates a post-purchase marketing initiative and a statewide consumer outreach and education campaign.

2.2.1 *In-Store Promotions*

According to the program plan, point-of-purchase education and persuasion can help overcome barriers to the sale of energy efficient products (i.e., lack of understanding of long-term financial benefits, negative perceptions of energy efficient products, performance uncertainties). In PY2000, point-of-purchase education will be conducted through the development and placement of point-of-purchase displays and through educating store salespeople on the benefits of energy-efficient products. Point-of-purchase materials will be developed and distributed for major retailers, field services staff will contribute to product merchandising by setting up displays in stores, on-site training of sales staff will be conducted with the majority of retailers, and program staff will work with store chains and manufacturers to incorporate energy efficiency into their regional salesperson training.

In 1999, point-of-purchase materials were distributed and field staff supported both product merchandising and informal, on-site training for many participating retailers. The in-store promotional effort planned for PY2000 expects to increase point-of-purchase material distribution by 20% (over 1999 distribution) and incorporate a more formal training program.

2.2.2 Post-Purchase Marketing

This initiative has been incorporated into the PY2000 Program design in an effort to help instill the understanding and values towards energy efficiency for future purchases. It involves a pilot cross-selling program in which purchasers of ENERGY STAR products will be targeted for other product promotions. For example, each customer applying for an appliance rebate will receive a mail-back reply card and information about the suite of ENERGY STAR products. The program plan also considers the possibility of developing take-home materials or brochures for consumers that purchase an ENERGY STAR product as a means to cross-sell other products. Finally, this initiative involves working with manufacturers to include ENERGY STAR messaging and information in their product manuals.

2.2.3 Outreach and Education Campaign

In addition to the in-store education and promotions, the PY2000 Program design incorporates a broad-based energy efficiency outreach and education campaign. According to the program plan, this will include promotion of specific products as well as promotion of energy efficiency in general. The purpose of the campaign is to “prime consumers” for the point-of-purchase energy efficiency message they should receive in the stores. In addition, the campaign is being implemented to develop a heightened awareness of energy efficiency in general.

Major elements of the outreach and education campaign include the following:

- Advertising, including radio, in-store, print, and cooperative (cost-share with manufacturers and retailers)
- Editorial, including regular pitches to freelancers, press kits for special events, op-ed pieces, prepared article placement, and media training for program personnel
- Program collateral materials
- Direct mail
- Events, shows, and special projects including trade shows, exhibits, and other events

In PY1999, utilities implemented their own direct mail campaigns and the statewide Implementation Team delivered consumer outreach via promotion at several regional special events. The PY2000 plan represents a much more substantial and integrated communications strategy.

2.3 RETAILER AND MANUFACTURER OUTREACH

In addition to financial incentives and consumer outreach, a third strategy involves working closely with retailers and manufacturers to leverage their active involvement in programs and to more quickly facilitate change in the marketplace than might otherwise occur. According to the program plan, to-date relationships with manufacturers and retailers have been used primarily to:

- Gain support for point-of-purchase placement in stores,
- Gain support for proper product labeling in stores,
- Gain support for salesperson training,
- Administer SPIFs, rebates, and other program activities, and
- Solicit price buy-down proposals from lighting manufacturers.

PY2000 Program plans call for expanding these activities to involve manufacturers and retailers at a somewhat higher and more comprehensive level. Specifically, retailer and manufacturer outreach will be used to:

- Better understand market characteristics and dynamics so that program funds are used most efficiently,
- Ensure maximum market impact by facilitating early information flow regarding program plans and changes,
- Leverage all program activities by gaining cooperation and sponsorship, and
- Better understand and facilitate product introduction and distribution.

In addition to the individual retail store front outreach provided by field services staff, these activities will involve higher-level retailer and manufacturer outreach. Each of the main areas are described below:

- **Co-op Advertising and Promotions.** Integrated with the per-unit financial incentives will be a program to cost-share advertising and promotions with manufacturers and retailers.
- **Appliance Retailer Outreach.** This effort builds on prior efforts to develop strategic relationships with major national retailers (i.e., Sears, Best Buy, and Ward's), key local and regional retailers, as well as independent dealers. Activities include coordinating regional agreements, point-of-purchase sponsorship, regional salesperson training, incentive delivery, and relevant sales and market data collection.
- **Appliance Manufacturer Outreach.** The primary activity here will be to focus manufacturers on developing, delivering, and promoting more ENERGY STAR compliant products (i.e., registering compliant dishwashers, co-promoting clothes washers, DOE

2001 compliant refrigerators). In addition, this task involves working with manufacturers to improve product labeling and sales messaging. According to the program plan, the dominant national appliance manufacturers are Maytag, Frigidaire, Hotpoint, Amana, and Whirlpool and, in PY2000, outreach will be focused on these companies.

- **Lighting Retailer Outreach.** This outreach effort also builds on prior efforts to build strategic relationships with major national lighting retailers, including home improvement centers (Home Depot, HomeBase, Lowe’s), mass merchandisers (Wal-Mart, K-Mart, Target), and department stores (Sears, JC Penny, Wards). It also involves maintaining and strengthening relationships with key local and regional lighting retailers (e.g., Yardbirds, Fry’s Electronics, Light Bulb Warehouse, etc.) and will support outreach to new retail venues (such as grocery stores, see discussion below). Activities will include coordinating retailer promotions and materials distribution, salesperson training, and market and sales data collection.
- **Lighting Manufacturer Outreach.** According to the program plan, the primary objectives of this task are to provide early notice to industry on the design and implementation of the PY2000 and PY2001 Programs, as well as to support program participants in their program-related efforts. This includes facilitating information flow about market conditions and program developments, promoting co-op advertising and promotion, co-promotion and displays of superior quality products and fixtures, and co-sponsoring regional training sessions.

2.4 PILOT PROGRAM

There is one pilot program included with the PY2000 Program design. This pilot effort will provide assistance to a selected manufacturer to provide reduced price ENERGY STAR qualifying CFLs to a major grocery chain. According to the program plan, grocery stores account for the largest share of incandescent light bulb sales – however, CFLs are virtually non-existent in this distribution channel. This presents a significant lost opportunity and inhibits customer acceptance as these products are not available where many consumers shop for them. Working with one grocery store chain and one product manufacturer, CFLs will be offered to consumers through this pilot for a period of approximately three months.

2.5 SUPPORT ACTIVITIES

A number of “support activities” were identified in the PY2000 Program plan. Many of these activities represent the continuation of earlier efforts undertaken as part of the PY1999 Program.

- **National Coordination.** This involves coordination with national and major regional ENERGY STAR programs, such as those implemented by DOE/EPA, NYSERDA, the Northwest Energy Efficiency Alliance, the Northeast Energy Efficiency Partnership, Wisconsin utilities and others. Specific tasks include working to leverage national tools (i.e., dealer training kits and advertising), coordinating manufacturer and retailer outreach

to avoid confusion or contradiction, and participating in and speaking at regional and national meetings and conferences to share program strategies.

- **Research.** This activity involves building on the already extensive research conducted by the Implementation Team to plan and deploy the PY2000 Program. Additional research needed in PY2000 include purchase of updated sales data, conducting focus groups to identify consumer messages, data to inform the development of the pilot projects, and independent research on program activities.
- **Quality Assurance, Evaluation, and Feedback.** This activity involves the implementation of a system of continuous monitoring, quality assurance, and feedback. This will include the collection of quantitative information on key performance metrics to determine the progress of the various initiatives (e.g., number of participating retail outlets, number of qualifying rebated sales by equipment type, number of units shipped via manufacturer incentives by technology and by channel, etc.). In addition, this activity involves the measurement of several “qualitative metrics,” such as salesperson product knowledge resulting from sales training, consumer awareness and product knowledge due to education and from promotions, and effectiveness of enhanced merchandising techniques. In addition, this system will track over time several key “results measures,” such as market penetration and market share.

Based on our review of PY2000 Program documents and interviews with the Implementation Team, we can conclude that the program theory developed as part of the Phase 1 evaluation effort still relates to the effort planned for 2000. That is, all of the general categories of Program interventions, anticipated market barriers, potential market effects and indicators still apply – as do the hypotheses we put forth linking the interventions, market barriers, market effects, and indicators. As a result, we do not anticipate any significant changes in the Phase 3 evaluation focus.

The following outlines the main data collection activities planned for the Phase 3 evaluation:

- **Mystery Shops.** Mystery shops will be repeated in Phase 3 to measure any near-term effects from the retailer salesperson training. The in-field instrument used in Phase 1 will be used to identify any changes over the baseline in key near-term market indicators such as ENERGY STAR awareness, energy efficiency awareness, specific product knowledge, and the motivation to sell ENERGY STAR-qualifying equipment. A sample size of 200 mystery shops is suggested.
- **Retail Store Manager Interviews.** Interviews with retail store managers will also be repeated in Phase 3 using the instrument developed as part of Phase 1. We suggest conducting interviews with a subset of 100 retail store managers included in the sample of mystery shops. We will be looking for measurable increases over the baseline in key near-term market indicators such as ENERGY STAR awareness, Program awareness, direct Program participation, exposure to ENERGY STAR training, and product knowledge.
- **Floor Stock Surveys.** Surveys of appliance floor stock will be conducted as part of the Phase 3 effort. Although this activity was not included in the Phase 1 study, baseline floor stock data were collected independently by PG&E, SCE and SDG&E in anticipation of measuring relevant utility milestones. As part of Phase 3, we would collect relevant appliance floor stock information in each service territory and compare this to the baseline data. Changes in energy efficient floor stock represent an important near-term market effects indicator. In addition, this information will be made available to each of the utilities for use in reporting on milestone achievement.

We do not propose consumer surveys as part of Phase 3. We found during Phase 1 that the cost of identifying purchasers from a prior 24-month period was substantial. Trying to find purchasers from the prior 12-month period (i.e., calendar year 2000) would be even more challenging and costly. Given limited resources to fund the Phase 3 effort, we propose instead that consumer surveys be incorporated as part of the Phase 4 evaluation effort. At that time, we may also be in a position to incorporate surveys with customers who have received rebates during PY2000 and (if

available) PY2001. In addition, we may be able to include an assessment of the effectiveness of the consumer education and outreach campaign.

Our proposed schedule for initiating the Phase 3 study calls for a final research plan to be delivered on September 30, 2000. Table 3-1 presents two “options” for completing the Phase 3 research. Option 1 assumes that sufficient in-store sales associate training will take place by the Implementation Team prior to November 1, 2000 such that we can initiate the mystery shop data collection effort on or about November 1, 2000. Option 2 assumes that in-store sales associate training will continue through November and early December 2000, requiring the mystery shop data collection effort to be pushed back until after the holiday season.

Table 3-1
Preliminary Schedule for Phase 3 Research

Activity	Option 1	Option 2
Data Collection	December 15, 2000	February 28, 2001
Draft Phase 3 Report	February 28, 2001	March 31, 2001
Final Phase 3 Report	March 16, 2001	April 15, 2001