PROCESS EVALUATION

CFL Expansion Program

Final Report

Prepared for

The New York State Energy Research and Development Authority

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ABSTRACT

This report summarizes the results of the process evaluation of the 2009 NYSERDA CFL Expansion Program, which is part of the **New York Energy \$mart** Products Program and is one of five "Fast Track" programs receiving funding through the Energy Efficiency Portfolio Standard (EEPS) proceeding. The CFL Expansion Program partners with retailers and manufacturers to increase the supply of and demand for energy-efficient ENERGY STAR® lighting products within System Benefits Charge (SBC) territory. The evaluation relied on 31 in-depth interviews (4 each with NYSERDA and Lockheed Martin staff, 6 with participating manufacturers, 12 with participating retailers, and 5 with sponsors of CFL programs in other states and industry experts) and a review of reports from the program database.

An EEPS funding increase was directed primarily to manufacturers as incentive payments for CFLs, the best return on investment because a relatively small group of manufacturers supplies a large number and diverse range of retailers. Partners were required to submit shipment or sales data and program implementer Lockheed Martin was flexible in allowing formats to accommodate various recordkeeping systems. Preliminary estimates found that the EEPS program incentivized just over one million bulbs from April to December 2009 (towards its goal of 6.2 million CFLs over a period of two and a half years), partner commitments remain strong, and the pipeline of approved promotions is full. However, due to a delay in the program's marketing effort, there was no clear link between consumer education and incentivized products becoming available at participating retailers, and the economic downturn slowed sales of all products, including CFLs.

The total average incentive paid was about \$1.79 per standard CFL and from \$1.18 to \$3.52 for specialty bulbs. In the absence of the program, fewer products would have been shipped and a narrower product range would have been stocked, specialty bulbs in particular would not be as extensive; all CFLs likely would have been offered at higher price points and sales probably would have been even slower.

Despite concern about the potential for decreased program support for energy-efficient lighting programs across the country, there appears to be a continued, but more targeted, commitment, even in areas with a history of long-running lighting programs, such as in California, Wisconsin, and Massachusetts.

Suggested areas for future program emphasis include more coordinated marketing efforts, directed incentives to target specific markets and products (i.e., low-income consumers), and better documentation of incentivized sales in SBC territory.

Process	Evaluation	of the	CFL	Ernansion	Program
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Abstract

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EXECUTIVE SUMMARY

This report summarizes the results of a process evaluation of the 2009 CFL Expansion Program, which is part of the **New York Energy \$mart**SM Products Program operated by the New York State Research and Development Authority (NYSERDA) as part of the Energy Efficiency Portfolio Standard (EEPS) process. The CFL Expansion Program partners with retailers and manufacturers to increase the supply of and demand for energy-efficient ENERGY STAR[®] lighting within the System Benefits Charge (SBC) territory.

The CFL Expansion Program process evaluation relied on interviews with: four NYSERDA program staff; four implementation contractors; six selected participating manufacturers; twelve participating retailers; and five lighting program sponsors from other parts of the U.S. and industry experts. The interviews were conducted by the NMR Group, Inc. under the direction of Research Into Action, Inc. to assess how well the program was coordinated throughout New York. The evaluation also examined upstream verification efforts for products incentivized through the program.

SYNOPSIS OF FINDINGS

From April to December 2009, the program incentivized just over one million compact fluorescent light (CFL) bulbs. The program has projected that it will incentivize 6.2 million CFLs with direct incentives over a period of about two and a half years. At this point, the program has currently met 17% of its overall goal and has fallen short of a goal of 1.7 million CFLs for 2009. However, the books on the 2009 program year had not officially closed at the time of the evaluation and NYSERDA staff reported that many retailers and manufacturers were late to report their sales, so these numbers may change. While it appeared that the program did not meet its 2009 goals, partner commitments remain strong and the pipeline of approved promotions is full.

Several factors may be influencing sales: the program was slow to implement its marketing and outreach campaign due to delays in developing the marketing strategy and obtaining approval, and, as a result, incentivized products were initially available at retailers without accompanying information to draw consumers to the stores. Also, according to retailers, a national economic downturn slowed sales of all products – not just CFLs – and fewer consumers were going to the stores. However, many respondents were hopeful that the economic picture is improving. Nationally, sales of CFLs have dropped since their peak in 2007; CFL sales in SBC territory have continued to increase during that time (as reported by program partners), but sales in 2009 were slower than anticipated.

From an administrative perspective, working with manufacturers gives NYSERDA the best return on investment for the EEPS, because a relatively small group of manufacturers supplies a large number and diverse range of retailers. Going through manufacturer channels also helps to ensure that smaller, independent retailers can participate in the program, with less active recruiting of individual stores by program staff. Efficiencies can also be found in working through retailers with multiple locations in SBC territory. Raising the partner-funding ceiling to \$400,000 for manufacturers creates significant incentives for participation and for partner compliance with program tracking and administrative needs.

The \$400,000 cap on incentives to individual manufacturers forces them to set caps for individual retailers and to monitor sales to make sure the retailer caps are not exceeded, adding a level of complexity to program administration for some partners. Manufacturers benefit by being able to open up new markets, stock more individual items per store, get more retail shelf space, provide better stocking continuity for retailers, strengthen their relationships with retailers, and offer consumers better pricing.

NYSERDA and its partners split all incentive costs 50/50. Shared incentives between NYSERDA and the partner helped to keep partners invested in the program and its success, but respondents cautioned that

some big box stores could not participate in the program because their margins were already so low that the chains could not take an additional hit from the mandatory matching incentive. The average incentive that NYSERDA paid for standard CFLs was about \$0.90 per bulb and incentives for specialty products ranged from about \$0.59 for candelabras to \$1.76 for three-way bulbs; partners paid the same amount. Higher partner incentive allotments and linking sales data reporting to incentive payments encourages partners to be responsive to NYSERDA program-tracking data needs. Respondents cautioned that if the product incentive amounts were greatly increased, consumers might begin to devalue CFLs.

Partners are required to submit shipment or sales data to the program to ensure that products incentivized by NYSERDA are being sold within SBC territory. Acceptable forms of documentation include a manufacturer's bill of lading, which details by zip code the shipping destination of the products incentivized, or retailer sales documentation by store location. Program implementer Lockheed Martin is flexible in allowing partners to submit sales data in electronic or paper format to accommodate various recordkeeping systems by partners. A 15% retainage is held by NYSERDA until all sales documentation is submitted for the incentivized products.

Partners are also required to submit monthly sales data for all CFLs sold, regardless of whether or not promotional activity occurred during that time period or whether a CFL was incentivized by NYSERDA. These data allow a snapshot of the total CFL market activity for NYSERDA partners, above and beyond that related to the program. Understanding market-level CFL sales is important for program attribution beyond incentivized product counts. However, the NYSERDA market-level data have limited functionality, in that only partners submit information; any retailers that sell incentivized CFLs through a manufacturing partner are not themselves partners and thus are not required to submit market-level information. Not only do the data not include the full market picture among non-participants, they also do not provide a complete market picture among all retailers that sell incentivized products.

In 2009, upstream partners were successfully engaged to expand the lighting program with more manufacturer and retailer participation, and resulting higher sales. Hardware stores, price clubs, discount stores, grocery stores, specialty lighting stores, and electrical supply stores accounted for the greatest number of EEPS sales; drugstores also had strong sales. According to the program implementer's records, through manufacturer partnerships, a smaller number of CFLs were distributed through mass merchandise, department, and large home improvement stores. Nonetheless, big box home improvement stores report very large quantities of CFL sales in SBC territory independent of the program.

Many changes are occurring in the development of new energy-efficient lighting technologies, including advancements in solid-state lighting (SSL) – mostly in the form of light-emitting diodes (LEDs) – and in pending lighting standards from the Federal Energy Independence and Security Act of 2007 (EISA) that will phase out certain types of inefficient lighting, beginning in 2012. The higher wattages will phase out first, beginning with the current 100-watt incandescent lamps (lumen range 1,490 to 2,600) in 2012 and reaching the current 40-watt incandescent lamps (lumen range 310 to 749) by 2014. Most types of specialty incandescent lamps are exempt from EISA.

Even after EISA standards become effective, there will likely continue to be a need for a program focus on both standard and specialty CFLs to ensure that the full savings potential is met. More efficient incandescent and halogen lamps may meet EISA standards, but they likely will not be as efficient as CFLs. While LEDs potentially will be more efficient than CFLs, the technology is still emerging and will not be ready for widespread general lighting use by 2012.

Despite concern about the potential for decreased support for energy-efficient lighting programs across the country, due to diminished evidence of program effects, a continued and more targeted commitment appears to remain.

CONCLUSIONS AND RECOMMENDATIONS

1. *Conclusion*: The program was late in beginning its marketing, outreach, and education campaign, which was problematic for the 2009 program year because there was no clear link between consumer education and incentivized products becoming available at participating retailers.

Recommendation: NYSERDA should release marketing campaigns in conjunction with incentive funding to draw consumers to the retailers and educate them about the benefits of CFLs.

Recommendation: NYSERDA should encourage retailers to dovetail their marketing efforts with NYSERDA's to get a "bigger bang for the marketing dollars."

Recommendation: NYSERDA should provide more pamphlets and take-away educational materials for consumers and make point-of-purchase materials/signage more visible and dynamic.

Conclusion: The total average incentive paid by NYSERDA and its partners was about \$1.79 per standard CFL and, for specialty bulbs, from \$1.18 for a candelabrum to \$3.52 for a three-way bulb.

Recommendation: Incentive amounts on a per product basis are currently adequate, but NYSERDA should monitor levels to meet program needs and market conditions. CFL prices are declining over time and incentives should also be reduced gradually.

Recommendation: NYSERDA should consider higher incentives for targeted products and markets. For example, if the program wishes to target low-income customers, it may want to engage dollar-type stores, which only sell products priced at \$1.00 or less and would require a higher per-bulb incentive commitment than is currently offered.¹

Conclusion: Accounting for sales within SBC territory is essential to ensure that the assumed savings from incentivized products are occurring there. A concern that does not appear to be fully addressed by the program is accounting for shipments that have been made by a manufacturer to a warehouse in SBC territory, but are ultimately sold in retailer storefronts outside of SBC territory.

Recommendation: NYSERDA should work with the implementation contractor to consider how shipment data can better document sales of incentivized products in SBC territory. This may include more detailed accounting of the retail sales or confirmation from retailers that shipments from a distribution center are being sold in SBC territory.

Recommendation: In order to improve the accounting of sales in the SBC territory (and ease the assimilation of data received from the partners), the implementation contractor should streamline partner reporting requirements by providing regular reporting timelines and templates.

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¹ In the period since the initial draft of this report was created, NYSERDA has allowed partners to use a higher level of incentives for targeted products such as specialty bulbs.

Section 1:

INTRODUCTION

The **New York Energy \$mart** programs are funded by an electric distribution System Benefits Charge (SBC) paid by customers of Central Hudson Gas and Electric Corporation; Consolidated Edison Company of New York, Inc.; New York State Electric and Gas Corporation; National Grid; Orange and Rockland Utilities; and Rochester Gas and Electric Corporation. Programs are available to all electric distribution customers that pay into the SBC. The New York State Energy Research and Development Authority (NYSERDA), a public benefit corporation established in 1975, administers the SBC funds.

In 2003, NYSERDA expanded its evaluation of the **New York Energy \$mart**SM Program, launching a large-scale assessment using specialized contractor teams to provide evaluation services. Research Into Action, Inc. has conducted process evaluations of the **New York Energy \$mart**SM programs since May 2003.

Several changes arising from the Public Service Commission's (PSC) Energy Efficiency Portfolio Standard (EEPS) proceeding (issued on June 23, 2008), affected NYSERDA's **New York Energy \$mart**SM Program portfolio and evaluation efforts. The PSC's EEPS order called for an increase in SBC collections and a ramp-up of program efforts by NYSERDA and the state's six investor-owned electricity transmission and distribution utilities to meet the state's *15 x 15* electricity reduction goal. NYSERDA complied with the PSC order by submitting a Supplemental Revision to the SBC Operating Plan, incorporating approximately \$80 million per year in additional funds for five new or expanded programs, as well as for general awareness, administration, and evaluation associated with those programs.

In September 2009, the evaluation team of Research Into Action and NMR Group, Inc. developed a work plan to conduct a process evaluation of the Statewide Residential Point-of-Sale Lighting (CFL Expansion) Program, which was added to NYSERDA's portfolio as a result of the PSC's EEPS proceeding and is a component of the **New York Energy \$mart**SM Products Program.

The **New York Energy \$mart** Products Program, of which the CFL Expansion elements are a part, partners with retailers and manufacturers to increase the supply of and demand for energy-efficient ENERGY STAR products, including energy-efficient lighting, within Systems Benefit Charge (SBC) territory.

Past program efforts in lighting have included building partnerships with retailers (especially grocery and drugstores) by providing: staff training; point-of-purchase materials for stores; financial assistance with marketing and promotional efforts; and incentives for buy-down and markdown promotions for retailers and manufacturers. Retailers are required to sell at least one type of qualified product, provide monthly sales data, and sign a partnership agreement. Similarly, manufacturers are provided financial assistance for cooperative advertising and product buy-downs and assistance in delivering products to retail partners. Manufacturing partners must manufacturer at least one qualified product, provide quarterly shipping data, and sign a partnership agreement.

Increasing the availability of ENERGY STAR lighting products has been a focus of the **New York Energy \$mart** Products Program for the past two years. As a result, retail partners who sell lighting products increased from 68 in 2006 to 1,010 by 2009, and the program has 27 lighting manufacturer partners, including 17 who participated in the EEPS program in 2009. The **New York Energy \$mart** Products Program's strategy for lighting (including compact fluorescent lights – CFLs) has been two-fold:

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² New York State Research and Development Authority. *CFL Expansion Elements of New York Energy \$mart* Products Program, Program Logic Model Report. Draft September 21, 2009.

to recruit new retail locations, with an emphasis on grocery, drug, and do-it-yourself stores; and to continue to increase manufacturer buy-downs (in all retail locations)

Grocery and drugstores are high traffic locations that consumers typically visit at least once a week. High traffic retail locations, combined with attractive educational promotions on CFLs, entice consumers to make a purchase, even if it is unplanned.³

1.1 ENHANCEMENTS FOR EEPS FAST TRACK

The CFL Expansion Program is one of five "Fast Track" programs receiving funding through EEPS. As described in the SBC Plan, the following efforts are planned as program activities for the Fast Track effort:⁴

1. **Increase marketing and co-op advertising promotions with retail stores and lighting manufacturers.** Additional funds will allow retail-manufacturing partners to offer more and larger promotions aimed at educating consumers about the benefits of CFLs. Working with manufacturers is vital, as they have the ability to impact the market faster through their networks of retailers and distributors. Caps for cooperative advertising promotions will also be increased.

Continue to increase the network of retail partners and manufacturers. To date, the program has successfully targeted grocery and drugstores. Additional funds will be used to target bodegas, discount stores, department stores, membership clubs, do-it-yourself/hardware stores, and franchisees.

Increase consumer accessibility to a wider variety of CFLs. Additional incentives will be provided to the above retailers to increase the number of CFLs sold and to increase permanent shelf space for these products. New incentives will be provided to help retailers market CFLs, to increase the variety of CFLs that they carry, and to ensure CFLs permanently occupy valuable shelf space that is currently occupied by incandescent lamps. Market share incentives are currently used in the New York Energy \$mart^SM Products Program to help increase the percentage of ENERGY STAR products sold. These incentives have been effective and will be expanded within the CFL space.

Increase in-store promotions and point-of-purchase information to educate consumers. Current efforts to educate consumers on the benefits of using CFLs will continue to be important to dispel negative publicity surrounding CFLs, based on past defects and mercury disposal issues.

Increase participation in the CFL Collection Center Program. Continue current efforts recruiting existing retail partners to provide collection services for CFLs to consumers throughout SBC territory. The collection program also educates consumers on the mercury content of CFLs and the importance of proper disposal. The program will use its existing SBC funding to market this program to retailers statewide.

Promote the manufacture, sale, and usage of high power factor CFLs. The program will promote high power factor CFLs to consumers by providing retailers and manufacturers with incentives to sell and manufacture such products.

CFL Expansion is a separate component within the **New York Energy \$mart**SM Products Program, a program that includes efforts to encourage increased use of a number of energy-efficient products by residential customers. Since many retailers carry multiple products covered by the **New York Energy**

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³ System Benefits Charge Supplemental Revision for New York Energy \$martSM Programs 2008-2011 (As amended August 22, 2008 and revised March 12, 2009) Section 4.4.1 – Statewide Residential - Description of Current Program.

⁴ Ibid.

\$martSM Products Program, it makes sense to keep the various components closely synchronized. CFL Expansion will not be made into a stand-alone program so long as the CFL program information is maintained separately.

Process Evaluation of the CFL Expansi

Introduction

METHODOLOGY

The process evaluation for the CFL Expansion Program included a series of in-depth interviews that were designed to solicit feedback from program administrators and industry partners about the changes that have been incorporated into the program during the past year. Additional feedback about technological advancements in lighting and federal regulatory changes in lighting standards came from in-depth interviews with industry experts and sponsors of CFL programs in other states. The interviews were conducted during the fall of 2009, and data for the new technologies was collected during the summer and fall of 2009. The evaluation also included a brief database review of the program sales records.

2.1 IN-DEPTH INTERVIEWS

In-depth interviews are a qualitative research tool that allows for the exploration of issues that would not be captured in a survey format. In choosing the sample, we tried to cover the broad base of opinions that are likely to be found. The list of contacts was created with the assistance of NYSERDA CFL program staff. The types of respondents interviewed for the evaluation are summarized in Table 2-1.

Table 2-1. Contacts for In-Depth Interviews

Category	Targeted Number of Interviews*	Organization or Contact Category
NYSERDA program staff	4	NYSERDA
Implementation contractor	4	Lockheed Martin
Participating manufacturers	6 (Includes 2 small, 2 medium, and 2 large manufacturers)	
Sponsors of CFL programs in other states and industry experts	5+ (Includes multiple contacts from some organizations)	Department of Energy, National Electrical Manufacturers Association (NEMA), D&R International, Vermont Energy Investment Corporation (VEIC)
Participating retailers	12	Included long-term and new retailers from the following categories: appliance/electrical stores (2); grocery stores (4); department stores (1); drugstores (1); membership clubs (1); and hardware stores (3)

^{*} One of the four grocery store contacts interviewed provided only a partial interview before terminating the interview due to time constraints. Two interviews were obtained from contacts at the same drugstore, one at the store level, and one from the corporate representative for that drugstore chain; their responses will be combined as appropriate and counted as one interview

Interviews with NYSERDA staff and staff from the implementation contractor were typically thirty minutes to an hour in length.

Retailer interviews were from a sample that included a wide variety of store types and from stores located throughout SBC territory. In the case of smaller or independently-owned stores (hardware stores, appliance/electrical stores), an interviewer called the main phone number of that retail outlet and attempted to speak with the person either most responsible for tracking the sales and stocking of lighting products or who was responsible for administering the program. This was often the store manager, owner, or hardware/lighting buyer for the store.

The evaluation team obtained corporate-level interviews from larger retailers with multiple chains throughout a region or the state, including a department store, drugstore, grocery stores, a hardware store, and a membership store. Interviewers performed Internet research on these targeted companies to identify potential corporate contacts for interviews and emailed these contacts to schedule an interview or to identify the proper corporate representative. Interviews with the corporate employees most familiar with the program and willing to be interviewed were scheduled via email or phone. Interviews typically lasted twenty to thirty minutes.

2.2 DATABASE REVIEW

Due to the large size of the database and records used to track the periodic sales reporting from partners, Lockheed Martin, the implementation contractor for the program, provided the evaluation team with extracts of the 2009 EEPS program records. These extracts were provided in Excel format and contained summary information of program activity and CFL market sales by partners from April through December 2009. Summary information from the database extracts were supplemented with program reporting provided by NYSERDA staff.

In some cases, queries into the recordkeeping for this evaluation required a significant amount of effort for Lockheed Martin that was beyond the scope of the study because the data maintained was in a different format (e.g., on paper or for individual partners, not electronically or for the program as a whole) and not routinely reported. For this evaluation, some assumptions were made about types of CFLs (standard or specialty, and type of specialty), package sizes (number of products per package), and incentive amounts per lamp. In other cases, the evaluation team crosschecked model numbers in NYSERDA records with ENERGY STAR product listings⁵ and manufacturer websites for more clarity about product descriptions. This analysis relied on the product description, model numbers, retail price, and incentive amount to determine the likely number of products per package unit.

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⁵ ENERGY STAR Qualified Compact Fluorescent Light Bulbs list http://www.energystar.gov/index.cfm?fuseaction=cfls.display_products_html. Accessed 1/19/10.

PROGRAM DESIGN AND DELIVERY

3.1 PROGRAM INVOLVEMENT

Lockheed Martin, the implementation contractor for the CFL Expansion Program, provides a broad array of program delivery services that include recruitment of manufacturer and retailer partners, contract negotiations, on-site program delivery, data collection, and reporting. The evaluation team asked respondents to describe various aspects of how the program is delivered.

3.1.1 Program Delivery

NYSERDA Staff

NYSERDA staff said that Lockheed Martin has sufficient resources for program delivery and acknowledged that Lockheed Martin staff is able to handle the current volume of program business. One staff member noted that if budget were not an issue, Lockheed Martin could use more personnel to get better coverage of retailers in the New York City area. Currently, only three people are responsible for the entire metropolitan area; seven people maintain coverage in the rest of the state.

Each of the manufacturers is assigned a key contact from Lockheed Martin; a NYSERDA staff member noted that this is adequate because there is a small pool of manufacturers. At the retail level, Lockheed Martin may be spread thinner, but a lot of the partners are chain retailers and Lockheed Martin can cover a lot of stores through a single contact.

Implementation Contractor

Lockheed Martin staff said that coverage of the state for the program is challenging, but that they currently have sufficient resources to provide adequate program delivery.

3.1.2 Partner Participation

Manufacturers

Five of the six manufacturers interviewed had worked with NYSERDA on the **New York Energy \$mart** Products Program to promote CFLs or educate consumers about the advantages of energy-efficient lighting prior to 2009. One small manufacturer had not worked with NYSERDA before the CFL Expansion Program and two manufacturers – one medium-sized and one large-sized – had worked with NYSERDA since 2008. The remaining three manufacturers had worked with NYSERDA over the past several years.

The most common reason given for participating in the CFL Expansion Program was to increase customer awareness of CFLs and of the manufacturer's brand; increased awareness was mentioned by five of the six manufacturers interviewed. Three of the six manufacturers also mentioned increased sales as a reason for participation.

The role of retailers is also a factor that influences participation for four manufacturers. One large manufacturer said they participate in the program primarily because of their retailers' desire to increase sales. The other large manufacturer interviewed said they participate in the program as a service to help their retailers stay competitive with other retailers that are involved with utility programs. A medium-sized manufacturer said they participate because they have expanded their product list and want to educate their retailers, as well as their customers; some retailers are not aware of CFLs beyond the

standard twisters. A small manufacturer noted that they had previously focused on retailers who would sell their fixtures, as well as CFLs; since this program targets CFLs, they can now focus on retailers that sell only CFLs.

Asked whether their involvement with the program focused more on reaching the end-consumers or satisfying the needs of the retail partners, three manufacturers – two large and one small – said both; however, all three noted that the retailers are a major force in their participation. Two manufacturers – one small and one medium-sized – said their primary focus is on the end-consumer and one medium-sized manufacturer said their primary focus is on retailers (Table 3-1).

 Table 3-1.
 Manufacturer Focus on Program Participation

Focus	Manufacturer Responses (n=6)
Reaching end-consumer	2
Satisfying needs of retail partners	1
Both reaching end-consumer and satisfying needs of retail partners	3
Total	6

Manufacturers also value the NYSERDA brand; one small and one medium-sized manufacturer each note that having their products associated with NYSERDA, as well as ENERGY STAR, in New York is valuable to them.

Retailers

When asked how long their company had been involved with NYSERDA, four retailers reported participation for less than one year; six retailers identified a timeframe of between one and two years; one became involved three years ago; and one reported participating in manufacturer buy-downs with NYSERDA as long as seven years ago. Eleven out of twelve retailers confirmed that they had never worked with NYSERDA to promote CFLs before participating in the EEPS program. The twelfth retailer had tried to work with NYSERDA CFL efforts in the past, as early as the late 1980s, but the poor quality and high price of early CFLs made participation in such programs "tough."

When asked the primary reason for participation in the CFL Expansion Program, only three of twelve respondents gave a single primary reason, with the other nine all providing two or more "primary" motivations, indicating that most respondents had several reasons for participating in the program. As Table 3-2 shows, seven retailers were motivated to participate in the program for energy savings or environmental reasons, six wanted to increase consumer education, five were motivated by advertising dollars or point-of-purchase materials provided by NYSERDA, five wanted to increase sales in their stores, and three cited a desire to provide a good value to their customer. Other motivations included responding to consumer demand for green products (two retailers), promoting the company's "green" image (two retailers), remaining competitive against other retailers (one retailer), and one retailer thought it beneficial to develop a relationship with New York and NYSERDA.

Retailers were asked what other opportunities the program provided in addition to the discounted CFLs. Eight retailers said that the NYSERDA program provided education for staff and/or consumers about CFL lighting (some noted that NYSERDA or Lockheed Martin representatives have come to educational events and seminars at their stores, and that NYSERDA provided lots of information that retailers can use in their own publications), and eight also made note of the advertising and point-of-purchase materials provided by NYSERDA. In addition, one retailer said NYSERDA worked with a lighting manufacturer to provide free CFLs to all its stores' employees. Two retailers said the program had provided no additional opportunities to their stores other than the discounted CFLs.

Table 3-2. Primary Retailer Motivation for Program Participation

Motivation	Retailer Responses (n=12)
Save energy/environment	7
Increase consumer education	6
NYSERDA advertising, funding, or point-of-purchase materials	5
Increase sales in store	5
Provide good value to customers	3
Consumer demand for green products	2
Competition with other retailers	1
Foster relationship with New York/NYSERDA	1

Note: Multiple responses allowed.

As all of the stores interviewed were consumer-oriented retail outlets, all respondents said their stores' involvement in the program focused more on reaching the end-consumer rather than satisfying the needs of manufacturing or utility partners.

3.2 MARKETING, OUTREACH, AND EDUCATION

As of April 1, 2009, funding to manufacturers under the CFL Expansion Program increased, raising the maximum allotted amount for each partner from \$120,000 to \$400,000. The EEPS increase was directed primarily to incentive payments for CFLs, rather than to marketing or coop advertising opportunities beyond those that partners traditionally provided through the **New York Energy \$mart** Products Program. However, the EEPS program requires partners to submit a marketing and advertising plan as part of their application for the incentive funding and NYSERDA is flexible in allowing partners to customize the marketing according to their needs. Typically, partner applications include details on floor displays and accompanying point-of-purchase (POP) information such as signage and product brochures that will be used at the retail store. NYSERDA, through Lockheed Martin, is available if partners need assistance with outreach efforts, but the purpose of the SBC funds was to sell CFLs and help to establish business relationships to support the CFL infrastructure. To extend the incentive payments made to manufacturer and retail partners, NYSERDA provides outreach to consumers to educate them about the benefits of using CFLs.

3.2.1 NYSERDA Staff

NYSERDA staff members reported a dramatic increase in the number of promotions that they are doing as a result of the increased funding. At the time of the interviews (during the fourth quarter of 2009), funding was nearly exhausted and some partners were in the middle of their promotions, while others were just ending them with active invoicing. However, despite strong manufacturer response to the program, CFL sales, as reflected in invoices received from partners, were not as high as NYSERDA staff would have preferred. Two NYSERDA staff members speculated that the poor economy might be impacting CFL sales. For this reason, one staff member emphasized that to overcome the national trend of slower CFL sales, marketing efforts are even more important, as consumers need to understand that even though budgets are tight and CFLs cost more upfront, CFLs are a good investment because they save more money in the long run.

NYSERDA planned to provide consumer outreach and education about the benefits of using CFLs to support the reduced CFL pricing made possible by the increased partner incentives. However, despite the fact that funding was approved in April 2009, NYSERDA marketing outreach was slow to start in 2009.

NYSERDA staff reported that it took longer than anticipated to develop a marketing strategy and to get it approved. NYSERDA staff also noted that manufacturer and retailer partners seemed more reluctant to spend money on advertising in 2009 than in years past, likely due to the slower economy. As a result, incentivized products have been on the shelves, but sales have not benefited from the intended NYSERDA outreach efforts.

NYSERDA's strategy at the time of the interviews was to wait until the end of 2009 or beginning of 2010 to promote CFLs and to use the marketing outreach to complement the other NYSERDA residential programs as well. NYSERDA views CFLs as an entry point to get consumers more interested in more aggressive home performance measures. A radio and television campaign slated to begin in November 2009 that was designed to increase consumer awareness of CFLs was delayed so that the funding could be used for a January 2010 launch of the *Shining Example New York* campaign. The *Shining Example New York* campaign asks people to do what their neighbors are doing, join them, and make a difference together.

Marketing messages that will be used in 2010 focus on the dollar savings, the energy savings, and the environmental savings from CFLs. Messaging includes facts from the national ENERGY STAR program or NYSERDA research, such as: CFLs save energy and save the environment; CFLs are 75% more efficient and last 7 to 10 times longer than incandescent lamps; CFLs save \$70 over the lifetime of the lamp; and, If you change out five lamps, you can save \$50 per year. Partners use these themes in a variety of ways, each with their own unique twist.

NYSERDA staff noted that there might be some differences in consumer receptivity to messaging across geographical areas covered by the program. For example, in New York City, messaging about dollar savings might resonate more, because the energy costs are higher, whereas upstate, environmental messaging might be better received. Similarly, television visuals in New York City might focus on multifamily buildings and visuals in the upstate area might use single-family homes. Most of the program messaging is focused on the middle market, not demographic subgroups.

The program currently does not use a lot of social media to spread the messaging, but NYSERDA is investigating how to incorporate tools such as *Twitter*TM, *YouTube*, or other on-line resources that can be low cost and draw a lot of consumers. In 2010, the program will sponsor a video contest for consumers to win a complete home makeover for CFLs – that is, going in and replacing all of the lights in a home or a set of neighborhood homes with CFLs. Different markets, such as New York City, North Country, and Syracuse will be targeted.

NYSERDA noted that partners are encouraged to design their own marketing plans for the program, within some general guidelines that fit NYSERDA goals and requirements. One respondent noted that most CFL promotions typically come from manufacturers, rather than the retailers. Manufacturers buy shelf space in the store and everything that happens in that shelf space is up to the manufacturers. Other than the big box stores, retailers themselves really do not take an active role in lighting promotions.

3.2.2 Implementation Contractor

Lockheed Martin staff reported that, since the funding increase became available, more of the larger manufacturers are now participating in the program and some manufacturers hired new staff to handle larger and more retailer accounts. Previously, these manufacturers did not have the resources to create and maintain these opportunities in New York.

Lockheed Martin respondents said that marketing support from NYSERDA was not evident in the marketplace during 2009, but they are hopeful that by the beginning of 2010, they will see more support. Three of the implementation staff had opinions about marketing messages that work best for the program and agree with NYSERDA respondents that messaging that focuses on the amount of money that you can save and how you can save the environment work best. One implementation contractor staff thought that

rather than just going over the benefits of CFLs, messaging would be more effective if used with humor to position the product as something that saves money or stops something bad from happening. For the most part, implementation staff said messaging should be consistent, with no variation by geographic region; however, one suggested that a slight shift in messaging for New York City would better reflect urban households if it stated that you should change all the lights in your *apartment*, rather than *house*.

According to one respondent, compared to five years ago, product recognition of the ENERGY STAR label is much higher, but there is still a segment of the population that refuses to use CFLs due to a poor past experience. This respondent said their belief is that the only way to reach this segment is through a combination of low price and education about improved quality.

The implementation staff said that manufacturers typically include their marketing plans in proposals to NYSERDA and often those marketing plans do not come at a cost to the program. Typically, manufacturers create retail end-cap displays and/or brochures that explain the benefits of using CFLs; these are displayed during the NYSERDA promotion period. There are likely to be differences in how retailers provide marketing outreach based on their history of stocking CFLs. Best Buy, for example, is entering the CFL market for the first time, so CFLs might be given a more prominent position as an introduction to customers, compared to how they are displayed at a Home Depot, which has been selling CFLs for a long time.

3.2.3 Manufacturers

All six of the manufacturers interviewed believed the marketing messages should, to some degree, stress that CFLs save money. Two manufacturers noted that most consumers now understand that CFLs save money on operating costs, so the program should highlight the fact that it is reducing the purchase price. Two manufacturers would also point out the environmental benefits of CFLs, but only in addition to advertising stressing money savings.

Two manufacturers would segment customers into *more* and *less knowledgeable* groups, stressing saving money to the former and increasing awareness of CFLs for the latter. Two other manufacturers believed messages should vary by the type of retailer. One noted that independent retailers allow more signage to be put up, so there can be more point-of-purchase education with them compared to chain stores. The other manufacturer said they vary messages for retailers with walk-in traffic versus specialty lighting stores; with the latter, there is more of a technical message on the different specialty products available; whereas stores with walk-in traffic that sell different products need to emphasize that CFLs save money.

Three of the six manufacturers interviewed believed they did not have enough information at the time to judge how well the program's marketing, outreach, and education efforts have responded to the market's needs. Two manufacturers were happy with the program's education efforts; one noted that the required educational material gives the customer something to take home, and will hopefully raise awareness and understanding of CFLs. The sixth manufacturer interviewed was less optimistic about the effect of educating consumers; they believed the program best responds to market needs by offering the lowest possible prices.

3.2.4 Retailers

Retailers actively contributed to NYSERDA's marketing, outreach, and education efforts to promote CFL use. As Table 3-3 shows, all but two of the twelve retailers (a grocery store and a membership club) reported that they contributed to outreach efforts by promoting CFLs or the EEPS program in their stores. Six retailers promoted CFLs in print ads (including in-store circulars and direct-mail literature) and five retailers promoted the program through POP materials. Two hardware stores held promotional events that were attended by NYSERDA representatives, and two stores – a department store and a drugstore – have had NYSERDA or Lockheed Martin representatives visit their stores to educate consumers about CFLs and the program. The drugstore also reported that NYSERDA representatives attended a

management conference to help educate the store's executives on the program. One hardware store ran radio ads promoting the program and reported that direct mailings work better than in-store circulars for attracting customers.

Table 3-3. Retailer Involvement in Program Promotions

Motivation	Retailer Responses (n=12)
Promoted CFLs or EEPS program in store	10
Print ads	6
In-store point-of-purchase materials	5
In-store promotion/education with NYSERDA representative	4
Radio ad	1
Staff education about program	1

Note: Multiple responses allowed.

A grocery store's corporate representative reported that it does no print advertising for CFLs and that CFLs are only promoted via at-shelf POP materials because the advertising budget is allocated solely to food items, the store's priority. Similarly, the department store interviewed has not advertised the program in print or circulars, but has experimented by placing CFLs in high-traffic, front-of-store locations with POP materials to see how well the lamps can sell as impulse purchases.

When asked what marketing messages work best for the program, eleven out of twelve retailers said that the energy/utility bill savings of CFLs, compared to incandescent lamps, is one of the most effective marketing messages (Table 3-4). The twelfth retailer, a department store, had only recently begun participating in the program and thought it was too soon to tell. Other marketing messages reported to work well include: helping the environment (n=3); the low price of the discounted lamps (n=3); and longevity or quality of CFLs (n=3). One retailer, a membership club, thought that mercury issues had been resolved to the point that safety of the lamps, when properly disposed of, could be part of this message.

Table 3-4. Retailer Perspectives on Effective Marketing Messages for the Program

Motivation	Retailer Responses (n=12)
Save energy / bill savings	11
Help environment	3
Low prices	3
Longevity/quality of CFLs	3

Note: Multiple responses allowed.

Most of the retailers interviewed (n=7) believed that the program's marketing messages should not vary for different customer segments, while four retailers disagreed. One retailer noted that message consistency is important to prevent conflicting information about CFLs or the program; other retailers thought that all consumers want the same basic benefits from equivalent CFL products, so a consistent marketing message seems appropriate. The three retailers that thought the message should vary for different customer segments said it should be tailored to different age brackets or adjusted for the level of environmentalism of an area's population.

Six retailers thought the program's marketing message should vary for different types of retailers and for different geographic areas. Three of these six retailers noted that the program would benefit by using

different marketing messages for contractors, commercial buyers, or businesses. A drugstore retailer thought the marketing messages should vary depending on the variety of CFLs sold by a retailer. The department store with chains statewide thought each retailer has to adjust the marketing to reflect their own branding message and to accommodate consumer demand, which varies greatly from urban New York City to rural New York.

Most retailers thought the program's marketing, outreach, and education efforts are responding to market needs, but that the program still needs to do more to increase consumer education. Eight out of twelve retailers thought the marketing, outreach, and education efforts were working to increase consumer education and CFL sales, but only six retailers thought these efforts were adequate. Nine retailers provided suggestions for increasing consumer education regarding the program and CFL usage. Two retailers had no suggestions – they thought that the program was working very well and required no changes to consumer education; another was too new a participant to provide feedback on the issue.

To summarize, retailers provided the following suggestions to address insufficiencies in consumer education:

- NYSERDA itself should be the program's primary advertiser/promoter, rather than retailers.
- Simplify the program's message and create a consistent statewide message that retailers can reiterate to consumers (retailers are working too independently).
- Greatly increase program visibility (advertising, marketing, and public relations campaigns are much less active than when the program was newer).
- Provide free CFL recycling.
- Increase awareness of proper CFL disposal/recycling.
- Increase outreach to community organizations and nonprofits that can reach additional consumers.
- Provide NYSERDA-funded advertising for participating retailers.
- Provide more pamphlets and take-away educational materials for consumers.
- Increase awareness of low mercury levels to dispel common fears about safety.
- Make POP materials/signage more visible and dynamic.⁶

3.3 DIRECT PROGRAM INCENTIVES

The EEPS program allows for more direct incentive opportunities for manufacturers than in the past. The program projected that it would incentivize 6.2 million CFLs with direct incentives (about 37% of the estimated 16.9 million total CFLs sold within New York, excluding Long Island) over a period of about two and a half years. NYSERDA was responsible for incentivizing over one million lighting products through the EEPS program in 2009.

3.3.1 NYSERDA Staff

Three of the four NYSERDA respondents were concerned about whether or not the program can meet its goals in light of the poor economy and the national trend of lower CFL sales (which has also been reflected in lower sales in New York). This is compounded by the fact that NYSERDA's marketing and consumer education has been slow to start. NYSERDA has heard from retailers that business is down

⁶ A drugstore reported the signage it receives from NYSERDA is small, lies flat on the shelves, and goes unnoticed by consumers, compared to more prominent POP materials provided for other merchandise.

everywhere, not just for CFLs; however, the three respondents were hopeful that the economic picture is improving. The fourth respondent felt that program goals would likely be reached. While partner invoices have been slow coming in, reflecting slow sales, the program currently is ahead of its goals for approved promotions.

NYSERDA staff members said that they were not sure that consumer response to the program would have been any different with different incentive amounts. One respondent was initially concerned that the funding increase for manufacturers was too high, but now thinks it may be appropriate. Another noted that the incentive amounts paid by NYSERDA (typically \$1.00 or less for standard CFLs and higher for specialty products, with matching funds from partners) are in line with feedback that they received from retailers and manufacturers. A respondent noted that, while a larger incentive would move more lamps, in this economy consumers are not even going to the stores to look at lamps. Another respondent noted that they will have to wait until after the marketing campaign is launched to see whether consumers respond better to the marketing or the increased incentive.

Staff felt that, for now, the program is adequately responding to its needs. The combination of NYSERDA's planned multimedia statewide campaign, and manufacturer and retailer efforts provide consistent messaging. Education messaging from a trusted third-party government entity appeals to some consumers and the actions of the manufacturers appeal to others. One respondent would not want to shift additional resources into the budget for manufacturers right now because there is more co-op activity going on than ever before and still sales are lagging. The respondent noted that it was important to first see if sales will pick up once NYSERDA gets its own marketing campaign off the ground.

3.3.2 Implementation Contractor

Staff from Lockheed Martin said that the overall goals of the program are reasonable, despite slow sales in 2009. The program approved about two times the number of promotions than it anticipated would actually be implemented (1,700,000 CFLs targeted for April through December 2009), with the expectation that not all approved promotions would come to fruition. The reasons that some promotions do not sell the number of products for which they are approved vary, but generally are because retailers' stocking plans have changed or the volume of products being sold is lower than originally anticipated for a promotion. Lockheed Martin tracks promotion progress at the approved and obtained levels, but CFLs are not counted or paid for as program-incentivized products until proper documentation confirms that they have been sold.

Interviewees said that the current incentive levels are adequate, but noted that most manufacturers will always say they are not high enough. The fact that those same manufacturers participate in the program is evidence to Lockheed Martin that manufacturers benefit from the promotion. A barrier to some manufacturer/retailer partnerships to participating in the program is the requirement that NYSERDA's incentive amount must be matched by the partner. Larger high-volume retailers like Walmart and Home Depot have not participated in part because the margin that the retailer receives from the manufacturer is so low that they do not have room for matching incentives. The requirement that partners must submit lighting shipment data has been another barrier to participation for some of the larger retailers in the past.

Interviewees cautioned that if the incentive amounts were increased, the CFL product might be devalued by customers, creating a conflict with NYSERDA's education mission, which is intended to show consumers that there are longer-term benefits of CFLs that extend beyond the price of the product. However, one interviewee noted that increasing the incentives might be necessary for the program to gain entry into the dollar-type stores, which will only sell products priced at \$1 or less. The benefit of gaining entry into this type of retailer is that it would help the program reach low-income customers.

The increased program funding has encouraged the participation of more partners in the program this year; if the incentive were decreased, some manufacturers might not participate.

3.3.3 Manufacturers

Three of the six manufacturers interviewed believed the NYSERDA goal of incentivizing about one-third of all CFLs sold in SBC territory is reasonable; two manufacturers said they did not have an opinion. One small manufacturer believed NYSERDA's goal is too low to really affect the market and that the program should be targeting to represent 60% to 80% of the total CFLs sold. This interviewee also noted that NYSERDA and the manufacturers need to do a better job of making residential customers aware of the program and its opportunities: advertise more on TV and radio, and in the print media; hold more special promotions; and participate in more events. Another interviewee, a large manufacturer, noted that programs have to hit the ground running on their first year to have a chance of making their goals. Two issues that may prevent NYSERDA from meeting its goals, according to this interviewee, are the requirement that manufacturers match their incentives and the cap on incentives to individual manufacturers.

Most manufacturers had positive reactions to the increased funding allotted for product buy-downs. A small manufacturer worked with discount retailers for the first time. One large manufacturer signed up two hardware store chains and the other large manufacturer was more aggressive in lowering its prices. One medium-sized manufacturer noted that the increased funding made it possible to provide continuity and make greater commitments to their retailers. Retailers start getting worried in October about whether the lighting programs will stay around for the winter; with NYSERDA's help, the manufacturer has been able to commit for the longer time period and help their retailers better plan for the year.

However, one medium-sized manufacturer, who was targeting the discount-retailer sector in particular, was dissatisfied with the process. When they tried to put together a promotion with a discount retailer to sell standard twisters for a dollar each, NYSERDA did not approve of this promotion; the manufacturer ended up with a promotion at two lumber store chains, where their standard twisters sell for \$1.50. This manufacturer felt that the program is ignoring a large market of low- and moderate-income consumers that shop at discount stores and seek the lowest possible prices.

Three of the six manufacturers interviewed believed the direct program incentives or markdowns adequately respond to market needs; one medium-sized manufacturer commented that the CFL Expansion Program is more flexible than other utility programs in that it can support a greater variety of products and work with different channels.

The other three respondents cited different areas where the program could better respond to market needs. One large manufacturer noted that this is the only program they know of, in addition to a small program in California, which requires manufacturers to match markdown funds. They are accustomed to receiving markdown funds from a program and deciding how much they want to or can afford to offer retailers; they think that the need to come up with matching funds limits the products they can sell under the EEPS program. In addition, NYSERDA has imposed caps on how much funding a single manufacturer can receive. Given the requirement for matching funds, they are not afraid of reaching their cap. But the caps force the manufacturers in turn to set caps for individual retailers and then monitor to make sure the retailer caps are not exceeded. Again, they do not know of any other program that has manufacturer caps.

A small manufacturer believed that the current price of CFLs is so low that it gives salespeople working on commission as a percentage of sales a smaller incentive for promoting them. This interviewee believes NYSERDA should increase the incentive per lamp and have some of it passed on to the salespeople who push these lamps, rather than having all of it go into lowering prices. In contrast, a medium-sized manufacturer, as already noted, is dissatisfied that they could not sell CFLs for a dollar apiece through the program.

All of the manufacturers interviewed have provided their own price discounts for standard twisters, in addition to the incentives provided by the program. Three manufacturers have provided their own discounts for reflectors. Discounted products mentioned by one manufacturer include standard twisters in

different colors, high wattage CFLs, globes, floods, outdoor PARs, three-ways, A-lamps, halogens, and candelabras. The manufacturer-provided price discounts range from \$0.25 to \$1.50 for standard twisters and \$1.00 to \$4.00 for specialty products (the \$4.00 discount is for high wattage CFLs selling for \$22.00).

3.3.4 Retailers

Eight out of twelve retailers said that they received CFL price discounts through the program. One hardware store was offered discounts from a participating manufacturer, but has not participated. Two retailers – an electrical/lighting store and a grocery store – received additional discounts from manufacturers outside of NYSERDA's programs. The electrical/lighting supply store was provided with discounts of 20% for standard spiral CFLs, while the grocery store was provided with discounts from another manufacturer on all types of CFLs (both standard spirals and various specialty lamps), with discounts ranging from \$1.00 to \$3.00 per lamp.

Overall, most retailers thought that the current incentivized CFL prices were reasonable. When asked what was an appropriate price to sell CFLs, five retailers thought current CFL prices were good, while seven retailers gave a range of between two and four dollars per lamp. A hardware store thought 99¢ worked well as a price point; a membership club saw the strongest sales whenever retail prices were discounted by 50% or more, but noted that \$1.00 to \$2.00 off per lamp would sell well. Two retailers expressed the desire to bring CFLs down to price parity with incandescent lamps. One of these retailers, a drugstore, thought NYSERDA was relying too heavily on consumer education efforts, suggesting it could more effectively reduce energy consumption by getting more CFLs into price-conscious consumers' hands, which would require price parity with incandescent lamps. A grocery store respondent who thought \$2.00 was a good price point for CFLs was hesitant to have CFLs further incentivized to an "unrealistic retail price" that would not be sustainable without NYSERDA funding – if NYSERDA funding disappeared and customers demanded the same low prices, the store would not stock as many lamps because the artificially low prices demanded by customers would diminish profits.

Five retailers have not provided any discounts for CFLs beyond those from NYSERDA. Seven of the twelve retailers provided their own discounts for CFLs independently or in addition to NYSERDA promotions: four of these retailers discounted only standard spiral CFLs, while three discounted both standard and specialty CFLs. These seven retailers provided the following per lamp discounts: 50% (two retailers); \$1.00, \$2.00, and \$3.00 (one retailer each); 10% to 30% (one retailer); and a few cents (a membership club trying to bring the NYSERDA lamps to an appealing price point). Two retailers said they applied their own discounts on top of NYSERDA discounts in order to bring the lamps down to 99% each, an appealing price to consumers. A grocery store reported discounting CFLs in stores outside of New York whenever NYSERDA is discounting lamps in New York, such that lamps outside of New York are sold for 50% more than NYSERDA-discounted lamps.

3.4 NYSERDA, MANUFACTURER, AND RETAILER PARTNERSHIPS

In 2009, NYSERDA worked with about 27 lighting manufacturers and about 17 of those actively participated in the EEPS program. The majority of manufacturers focused on CFLs, but some also introduced fixtures and LED products, such as night-lights or decorative light strings, in their promotions.

Over 1,000 retail storefronts in the SBC territory sold EEPS-incentivized lighting. Sales through hardware stores, price clubs, discount stores, grocery stores, specialty lighting stores, and electrical supply stores distributed the greatest number of EEPS sales (Table 3-5). Drugstores also had strong sales. Through manufacturer partnerships, the program distributed a fewer number of CFLs through mass

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⁷ CFL counts based on sales data by model type; in some cases, assumptions were made by the evaluation team about the allocation of sales across retailer types.

merchandise/department stores and large home improvement stores, according to the program implementer's records. Nevertheless, these types of retailers, including Walmart, Home Depot, and Lowe's have been responsible for very large quantities of CFL sales in SBC territory.⁸

Table 3-5. Types of Retailers that Sold EEPS-Incentivized Lamps

Type of Retailer	CFLs Sold
Hardware	222,323
Price	172,859
Discount	164,257
Grocery	157,226
Lighting / Electrical	192,430
Drug	105,164
Mass Merchandise / Department Store	25,218
Other	2,276
Unknown	11,593
Total	1,053,345

Source: EEPS Program Sales Summary, April-December 2009

A program goal was to continue expanding the network of retail partners beyond the traditional partnerships that NYSERDA had, and to include retailers such as bodegas, discount stores, department stores, membership clubs, do-it-yourself/hardware stores, and franchises. In 2009, the program successfully worked to expand the types of retailers that participate in the program. For example, working with manufacturers, the program was able to bring Best Buy, Radio Shack, The Christmas Tree Shop, Dollar Stores, and Costco on board.

Lockheed Martin actively engages retailers and manufacturers in partnerships with the program. It also provides guidance to partners for all aspects of program development and implementation – including pricing, product mix, product quantities, and marketing.

To participate in the program, potential partners submit a *Special Promotions Application* to NYSERDA under the guidance of Lockheed Martin. After NYSERDA reviews and signs-off on proposals, Lockheed Martin is sent a confirmation of approval. Applications include the following information:

- **Description** outlines the proposed promotion, including name of the retail partner, description of the product types included, and timing of the promotion
- **Measure of Success** estimates the total annual kWh saved and total lifetime kWh saved through the promotion, as derived from the Markdown or Buy-Down Calculator
- **Marketing Plan** describes features of the marketing plan such as the retail displays, signage, and brochures for the promotion

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⁸ The vast majority of CFLs sold in SBC territory are through non-participating retailers (79% in the state and 82% in New York City). Home Depot was the source for 39% of CFLs purchased at non-participating stores in the state and 40% in New York City. Also, statewide, 25% of purchases at non-participating stores were through Lowe's and 18% were through Walmart. Lowe's and Walmart do not have a presence in New York City, so were responsible for much fewer purchases to households in the city. Source: FINAL Impact Evaluation: NYSERDA CFL Expansion Fast Track Program: Random Digit Dial and Onsite Survey Results Interim Report. Prepared for NYSERDA by NMR. March 9, 2010.

- **Cost Breakout** estimates the buy-down amount, total cost of the promotion, and the 50% NYSERDA share amount; notes that the estimated cost of the promotion will be calculated on point-of-sale data
- Lockheed Martin Rationale provides an explanation by Lockheed Martin about how the proposed plan serves NYSERDA program needs and recommends a reimbursement on the cost of the promotion
- **Recent Promotions** identifies previous promotional activity by the partner
- **Estimated Balance of Funding** estimates the remaining balance of incentive funding available to the partner, pending approval of all proposed promotional activity

Each application also includes a Buy-Down or Markdown Calculator, a spreadsheet tool that has the partner identify:

- Product number/model
- Number of lamps in the package
- CFL wattage per lamp
- Incandescent wattage per lamp
- Quantity of models to be sold for the promotion
- Regular retail price / manufacturer's suggested retail price (MSRP)
- Proposed retail price
- Regular cost to the retailer (on manufacturer Buy-Down Calculators)
- Proposed cost to the retailer (on manufacturer Buy-Down Calculators)

Based on the information provided for each product type to those fields, the spreadsheet automatically calculates a variety of indicators that produce a summary of the promotion elements including:

- Total quantity of lamps
- NYSERDA's total share of product buy-down/markdown (\$)
- Total annual kWh saved (based on 365 days per year and four hours per day operation)
- Total lifetime kWh saved (based on a six-year lifecycle)
- Cost per kWh for all products combined (annual)

3.4.1 NYSERDA Staff

NYSERDA reported tremendous success in reaching the grocery market and working with Best Buy to introduce CFLs – a new product line for the retailer – to their stores. The program also has been trying to increase penetration in New York City and has been working with the bodegas association; NYSERDA is hopeful that they will be able to bring the program to those stores in 2010. To reach the low-income customers, they are working with the dollar stores – including General Dollar and Family Dollar – to have them stock ENERGY STAR-qualified lamps, rather than the lower quality CFLs that these stores have stocked in the past.

NYSERDA staff noted that if retailers use the funding for products other than lighting, program resources can be drained. Last year, the program was told to ramp up for EEPS and did a lot of promotions, which drained the incentive budget significantly. At the time of this report, the program is about \$1.5 million over budget in incentives, which impacts what can be done for the rest of the funding period; therefore, NYSERDA staff has somewhat slowed new partner recruiting. New retailers continue to sign on through

the EEPS promotion and NYSERDA anticipated that some of these retailers will sign on as regular program partners and have their own promotion activities in future years.

3.4.2 Implementation Contractor

Respondents described the process of recruiting and securing partners for the program. NYSERDA partners directly with retailers and manufacturers for its **New York Energy \$mart**SM Products Program, but targeted only manufacturers for the EEPS incentives, although some retailers participate in both efforts.

Some retail partners, such as appliance stores and lighting/electrical distributors, have been partners with NYSERDA under the **New York Energy \$mart** Products Program. These retailers tend to have their own product distributors already in place and require very little assistance from the program to find manufacturer suppliers. For the longer-term, existing retail partners were not targeted directly with the increased EEPS funding; however, if a retailer wished to partner directly with NYSERDA, it could through markdowns – incentives paid to the retailer to reduce the price that consumers pay for a product. NYSERDA counts the retail sales of markdowned CFLs toward EEPS goals. Larger retailers, such as the Gold and Platinum Partners, and particularly the grocery chains, use markdowns more often than do smaller retailers because of their larger budgets due to the number of stores they are able to enroll.

In an effort to expand the network of retail partners, the program identified retailers that sell few CFLs, but have the potential for selling more. The program also targeted categories of retailers that have not been traditional partners, such as bodegas, discount stores, department stores, membership clubs, do-it-yourself/hardware stores, and franchises for potential partnerships. Bodegas – small neighborhood markets in New York City – have been hard-to-reach, because lighting is not a major product category and the bodegas tend to purchase products as an association, rather than individually. Lockheed Martin has been making contact with the bodegas association, which will open access to many stores. They were hopeful that CFLs will fit into a "green" bodegas program that is being initiated to make more environmentally-friendly products available in the stores.

Speaking about the overall program, one respondent said that in places where the program is present, it is very effective, but the reach is not far enough, even with the expansion. This respondent felt that there are still not enough participating stores to affect the market as much as possible.

If retailers have no traction in the CFL market on their own, Lockheed Martin will work with a manufacturing supplier to build a distribution link. As noted, the EEPS funding targeted manufacturers and offered them incentives for buy-downs. Under the buy-down model, manufacturers deliver discounted products to consumers through their network of retailers in SBC territory. Partnering with the manufacturers allows the program to engage a wider range of retailers than it might reach targeting individual stores.

Lockheed Martin provides guidelines to partners for pricing, product mix, and product quantities, but manufacturers and retailers have the flexibility to propose agreements that are appropriate to their ability to deliver program sales. Some manufacturers present proposals with all of the promotion elements in place, including a committed retail partner, proposed product mix, quantities, and pricing. Other manufacturers come to the program with a vague gauge of interest from a retailer partner and work with NYSERDA and the retailer to negotiate terms of the promotion. Under the retailer-led initiatives, the retailer utilizes its own manufacturer contact, works directly with Lockheed Martin and NYSERDA to negotiate the terms of the promotion, and is paid directly by NYSERDA based on point-of-sale (POS) data.

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⁹ Partnering retailers are grouped within the program according to the number of locations: retailers with 15 to 64 locations are designated as Gold Partners and those with more than 64 locations are Platinum Partners.

Typically for all CFL programs, NYSERDA wants the cost per kWh for all products combined in the promotion to be \$0.02 or less. Partners are allowed to submit proposals to receive up to \$400,000 per year. Depending on the retailer and manufacturer partnership, a promotion can be implemented with anywhere from one week to three months planning.

3.4.3 Manufacturers

Four of the six manufacturers interviewed recalled the program encouraging them to partner with retailers beyond the traditional grocery and drugstores. Two remembered NYSERDA talking about partnering with bodegas. One small manufacturer noted that sales representatives from the big three manufacturers have relationships with the retailers, making it difficult for a small company to break in. NYSERDA and its incentives, however, have enough clout to help small manufacturers gain a foothold.

Three of the six manufacturers interviewed said they are partnered with retailers they had not worked with before. A large manufacturer partnered with do-it-yourself (DIY) stores and a small manufacturer partnered with discount outlets and regional chain home improvement stores. Another small manufacturer is working with supermarkets they had not worked with before, but not with a different type of retailer. However, when asked if there are any retailers or retailer categories that they think would not be selling any CFL products if the program were not available, only one small manufacturer mentioned one (discount outlets).

3.5 SUMMARY OF PROGRAM DESIGN AND DELIVERY

3.5.1 Program Involvement

From an administrative perspective, working with manufacturers gives NYSERDA the best return on investment for EEPS because a relatively small group of manufacturers supplies a large number and diverse range of retailers. Going through manufacturer channels also helps to ensure that smaller, independent retailers can participate in the program with less active recruiting of individual stores by the program. Working through retailers with multiple locations in SBC territory also increases efficiency. Raising the partner-funding ceiling to \$400,000 creates significant incentives for participation and for partner compliance with program tracking and administrative needs. NYSERDA noted that staff resources are adequate for dealing with a small pool of manufacturers and can cover multiple retail locations for chains. However, if the EEPS program wishes to expand to independent retailers on its own, a lack of staff resources may be an issue.

3.5.2 Marketing, Outreach, and Education

The EEPS program was late in beginning its marketing, outreach, and education campaign for 2009, and most criticism by respondents was focused on the timing, rather than content, of the marketing effort. The delay in the marketing launch was problematic for the 2009 program year because there was no clear link between consumer education and incentivized products becoming available at participating retailers. The economic downturn slowed sales of all products, including CFLs, and many respondents speculated that a stronger marketing effort could have improved the program launch.

NYSERDA seems to have a solid grasp of the messaging it intends to use for the program, beginning in 2010. The vehicles for delivering the messaging include traditional media and exploration into other more immediate, interactive, on-line avenues, such as social media.

Retail partners value the role that the NYSERDA program provides for retailer staff education and for increasing consumer awareness and knowledge about CFL lighting, but they want even greater program visibility; they would like to see a larger budget for media buys, which would benefit manufacturers and retailers by increasing consumer awareness and interest in CFLs.

3.5.3 Direct Program Incentives

The funding cap to individual partnering manufacturers through EEPS increased from \$120,000 to \$400,000 in 2009. The EEPS increase was directed primarily to manufacturers as incentive payments for CFLs. The cap on incentives to manufacturers forces manufacturers to set caps for individual retailers and to monitor sales to make sure the retailer caps are not exceeded, adding a level of complexity to program administration for some partners. Manufacturers may not make a lot of money on the products incentivized through the program, but they benefit by being able to open up new markets, stock more SKUs¹⁰ per store, get more retail shelf space, provide better stocking continuity for retailers, strengthen their relationships with retailers, and offer consumers better pricing.

The average incentive offered for standard CFLs was about \$1.79 per bulb and incentives for specialty products ranged from about \$1.18 for candelabras to \$3.52 for three-way bulbs. NYSERDA and its partners split all incentive amounts 50/50. Shared incentives between NYSERDA and the partner helped to keep partners invested in the program and its success, but respondents cautioned that some big box stores could not participate in the program because their margins were already so low that the chains could not afford the mandatory matching incentive. The higher partner incentive allotments and linking sales data reporting to incentive payments encourages partners to be responsive to NYSERDA program-tracking data needs.

3.5.4 Manufacturer/Retailer Partnerships

In 2009, upstream partners were successfully engaged to expand the lighting program with more manufacturer and retailer participation, and higher sales. Hardware stores, price clubs, discount stores, grocery stores, specialty lighting stores, and electrical supply stores were responsible for the greatest number of EEPS sales. Drugstores also had strong sales. Through manufacturer partnerships, the program distributed a fewer number of CFLs through mass merchandise, department, and large home improvement stores. A barrier to participation in the program for some manufacturers and retailers was the requirement that NYSERDA's incentive contribution must be matched by the partner.

Lockheed Martin actively engages retailers and manufacturers for partnerships with the program. It also provides guidance to partners for all aspects of program development and implementation, including pricing, product mix, product quantities, and marketing.

By engaging manufacturers, the program was able to take advantage of the network of retail partnerships that manufacturers have, thereby expanding the number and type of retailers in the program more efficiently than could be accomplished by recruiting those same retailers on its own. Manufacturers used the program to stay competitive or to help their retail partners stay competitive. They also used the program to open markets and increase product sales. Retailers participated in the program to improve their "green profile" and to educate consumers about the energy savings and environmental benefits of CFLs compared to incandescent lamps – and ultimately to increase product sales.

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 $^{^{10}}$ Stock keeping units – the number of individual items carried by a store (each color, size, type, etc. represents one SKU).

CFL SALES AND STOCKING

4.1 SALES/SHIPMENT DATA COLLECTION

NYSERDA provides monthly reporting to the New York State Public Service Commission (PSC) on the status of the program relative to goals, based on sales data provided by program partners. Program partners are required to submit sales data on a regular basis, according to the program guidelines and agreement:

"Partners must submit an accurate monthly Sales Reporting Form by the 15th of each month, and must continue to report sales data each month to remain in the Program. Sales data allows us to evaluate the impact of the Program on qualifying product sales in New York, and is essential to identifying program needs. NYSERDA will not provide partners with co-op advertising or other incentives unless the sales data submissions are current." ¹¹

Partners should provide sales data for all CFLs on a monthly basis; however, reporting rates are not 100% each month. In 2009, manufacturers were required to submit shipping data quarterly, but many of them provide the data monthly or even weekly. Reporting is required, regardless of whether or not promotional activity has occurred during that time. In 2010, the program will be requiring monthly reporting by manufacturers so that program activity can be tracked more closely and expectations are clear. New retailer or manufacturers provide Lockheed Martin with baseline data of their CFL sales or shipping for the previous year.

Lockheed Martin serves as the fulfillment contractor for the program, and collects and maintains the database that tracks program activity. There are two types of data that Lockheed Martin collects from manufacturers: market-level shipping/sales data and sales promotion data. The market level data must be submitted quarterly for all CFL shipments in SBC territory. This data includes all shipments/sales of CFLs, regardless of whether or not they have been incentivized through the program. Retailers who directly partner with NYSERDA are also required to submit market-level CFL sales data to the program, regardless of whether or not promotional activity occurred during that month. Partners can provide data by submitting a bill of lading, which documents the CFL shipment by zip code in SBC territory, or through sales data from their retail partners. A Lockheed Martin respondent noted that manufacturers have difficulty providing this data at first, but NYSERDA can leverage the promotion funding to ensure that reporting is done.

The quarterly (monthly in 2010) CFL market sales data provides a snapshot of market-level CFL sales from program partners, but it does not give a complete picture of all CFL market-level sales in SBC territory. Most importantly, the program does not collect CFL sales data from non-participating retailers – and as noted, these stores represent a large percentage of all CFLs sold in SBC territory. EEPS sales also occur though retailers that are not NYSERDA partners (i.e., through a manufacturer that is a partner) and there is no obligation for these retailers to submit data to NYSERDA, even though they are distributing incentivized products in their stores. For this reason, a complete picture of CFL market conditions in SBC territory is not clear. Figure 4-1 shows the monthly total CFL sales by partners and the monthly EEPS-incentivized sales by partners. The total market level sales peaked in June and September, but program sales remained relatively constant each month of the year. In total, market-level CFL sales through partners accounted for about one million lamps, with 303,234 CFLs distributed by these partners during special EEPS promotion activity timeframes.

¹¹ Retailer Partnership Incentives, Guidelines & Agreement. **New York Energy \$martSM** Products Program, p.3. Effective January 1, 2009.

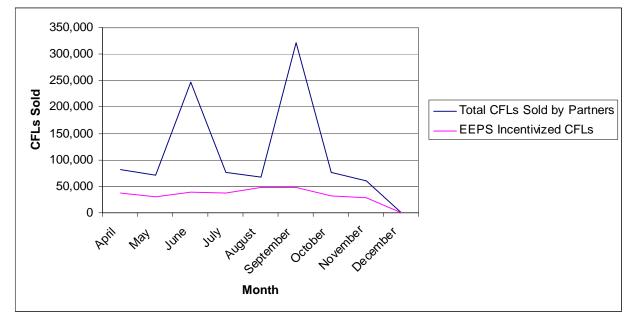


Figure 4-1. Partner Reporting of Promotion Activity and Market Level Sales

The promotion-specific data requires retailers to provide sales data on behalf of the manufacturer. Retailers with electronic sales tracking provide the program with POS data that details sales by store location and smaller mom-and-pop stores submit shipping data with breakdowns by zip code. Program invoicing is tied to the sales data; without the additional funding, Lockheed Martin and NYSERDA respondents said it was likely that manufacturers and retailers would not have complied with the reporting provision.

Manufacturers invoice the program either weekly or monthly, depending on their frequency of reporting. Retailers are motivated to provide data on behalf of the manufacturer to maintain a good working relationship with the manufacturer. Sometimes the EEPS funding is used by manufacturers for promotions with retailers that already have relationships with NYSERDA. The program makes sure that no double counting is done by looking at the sales data from both the manufacturer and the retailer, and subtracting the lamps sold in the stores from the promotional data.

For 2010, Lockheed Martin made some minor changes in order to make requirements more uniform for ease of reporting, but they were careful to point out that they were not asking partners to change their databases. Lockheed Martin is willing to work with manufacturers to put the data into the format needed for overall program reporting. Lockheed Martin is creating a web-based system that partners can use to input the data themselves; that likely will be available in 2010.

All sales reporting is done at the zip code or utility service territory level so that shipments within the SBC territory can be tracked. Large retailers must work with their distribution center to identify the zip codes where the products were distributed; however, tracking does not necessarily include a retailer name or address, so detailed sales verification is not available. Market-level data is not broken down by zip code, but the program asks partners to include shipments only to SBC territory. There are no checks to see that this is done.

Lockheed Martin provides NYSERDA with regular program updates and can access the data for specific queries on an as-needed basis. One of the regular reports produced is the EEPS tracker, which monitors program activity on a weekly basis. The tracker shows active promotions and the status of each partner agreement by various measures, including approved budget, promotions paid, and CFLs sold. The tracking tool also includes charts detailing program progress over time and by utility group.

4.1.1 Implementation Contractor

A significant effort is required by Lockheed Martin staff to facilitate the data collection process. Lockheed Martin provides assistance to retailers to ensure monthly reporting is done. Additional effort is required to organize and input the data into the necessary reporting format. Lockheed Martin provides partners with an electronic data collection form, but some partners are so small that they do not have the ability to automate the reporting electronically. In these cases, Lockheed Martin receives the data on paper and does the data entry by hand. Currently there are about 750 retailers and 40 manufacturers submitting data to the **New York Energy \$mart** Products Program on a regular basis.

Some partners have had no problems submitting the data from the beginning of the partnership, while others need more guidance, but typically are able to submit their sales data in a satisfactory manner within six months. Lockheed Martin respondents estimated that 60% to 85% of partners automatically provide data to the program and the remaining 15% to 40% comply after a phone call reminder or submit data by the next month. One respondent from Lockheed Martin added that the increased incentive funding has helped to alleviate the burden of reporting for partners. Partner concerns about confidentiality exist, but the program signs a confidentiality agreement with partners. Only one manufacturer has declined to participate in the program due to concerns about confidentiality and Lockheed Martin is not aware that this has been an issue for any retailers in 2009.

4.1.2 NYSERDA Staff

NYSERDA acknowledged that both manufacturers and retailers have expressed concerns about confidentiality and the burden of providing data, making them reluctant to provide sales data. However, a history of working together, along with trust gained from the confidentiality agreement signed by NYSERDA and tying reporting to financial incentives, encourages partners to provide the program with tracking data. NYSERDA institutes a retainage of 15% of the total funds allotted to partners, which is paid once all the sales data has been received. Partners who are delinquent in providing sales data for more than three months in a row are subject to being removed from the program. NYSERDA reported that in the past, it has terminated relationships with manufactures and retailers, but these incidents occurred prior to 2009.

4.1.3 Manufacturers

Three of the six manufacturers interviewed reported providing quarterly shipment data to Lockheed Martin. The two large manufacturers also provide monthly point-of-sale data from individual retailers, aggregated to cover SBC territory. The remaining four manufacturers provide data on their sales to retailers in SBC territory; two reported providing this data on a monthly basis.

All of the manufacturers interviewed said they have no concerns about disclosing sales or shipment information because they assume Lockheed Martin is keeping these data confidential. The two large manufacturers, however, had concerns about the quarterly shipment data. Both interviewees commented that they did not understand why they need to provide quarterly shipment data when they are already providing monthly POS data. One interviewee further noted that the shipment data provided is for warehouses in New York; some of these products may end up on Long Island or in New Jersey, while products shipped to out-of-state warehouses may also end up in NYSERDA stores. As a result, reliance on shipment data may not provide a full picture of market-level CFL activity in SBC territory by partners.

4.1.4 Retailers

Eight respondents said that they provide monthly sales reports to Lockheed Martin, detailing unit sales of all CFL SKUs sold in their stores. The remaining four retailers interviewed did not know what information was provided to Lockheed Martin. One of these four retailers, a membership club, provides Feit Electric with sales data for all CFL SKUs, and believed that Feit formats this information

appropriately and forwards it to NYSERDA and other utility companies. A grocery store respondent noted that they reported unit sales in New York and for all out-of-state stores as well.

Most respondents were satisfied with the process for providing CFL sales data to Lockheed Martin. None of the eight respondents aware of their monthly reporting requirements to Lockheed Martin had any concerns about disclosing CFL unit sales to the program. Of these same eight respondents, only one retailer, a small hardware store, expressed frustration about the difficulty of providing the data to Lockheed Martin. The displeased retailer was required to provide information about many products not sold in the store and wanted to fill out the form only for the products they carried. The other seven respondents had no problems with the data reporting process.

Three large retail chains – two grocery stores and a drugstore – said the reporting process was very easy for them: it took very little time to generate sales reports or they did something similar for lots of other vendors, so this was not burdensome. Respondents with computerized inventory systems seemed to have the easiest time generating the sales data to provide to Lockheed Martin, as it did not require manual counting by store employees. Two smaller hardware stores said the data collection process required extra work, but acknowledged it was probably necessary in order to maintain the NYSERDA incentives and that the benefits outweighed the increased administrative responsibilities. One drugstore, while satisfied with the data collection process with Lockheed Martin, thought the NYSERDA program overall required retailers to fill out far too much paperwork and that NYSERDA changed the rules for its program too often, making the administration of this program difficult for retailers.

4.2 SHELF STOCKING AND PRODUCT MIX

We asked respondents to describe whether retailers stock CFLs all year long or only during promotional periods. They also were asked about the variety of standard and specialty CFLs that were promoted through the program and the impact of NYSERDA program support on CFL sales.

4.2.1 Stocking of CFLs

NYSERDA Staff

A couple of NYSERDA respondents were not familiar with the details of retailer stocking patterns, but noted that most retailers appear to be willing to stock CFLs throughout the year. One of the respondents who was more familiar with retailer stocking patterns said practices vary by type of retailer. The DIY stores and the hardware stores typically stock CFLs year round. Grocery stores stock them based on the value of the CFL space – if the space is generating a lot of sales, they will continue to sell that space to a lighting manufacturer, but if not, they will put something else there. The hope for the program is that the buy-down promotions in grocery stores will be successful so that the stores will continue to allocate that space to CFLs.

In addition, with fewer big box stores downstate, more of the CFLs going into pharmacies and other retailers may be promotional in nature. These types of retailers are likely to be testing CFLs to see how sales perform. They may, like grocery stores, pull CFLs and replace them with something that has more seasonal appeal. There has been some success downstate with chain grocery stores, which have made a corporate commitment to CFLs and as such tend to keep CFLs in stock until they can really get some growth in the sales of this product.

Implementation Contractor

The implementation contractor said most retailers are stocking CFLs throughout the year, rather than only during promotion periods; however, stocks of CFLs increase during promotion periods. Once a retailer increases the CFL shelf space, it tends to stay that way throughout the year. Hardware and lighting stores

have always devoted a lot of shelf space to CFLs, given their business model, whereas grocery stores – particularly those in New York City – have less space available. In addition to limited shelf space, the availability of CFLs in New York City is limited because the price points for CFLs are high and there are also few big box stores in the city.

Manufacturers

One manufacturer believed that without NYSERDA support, many stores would probably not carry as wide a selection of CFLs, but the other five believed that retailers will only carry the items that they think consumers will buy. Three manufacturers said they have received feedback that retailers are happy with the program; one mentioned that NYSERDA is good about assisting with signage. The other three interviewees had not received any retailer feedback on the program.

Retailers

Most retailers already carried CFLs throughout the year prior to participating in the program (ten out of twelve), but retailers have increased the quantities and types of CFLs stocked since the start of these promotions. Anecdotal examples of stock increases include: 10% to 15% increases; "huge" increases; doubling CFL shelf space during promotions; increasing CFL SKUs from two up to fifteen; or CFL sales that went from a very small percentage to now being 30% of all lamp sales. One retailer sells almost entirely CFLs and doesn't sell incandescent lamps at all. ¹² Another retailer sells its own store-branded CFLs, and this would probably not have been possible without the NYSERDA incentives to keep the price low.

4.2.2 High Power Factor and Specialty CFLs

One of the goals of the program was to stock high-power factor CFLs, ¹³ and NYSERDA is trying to make sure that a variety of specialty lamps, including globes, covered, outdoor, dimmable, and three-way lamps are included in the mix of products in each promotion. NYSERDA has also tried to encourage partners to stock multipacks of bare spirals, but they prefer packages of two to four lamps rather than larger multipacks to avoid having a lot of products in storage at homes.

The vast majority of products incentivized through the program were standard, spiral CFLs (including mini-twisters, the smaller profile CFLs). Approximately 8% of the products incentivized through the program were specialty CFLs, which included a mix of various covered, globe, flood, reflector, dimmable, outdoor, three-way, and dimmable CFLs. The average incentive offered for standard CFLs was about \$1.79 per lamp, while incentives for specialty products ranged from about \$1.18 for candelabras to \$3.52 for three-way lamps, with NYSERDA and its partners splitting all incentive amounts 50/50 (Table 4-1).

¹² This retailer, a membership club, completely eliminated incandescent lamps from its stores and even began replacing CFL specialty SKUs with LED products this past year, but discontinued the LEDs due to manufacturer recalls and began stocking the specialty CFLs again.

¹³ System Benefits Charge, Final Revision for New York Energy \$martSM Programs (2008-2011), as amended August 22, 2008.

Table 4-1. Sales and Average Incentive Paid by Type of Retailer Store

Store Type	Total CFLs	Average Incentive Paid
Hardware	970,583	\$1.79
Price club	42,176	\$2.48
Discount	17,367	\$2.79
Grocery	7,273	\$2.80
Lighting/electrical	5,907	\$3.52
Drug	4,428	\$1.18
Mass merchandise/department	2,867	\$2.40
Other	2,654	\$2.23
Unknown	90	\$1.47
Total	1,053,345	\$2.11

Source: EEPS Program Sales Summary, April-December 2009

For reporting purposes, all data is tracked through the program by individual CFLs, not packages sold. This provision is crucial and allows for a clear accounting of program impacts over time. Within the program database, product descriptions and incentive amounts provide indicators of package size; the partner Buy-Down or Markdown Calculator that is included in each partner's *Special Promotions Application* contains information on the package sizes being promoted.

About half of the products incentivized (51%) were sold in single-lamp packages and most others were sold in two- to four-lamp packages. Only a handful of packages incentivized were large-multi-packs with more than six products per package. The multi-packs were typically for standard CFLs, but a few partners sold multi-packs of covered, dimmable, and reflector CFLs (Table 4-2).

Table 4-2. Package Size of Incentivized CFLs

Package Type	Percentage of Lamps Sold
Single	51%
2-pack	15%
3-pack	2%
4-pack	18%
5-pack	2%
6-pack	6%
10-pack	6%
12-pack	<1%
Total	100%

Source: EEPS Program Sales Summary, April-December 2009

NYSERDA Staff

NYSERDA staff said that the goal of stocking high power factor CFLs has been more of a request to manufacturers and it has not been a priority in selecting the product mix for incentives. Consumers generally do not request this feature. However, NYSERDA staff said that the program helped to increase consumer awareness about the variety of CFLs, including specialty products, that are available and it gave

consumers the opportunity to purchase them at lower prices. More varieties of specialty CFLs continue to be part of partner proposals and NYSERDA is encouraging retailers that have already promoted basic spirals to expand their selection into specialty CFLs and multipacks. Lockheed Martin is instrumental in working with retailers to expand the variety of CFLs offered.

<u>Implementation Contractor</u>

None of the Lockheed Martin respondents were specifically aware of a goal of increasing high power factor CFLs, but they noted that the program makes an effort to include a variety of lamp types beyond the basic spiral CFL. The availability of product lines depends on the type of partner. For example, lighting stores typically carry fuller product lines, whereas grocery stores have more limited shelf space and stock fewer types of specialty lamps.

Standard CFLs still receive the most attention in the program – one respondent estimated that up to 75% of the lamps promoted are standard CFLs – and it is the product with which consumers are most comfortable. Thus, a lot of the marketing is focusing on specialty lamps and the benefits they provide.

Manufacturers

None of the manufacturers interviewed have shipped high power factor CFLs.

All six of the manufacturers interviewed have shipped standard twisters through the program; three have also shipped globes; and two have shipped reflectors and candelabras. Products shipped by one manufacturer included three-way, dimmable, and outdoor PAR lamps. A medium-sized manufacturer praised the program for offering incentives on standard twisters; some programs do not incentivize these products for fear of making them too cheap. However, incentivizing standard twisters helps open the door for retailers to carry specialty products.

Retailers

Ten out of twelve retailers said that they currently stock both standard spiral and specialty lamps. Only two retailers are not stocking any specialty lamps (a grocery store and a drugstore), and the drugstore plans to begin stocking them. A department store that recently started carrying CFLs stocks only program-discounted standard spirals and one specialty lamp, whereas the other nine retailers stocking CFLs all stock a wide variety of specialty lamps.

The NYSERDA program and increasing consumer demand for CFLs have encouraged retailers to stock a wider variety of CFL types. Only three retailers stocked their current product mix prior to participating in the program: two of these do not carry specialty CFLs and the third is a membership club that has strict limits on the numbers of SKUs it sells. Five retailers thought the program had not encouraged their current product mix; they generally attributed their product mix to consumer demand for a wide variety of CFLs (a grocery store reported its strategy was to provide a lamp for every socket and that it was trying to promote sustainable products). Six respondents, however, thought the program encouraged their current product mix, as the incentives encouraged increased shelf space for more types of CFLs, which in turn fueled awareness and demand for a variety of products.

Nine out of eleven retailers believed that even without NYSERDA support, they would have sold the same types of CFLs in their SBC territory stores in 2009, typically citing consumer demand for a wide variety of CFL types. Only two retailers – a hardware store and a grocery store – disagreed: the hardware store said that without the program, it would have stocked whatever their customers asked for; and the grocery store reported it would not have added specialty CFLs to its product mix without the program, as the demand for the discounted standard CFLs fueled "tremendous" demand for specialty CFLs.

Most retailers wanted to continue stocking a wide variety of CFL types. Three retailers were not interested in increasing their product mix because they already carried a wide range of products. Five

retailers were interested in increasing the variety of CFLs they stock (although two of these said there isn't much they don't already stock). The membership club specifically tried to limit the variety of CFL types to products that can meet certain minimum sales projections and had not found any additional CFL types able to meet those standards. The department store is still testing the program and is considering widening the product range, but has to ensure that the lamps do not take away too much space from other products more critical to the store's mission; it is considering increasing the mix to include dimmable CFLs. A grocery store and an electrical supply store expressed interest in stocking a wide variety of CFL types, each in multiple color temperatures.

4.2.3 Sales Trends

CFL sales in the United States have experienced remarkable growth in the past decade – fewer than 10 million CFLs were sold nationwide in 2000, but by 2002, CFL shipments jumped to 52 million and peaked at 397 million in 2007. Since that peak, CFL shipments dropped 15% to 337 million in 2008 and they slipped even further in 2009, to 272 million. Coinciding with the drop in CFL shipments is a slowdown in incandescent lamp shipments, along with a national economic downturn. We asked respondents to comment on the trend of declining CFL shipments and sales nationwide.

Table 4-3 presents sales of CFLs through NYSERDA partners over time. Program efforts generated annual sales of less than 300,000 CFLs until 2007, when a large jump in sales occurred, consistent with the peak in national CFL sales. However, unlike national sales, CFL sales by partners in SBC territory have continued to grow, albeit with a slight decrease in 2009. During this time, program efforts have also increased, along with the number of partners.

Type of CFL Sale	2001	2002	2003	2004	2005	2006	2007	2008	2009
Incentivized through EEPS	N/A	1,053,345							
Market-level sales by partners	283,207	199,195	197,557	176,135	291,400	247,081	523,794	835,201	827,867

Table 4-3. Annual CFL Sales through NYSERDA

NA=Not applicable; the EEPS program did not exist prior to 2009.

NYSERDA Staff

NYSERDA staff noted that CFL sales have dropped over the past year and this has been evident in the trending data collected for the program and through anecdotal reports from partners. Partners attributed the downturn in sales primarily to the economy; consumers are reluctant to spend money. One respondent had heard that nationally sales are down by as much as 50%; partner retailers had slower sales too, but the respondent estimates sales in SBC territory might be down by about 20% to 25%. Another respondent described the downturn in CFL sales as a "quirk in the market" and speculated that slower CFL sales in some parts of the country might logically be explained by the fact many regions have rebated CFLs heavily, but are now pulling back on the rebates, so consumers who are waiting for the next rebate are not buying CFLs right now. However, in New York, CFL products have not been rebated in the same way, so the reason why CFL sales are not better is puzzling. The respondent speculated that many consumers may be cutting back on their budgets right now and unless the depressed sales situation continues for an extended period of time, retailers will continue to stock CFLs.

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¹⁴ U.S. Department of Commerce, Monthly CFL Import Data.

¹⁵ U.S. Department of Energy. CFL Market Profile, March 2009.

When asked how consumer response has affected the program, one respondent said that retailers have conveyed to NYSERDA the importance of the program. The program has helped retailers to increase their level of effort in terms of quantity and variety through promotions. One respondent noted that the program just had their first ever promotion with Home Depot and thought that Home Depot would not be participating unless they felt they needed to do a new push.

<u>Implementation Contractor</u>

The implementation contractor noted that the downturn in sales is not restricted to CFLs only – all types of products have been slower to sell. Even so, Lockheed Martin staff had seen more retailers stocking more lighting products as a result of the increased funding. In some cases, retailers were seen to be stocking more non-incentivized products too. Without incentives, particularly in this economic climate, respondents from Lockheed Martin believed CFL sales would be slower and retailers would be even more reluctant to stock slower selling product lines. As one respondent explained, in tough economic times, even if consumers will save money in the long run, they are reluctant to spend any additional money today.

Manufacturers

Four of the manufacturers interviewed – the two large and two medium-sized firms – agreed that CFL sales are falling nationwide. All four believed this is due to the recessionary economy, with consumers simply choosing the cheapest upfront option. They also believed the program is working to counter this trend in SBC territory, but it is still difficult to convince people to buy a light bulb if they don't need one – particularly a more expensive bulb. CFL sales are expected to pick up as the economy recovers. The two small manufacturers noted that their sales have been rising and were less concerned about economic effects.

Retailers

When retailers were asked to speculate on why CFL sales are falling nationwide, they had several theories. Seven retailers focused on the price of CFLs and six cited the bad economy. Six respondents said the market for CFLs was saturated and five also cited CFL longevity for a slowdown in sales. Only two respondents noted a lack of education and one noted that a negative past experience with CFLs impacted sales. Two retailers said that CFL sales were dropping in response to LED market share increasing.

Most retailers interviewed had not seen CFL sales fall in their NYSERDA-area stores. Out of eleven retailers, only two saw CFL sales decrease relative to the prior year and they were only down slightly. One of these, a hardware store, still expected sales to end up close to last year's, and thought the decrease was attributable to the bad economy, as sales were down for all sorts of products, not just CFLs. The other retailer, a grocery store with decreased CFL sales, believed it was attributable to the bad economy, increased CFL saturation, and that NYSERDA had heavily promoted and incentivized CFLs in 2008, but that these promotions and marketing efforts had decreased in 2009. Retailers generally believed that falling CFL sales would bounce back when the economy improves, particularly if they are properly incentivized and promoted through robust marketing.

Most retailers (eight out of eleven) reported that incandescent lamps are still their best selling lighting products. Most retailers attributed this to two things: a lack of familiarity with or education about CFLs' benefits (seven out of eight), particularly since incandescent lamps are a "known quantity"; and, the low price of incandescent lamps (six out of eight). Other reasons cited were: the wider variety of incandescent lamp types (one retailer); superior incandescent lamp light quality (one retailer); or the unappealing aesthetics of CFLs (one retailer), who said that while green builders know the benefits of CFLs, the average consumer is still "fashion-driven ... [and] doesn't want to see a compact fluorescent swirly bulb in [a] \$9,000 chandelier."

Only three retailers sell more CFLs than incandescent lamps – two of these, a department store and a membership club, carry only CFLs and/or LEDs and do not carry incandescent lamps at all. The third, a lighting retailer, said its predominantly low-income customer base is energy conscious and chooses CFLs to reduce energy consumption and utility bills.

The NYSERDA program has increased CFL sales at participating stores. Out of ten respondents, only two thought they would have sold the same number of CFLs in 2009 in the absence of the program, while the other eight all thought sales would have been lower without NYSERDA support. In the absence of the program, two retailers (a hardware and a grocery store) thought their CFL sales would have been 20% or 25% lower, and three (two grocery stores and a drugstore) estimated their sales would have been at least 50% lower. Three retailers were not sure how much lower sales would have been, but the membership club reported that the effect on sales was directly tied to the incentive level for each lamp: a 10% to 20% discount yields up to a 50% increase in sales; a 20% to 40% discount yields a 100% to 150% sales increase; and a 50% discount results in a 400% to 500% sales increase. A hardware store wasn't sure how much lower sales would have been without the program, but noted that in the past year, it sold over 3,000 13-watt CFLs, whereas it hadn't sold 200 of that lamp across 18 stores in one year prior to the program.

Specialty CFLs are not selling as well as standard CFLs, but their sales have been in line with retailers' expectations. Nine out of ten respondents carrying specialty lamps report lower specialty lamp sales, and eight of these reported specialty lamp sales are about the same as they expected (one thought they were selling more than expected, even though they didn't sell as well as standard CFLs).

4.3 PROGRAM INFLUENCE ON STOCKING

We asked respondents whether they thought retailers would continue to stock CFLs in the absence of the program, or if they would stock the same level and types of CFLs as they do under the program.

4.3.1 NYSERDA Staff

The program funding has helped retailers to get things started and expanded the number and types of CFLs offered. One respondent said retailers would continue to stock CFLs without the incentive; however, they may not stock as many specialty lamps and sales would likely not be as strong because the partners would likely not have the education and outreach resources that are required with the program incentives. The respondent felt that the program has allowed them to work with retail partners who do not normally sell a lot of CFLs, like Wegmans and Price Chopper. Instead of carrying one or two CFL products, Price Chopper, for example, is now carrying 29 different SKUs of CFLs through the program.

4.3.2 Implementation Contractor

In the absence of the NYSERDA program, implementation staff said that retailers would continue to stock CFLs, but it is likely that they would stock fewer models and product lines, and would sell them at higher price points. One respondent speculated that nationally more retailers are stocking CFLs because it makes them appear to be more environmentally conscious. They also speculated it is likely that fewer specialty lamps would be stocked in the absence of the program.

4.3.3 Manufacturers

All six of the manufacturers interviewed said they would have shipped fewer CFLs to SBC territory in the absence of program support, but their estimates of how much sales would have declined vary widely. The interview process did not follow-up to substantiate any of the estimates, but all suggest the program increased sales. One large manufacturer believed shipments would have been 10% lower; the other large manufacturer believed the hardware stores supported by the program would have sold 15% to 30% fewer

CFLs. A medium-sized manufacturer believed shipments for the stores supported by the program would have been 70% lower in its absence; the other medium-sized manufacturer believed they would have shipped fewer CFLs, but could not estimate by how much. One small manufacturer believed they would have shipped 25% fewer CFLs; the other estimated shipments would have been off by 50% in the absence of the program.

While all manufacturers believed they would have shipped fewer products, four of the six manufacturers interviewed believed they would have shipped the same types of products in the absence of the program. A large manufacturer believed they probably would have shipped fewer specialty products, though they could not say which products would have been affected. A small manufacturer believed they would not have shipped any multipacks.

Five of the six manufacturers interviewed are shipping CFLs in SBC territory that are not covered by the program. These include pin-based products shipped by two manufacturers, high wattage CFLs, and various CFLs that are not ENERGY STAR-certified. Four of these manufacturers believe the program has had no effect on the sales of non-incentivized CFLs; one small manufacturer estimates the program may have raised sales of their non-incentivized CFLs by about 15%. Three manufacturers did not believe the program-discounted CFLs have any effects on consumer expectations regarding the prices of non-discounted CFLs; two manufacturers believed that consumers expect to pay more for the non-discounted products because they are clearly different from the standard twisters.

4.3.4 Retailers

Five retailers said they carry only NYSERDA-discounted CFLs, while six retailers also carry CFLs that are not discounted by the program. Of these six retailers, two stock non-discounted standard spiral and specialty CFLs, and two others stock non-discounted specialty CFLs in addition to the program-discounted CFLs. The non-rebated CFL stock of one hardware store is limited to the store's pre-program CFL inventory (the respondent was not sure if these were standard spirals or specialty lamps) and an electrical supply store said that they stock almost no non-rebated lamps.

When asked what effect the program-discounted CFLs have on the sales of their non-discounted CFLs, three retailers reported that they sell far more of the discounted CFLs. One hardware store said the discounted lamps increased customer awareness of CFLs, which in turn helped the store sell its non-discounted CFL stock, and one grocery store thought the discounted lamps had no effect on the sales of the non-discounted lamps, as there had been no sales decrease for the full-priced CFLs.

Retailers were asked what effects the program-discounted CFLs have on consumer expectations regarding the prices of non-discounted CFLs. Retailers consistently thought that, given an option, most consumers would choose the discounted lamps over non-discounted lamps. Three retailers specifically stated that once consumers become used to the incentivized prices, they come to expect (or demand) CFLs for that price. One of these retailers thought that if incentives disappeared, customers would hold off on lamp purchases until the discounts returned. Another retailer thought that customers, now used to prices around \$2.00 per lamp, would quickly reject even a \$2.00 price point if the incentives were increased. This retailer thought that if the NYSERDA incentives were removed, the store would be left to deal with consumer demand for an artificially low retail price that the store could not maintain. Two retailers thought the only customers who would buy full-priced lamps when there are discounted alternatives are less price-sensitive customers who are either brand-loyal or willing to pay for a certain light color or specialty feature (daylight CFLs, instant-on, etc.).

4.4 SUMMARY OF CFL SALES AND STOCKING

4.4.1 Sales/Shipment Data Collection

Partners are required to submit shipment or sales data to the program to ensure that products incentivized by NYSERDA are being sold within SBC territory. Acceptable forms of documentation include a manufacturer bill of lading, which details by zip code the shipping destination of the products incentivized, or retailer sales documentation by store location. Program implementer Lockheed Martin is flexible in allowing partners to submit sales data in electronic or paper format to accommodate various recordkeeping systems by partners, but assimilating the data received in different formats is a time-consuming process. A 15% retainage is held by NYSERDA until all sales documentation is submitted for the incentivized products.

Partners also are required to submit monthly sales data for all CFLs sold, regardless of whether or not promotional activity occurred during that time period. These data allow the program to take a snapshot of the market activity for their partners. Understanding market-level CFL sales is important for program attribution beyond incentivized product counts. However, the NYSERDA market-level data have limited functionality, in that only partners submit data, and any retailers that sell incentivized CFLs through a manufacturing partner are not themselves partners and are not required to submit market-level information. The data collected does not provide a full market picture of CFL sales in SBC territory because they include neither total CFL sales among all retailers that sell incentivized products nor sales from non-participants.

Accounting for sales within SBC territory is essential to ensure that the assumed savings from incentivized products are occurring in SBC territory. With any market-based program, there will be some overlap of customers who purchase incentivized products from a participating retailer, but do not live within SBC territory, or customers who live in SBC territory, but install the products elsewhere. A larger concern, and one that does not appear to be properly addressed by the program, is accounting for shipments that have been made by a manufacturer to a warehouse in SBC territory, but are ultimately sold in retailer storefronts outside of SBC territory. In tracking market share data, there is also the possibility that shipment data provided are for warehouses in New York, but some of the CFLs products may end up on Long Island, in Connecticut, or in New Jersey, while products shipped to out-of-state warehouses may also end up in NYSERDA stores and be unaccounted for in partner market data.

Partner concerns about confidentiality exist, but the program signs a confidentiality agreement with partners. Lockheed Martin is flexible in allowing partners to submit sales data in a format that minimizes burden, but it spends considerable effort ensuring that partners provide regular sales updates and compiling the data for reporting purposes.

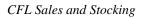
4.4.2 Shelf Stocking / Product Mix

Most retailers stocked CFLs throughout the year, rather than only during promotion periods; however, stocks of CFLs increased during EEPS program promotions. Manufacturers reported that in the absence of the program, they would have shipped fewer products, and retailers reported that they would have stocked fewer models and product lines; stocks of specialty bulbs, in particular, would not be as extensive as they are under the EEPS program. All CFLs likely would have been offered at higher price points without the EEPS incentive and sales probably would have been slower. The EEPS program helps retailers move the incentivized CFLs faster than non-discounted CFLs. Most partners noted little spillover effect from the program on sales of CFLs that are not discounted. Most retailers reported that incandescent lamps are still their best-selling lighting products, an indication that there is still room for increased market share for CFLs.

The vast majority of products incentivized through the program were standard, spiral CFLs (including mini-twisters, the smaller profile CFLs). About 8% of the products incentivized through the program

were specialty CFLs, which included a mix of various covered, globe, flood, reflector, outdoor, three-way, and dimmable CFLs. About half of the products incentivized (51%) were sold in single-bulb packages and most others were sold in two- to four-bulb packages. Only a handful of packages incentivized were large-multi-packs with more than six products per package.

Nationally, sales of CFLs have dropped since their peak in 2007. CFL sales in SBC territory have continued to increase during that time (as reported by program partners), but sales in 2009 were slower than anticipated by the program. According to retailers, a national economic downturn slowed sales of all products, not just CFLs, and fewer consumers were going to the stores. However, many respondents were hopeful that the economic picture is improving. Also, the program was slow to implement its marketing and outreach campaign; as a result, incentivized products were available at retailers, but there was no accompanying information to draw consumers to the stores.



CFL DISPOSAL AND CONSUMER RESPONSE

5.1 CFL DISPOSAL / MERCURY

One of the goals of the program was to increase the in-store promotion and point-of-purchase materials about proper CFL disposal, given that all CFLs contain mercury. However, the program does not fund recycling, so all initiatives by partners are voluntary. The evaluation team asked respondents to comment on CFL recycling and disposal options.

5.1.1 NYSERDA Staff

Some retailers, such as hardware stores and Home Depot have gone above and beyond in their efforts to address CFL disposal and mercury by providing CFL collection buckets in their stores, whereas other retailers do not address the issue at all. NYSERDA also provides information about CFL recycling on its website and for over a year has maintained an online listing of retailers, listed by county, that offer collection services; currently about 200 retailers, mostly Home Depot stores, are listed. ¹⁶ The retailers that choose to have in-store collection services finance it themselves; NYSERDA has received requests from retailers to help with the costs of CFL collection, but is unable to help because this is not currently part of the program budget.

5.1.2 Implementation Contractor

The Lockheed Martin account representatives encourage retailers to have in-store recycling services and they provide retailers with contact information for collection and recycling services. Retailers that provide collection services generally see it as a way to provide a service to the community and to move traffic into the store. One interviewee reported that many retailers do not even realize that mercury is a problem and many manufacturers include limited information about mercury, but would prefer to downplay the risks of mercury rather than address concerns. Furthermore, the respondent had the opinion that without funding and legislative mandates, not many retailers and manufacturers will address mercury and disposal issues on their own.

5.1.3 Manufacturers

None of the manufacturers interviewed have formed partnerships with retailers for CFL disposal. Three of the six manufacturers interviewed said they encourage their retailers to offer recycling. Two manufacturers said some of their retailers offer recycling, but they acknowledge these retailers are in the minority of those they work with. Asked who should be primarily responsible for CFL recycling, four manufacturers mentioned municipalities, one mentioned retailers, and one would have legislation to make recycling consistent across the country, supported by energy efficiency programs.

5.1.4 Retailers

Six out of eleven retailers offer point-of-purchase materials concerning mercury and proper CFL disposal, while five do not. A grocery store was unaware that this was a focus of the program and had never been given such POP materials; they wanted to be provided with them to deal with consumer complaints about mercury in CFLs.

¹⁶ See: http://www.getenergysmart.org/Resources/FindPartner.aspx?=2.

Retailers are not actively participating in or providing CFL recycling services for consumers. Only one retailer interviewed, the department store, offers CFL recycling for customers, who can drop off CFLs during store hours for free disposal. A hardware store used to collect fluorescent lamps and charged consumers \$1.00 to drop off a CFL or \$2.00 for a tube fluorescent, but customers responded negatively to the fee and misunderstood the purpose of the drop-box, so the store stopped accepting used lamps. A grocery store said it wanted to provide these services, but that it could not accept hazardous waste into a food store. This retailer had investigated selling a CFL mail-in recycling kit, but these were too expensive. A different grocery store said it participated in a CFL recycling partnership in Vermont, but not in New York.

Retailers gave mixed opinions on who should be primarily responsible for CFL recycling, but they consistently expressed the need for recycling CFLs to be easier and the process made more consistent across different regions. The most common response (five retailers) was that municipalities should be responsible for CFL recycling, since they are in charge of administering the recycling of other materials. One grocery store expressed great frustration that it sells lamps in 40 counties in New York and each county has different regulations for lamp recycling. Two retailers thought consumers were most responsible for the recycling and two thought manufacturers should be primarily responsible. Two retailers also thought that the responsibility for CFL recycling rests with all parties (consumers, retailers, manufacturers, etc.). One retailer also suggested that CFLs be sold with a container that consumers could put used lamps into before disposal.

5.2 CONSUMER RESPONSE

Respondents were asked if they have received any feedback about consumer response to CFLs.

5.2.1 NYSERDA Staff

NYSERDA has received limited feedback about consumer response to CFLs and noted that some consumers really like them, while others do not for a variety of reasons (e.g., CFLs take too long to start, do not work in all applications).

Feedback about pricing focused on CFL prices that are still too high. NYSERDA noted that consumer education is still an important part of making sure that CFLs are accepted.

5.2.2 Implementation Contractor

Lockheed Martin has not received any feedback about product returns from partners.

5.2.3 Manufacturers

Manufacturers reported mostly positive consumer feedback. Two manufacturers noted that most consumer complaints involve standard twisters rather than specialty products. One manufacturer said that most issues concern the lifespan of CFLs; consumers need to understand that the lives reported occur under test conditions, which may be different from regular use. Some consumers also find that CFL dimmable lamps still do not work as well as incandescent dimmables. Another manufacturer noted that consumers are never going to like the fact that CFLs are more expensive than incandescent lamps, so the lower operating costs need to be continually emphasized.

5.2.4 Retailers

Retailers reported mostly positive consumer feedback about CFLs, and that strong sales and very low return rates indicate general satisfaction. A few retailers noted customer complaints about light quality, slow startup times, or mercury content, but these were minor complaints and several retailers noted the continual improvement of CFLs in these areas. Three retailers reported more complaints regarding

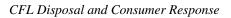
specialty CFLs than standard spiral CFLs, but most acknowledged that, as specialty CFLs were newer products, they had limited customer feedback on these, and it was still generally positive. A hardware store believed one reason for negative customer feedback on CFLs is that CFL brightness and color temperatures are less consistent across lamp types and brands than incandescent lamps. Customers rarely return CFLs and two retailers – a hardware store and a grocery store – both stated they were surprised by how few returns there were due to damage, since the lamps are highly technical devices that undergo abuse during the shipping and stocking process.

When asked if they had received feedback from consumers regarding CFL prices, six retailers had no such feedback, while five reported that consumers seemed pleased with the discounted CFL prices, but thought they were expensive when not discounted.

5.3 SUMMARY OF CFL DISPOSAL AND CONSUMER RESPONSE

The program does not fund recycling, so all initiatives by partners are voluntary. NYSERDA also provides information about CFL recycling on its website and for over a year has maintained a by-county online listing of retailers that offer collection services. There is no consensus among retailers and manufacturers about who should be primarily responsible for CFL recycling – possibilities include the retailers and manufacturers themselves, utilities, municipalities, energy efficiency programs, the federal government, or other entities – but there is agreement about the need for CFL recycling to be easier and the process made more consistent across different regions. Retailers would like NYSERDA to provide more information about proper CFL disposal and recycling to dispel consumer concerns about safety.

Consumer feedback to the program is limited, but retailers report few returned products. Complaints about CFLs included issues related to light quality and CFLs not meeting consumer expectations compared to incandescent lamps or testing conditions. Some retailers said that specialty CFLs were subject to more complaints than standard CFLs, but manufacturers had a contradictory opinion and said that consumer dissatisfaction seemed to be more focused on standard CFLs. Both retailers and manufacturers noted that the high price of CFLs is a concern for consumers and emphasized the importance of the pricing discount and education about the longer-term savings of CFLs to encourage consumers to find value in the products.



Process Evaluation of the CFL Expansion Program

FUTURE OUTLOOK FOR EFFICIENT LIGHTING

6.1 NEW TECHNOLOGIES / EISA 2007

Many changes are occurring in the development of new energy-efficient lighting technologies, including advancements in solid-state lighting (SSL), mostly in the form of light emitting diodes (LEDs), and in pending lighting standards from the Federal Energy Independence and Security Act of 2007 (EISA) that will phase out certain types of inefficient lighting beginning in 2012.

The Federal Energy Independence and Security Act of 2007 was signed into law on December 19, 2007, and includes new efficiency standards for lighting products. EISA sets maximum wattage levels by lumen output for medium, screw-base lamps that have a range from 310 to 2,600 lumens and are capable of operating at a voltage range of 110 to 130 volts. The standards are to become effective under a phased approach beginning in 2012 (Stage 1) when general service lamps will be required to use about 20% to 30% less energy than current incandescent lamps (Table 6-1). After January 1, 2020 (Stage 2), all general service lamps will be required to meet a 45-lumen per watt standard or a more stringent level, if appropriate. The standard excludes 22 categories of incandescent lamps, including three-way lamps, outdoor bug lights, reflectors, and appliance lights.

Table 6-1. EISA Standards for General Service Incandescent Lamps

Rated Lumen Ranges	Maximum Rated Wattage	Minimum Rated Lifetime	Effective Date
1,490 to 2,600	72	1,000 hours	1/1/2012
1,050 to 1,489	53	1,000 hours	1/1/2013
750 to 1,049	43	1,000 hours	1/1/2014
310 to 749	29	1,000 hours	1/1/2014

Source: Energy Independence and Security Act of 2007, December 19, 2007.

http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_public_laws&docid=f:publ140.110. Accessed 4/29/08.

To avoid adverse market effects of shifts in sales of exempted lamps for general use, a provision in EISA monitors lighting sales and allows for additional standards to be set. If sales of exempted lamps double after the standards on general service lamps are effective, the federal government must establish new efficiency standards for that product category. The federal government, in consultation with the National Electrical Manufacturing Association (NEMA) will collect unit sales data and create a historical record and models of sales for the designated lamps for tracking purposes.¹⁷

More efficient incandescent lamps, halogen lamps, CFLs, and solid-state lighting (most likely in the form of LEDs) are among the technologies that are emerging and will likely play a role in meeting the EISA standards. However, additional potential exists for savings in other residential lighting applications not covered by EISA. Respondents were asked if they anticipate that other energy-efficient lighting products besides CFLs should have a place in future NYSERDA programs.

¹⁷ See: http://www.nema.org/gov/energy/upload/NEMA-Summary-and-Analysis-of-the-Energy-Independence-and-Security-Act-of-2007.pdf. Accessed 6/3/09.

6.1.1 Manufacturers

Five of the six manufacturers interviewed expected that the effects of EISA will increase production of CFLs through 2012, though one small manufacturer noted that they are not seeing a clamor for ENERGY STAR products at this time. After 2012, there will probably be increased production of halogen lamps, incandescent lamps that qualify under EISA, and LEDs, as well as CFLs. Two manufacturers reported increasing R&D efforts in these areas.

Manufacturers believed there might be some hoarding of incandescent lamps right before EISA goes into effect, but do not see a major ramping up of incandescent lamp production. Five of the six manufacturers interviewed believed there is enough manufacturing capacity to meet the anticipated demand for CFLs in the U.S. once EISA takes effect; one believed more capacity will be needed and is concerned about shoddy products being manufactured if there is a shortage.

One of the six manufacturers interviewed believed EISA will not take effect in 2012, because it will be held up in courts and through legislative changes.

All six of the manufacturers interviewed mentioned LEDs when asked what lighting technologies are important for NYSERDA to be considering for the future. However, two interviewees did not see LEDs as having a major impact in the residential market for at least ten years. Halogen lamps and cold cathode lighting were also mentioned as efficient lighting alternatives. Three manufacturers emphasized that CFLs have great potential for the near future; one concluded that we need to take advantage of the one technology that works well now for residential lighting.

6.1.2 Retailers

Out of eleven retailers, seven respondents were not aware of EISA or its affects on lighting products. Three respondents knew that lighting restrictions would come into effect and one respondent had a vague awareness of the law. A corporate respondent from a grocery store, who was very familiar with EISA, thought it catered entirely to the manufacturers and speculated that manufacturers would sell 72-watt lamps when the 2012 restrictions go into effect, rather than investing in higher efficiency lamps.

When asked how the coming regulations would affect their future stocking plans for lighting, nine out of eleven retailers thought they would alter their stock or increase their stocking of energy-efficient lighting products to stay in compliance with the law's various phases, with three retailers noting that they will have to stock more efficient products because consumers will be forced to buy only certain kinds of lighting. One retailer, a membership club, said the coming restrictions have already affected its lighting stock, as it has discontinued incandescent lamp sales in all its stores, but that the law will have no future effect because the store is already in compliance with all phases of EISA. Rather than encouraging increased sales of efficient lamps, a drugstore thought the restrictions on cheaper lamps would cause its lighting department to shrink, as the more expensive lamps get priced out of the store because they would not sell enough to merit the shelf space.

Most retailers interviewed thought consumer demand for incandescent lamps might rise before the 2012 EISA standards take effect, but that this would be a limited phenomenon that could be minimized with adequate education efforts. As Table 6-2 shows, six respondents thought incandescent lamp demand would likely increase and one thought it would absolutely increase, while three retailers thought this would not happen; one retailer was not sure if it would, but "hope[d] not." Four of the retailers who thought incandescent lamp demand would likely increase, specifically stated that their own stores would not increase orders or shelf space for incandescent lamps. Only two respondents thought other retailers would increase their orders of incandescent lamps. One retailer noted that customers stockpiled paint when VOC laws came into effect, and two retailers thought that consumer stockpiling of incandescent lamps could be prevented by increasing outreach and education efforts. Retailers indicated they might

have to sell incandescent lamps at discounted prices to ensure they were not stuck with excess incandescent lamp stock before the restrictions came into effect.

Table 6-2. Retailer Outlook on Incandescent Lamp Demand Prior to 2012 EISA Standards Becoming Effective

Probable Demand	Retailer Responses
Increase in incandescent lamp demand likely	7
No incandescent lamp demand increase	3
Don't know	1
Total	11

Retailers thought NYSERDA should consider both CFLs and LEDs for near-future efficient lighting programs. Several retailers thought LED lights were expensive now, but should play a larger part in these programs as their prices fall, and that CFLs would continue to play a large part in these programs, particularly if their light quality continues to improve. In the long-term until 2020, retailers thought LED lights would become the most significant lighting technology for these programs and several thought it was mainly their high price that was keeping them from replacing CFLs as the superior lighting product (i.e., with quality light, low energy, long lifetimes, no mercury, etc.). One grocery store suggested NYSERDA should use its research and development budget to identify and asses any technologies that could save 30% or more in energy, and that some advanced halogen lamps and cold cathode fluorescent lamps might accomplish this. Two retailers mentioned cold cathode lamps as possible future technologies, but most agreed CFLs and LEDs would be the most prevalent technologies.

6.1.3 Industry Experts

The evaluation team reviewed documentation and interviewed five individuals from various programs across the country to better understand how programs are evolving, given new technology developments and the impending EISA standards.

CFLs have emerged as an important component of energy savings in the portfolios of many energy efficiency programs over the past decade or more. Attributes that make CFLs superior to incandescent lamps include cooler running temperature, long life, long-term cost savings, and up to 75% lower energy use (along with the electric demand and environmental benefits that incur). Important technical distinctions about CFLs compared to incandescent lamps have limited their acceptance by consumers as direct replacements for all incandescent lighting needs. The standard incandescent lamp is predictable and reliable, with characteristics that include an A-line shape, warm color, instant turn-on, immediate full brightness, and dimming capability. These attributes are not shared by all standard CFLs. As a group of products within and across manufacturers, CFLs have a lot of variation and do not consistently meet consumer expectations for standard lighting needs. This has created unique categories of specialty CFL lighting that are emerging; however, these products are subject to additional barriers of high pricing, availability, and a lack of consumer awareness.

Industry experts expect CFLs to continue to get smaller; one anticipates that 75- and 100-watt equivalents will be the same size as incandescent lamps, but did not give a timeframe for when they anticipated that would happen. More dimmable models will also be available at lower cost; one interviewee expects the ENERGY STAR program will establish standards for dimmable CFLs in the near future. The interviewees also look for CFL reliability to improve; in particular, the rate of early failures will be significantly lowered.

The mercury content of CFLs will continue to go down as new legislation in the European Union and China set mercury content at no more than three milligrams per lamp. Manufacturers are not expected to run different product lines for the U.S., so lower mercury CFLs should become more widely available

worldwide. Lower mercury products may also be labeled as such. One interviewee expects CFL packaging to include more labeling; in addition to lumens, watts, and hours, there may also be labeling for color rendition and a standardized indication of light output. At the same time, most interviewees do not expect major innovations in CFL technology. One noted that CFLs are a mature market, with the product becoming a commodity; one large manufacturer, Philips, is increasingly more focused on the transition to solid-state lighting (SSL), rather than vacuum-based technologies. ¹⁸

In response to a need for CFLs that meet a broader-based consumer appeal and the wide applicability of standard incandescent lamps, the concept of a Super Lamp (previously called "Super CFL") is being developed in California through a partnership by Pacific Gas and Electric, San Diego Gas and Electric, Southern California Edison, Sacramento Municipal Utility District, and the California Lighting Technology Center (located at the University of California at Davis). The goal of the Super Lamp project is to develop a technology-neutral lamp that includes technical attributes – such as dimmability, long life, and lamp color – as standard features. This effort would also include product testing and program support to bring the lamp to market. A specification for the Super Lamp is forthcoming. ¹⁹

The industry experts interviewed generally see a significant market, at least in the short-term, for more efficient incandescent and halogen lamps. The industry experts interviewed generally consider LEDs to have a strong market potential, but mostly at the end of the next decade. Manufacturers are making large investments in SSL and, specifically, LED development. There may be other lighting technologies on the horizon that will be suitable for general lighting applications.

LED and higher efficiency lighting development will be spurred on by high profile competitions. EISA directed the Department of Energy (DOE) to establish the *Bright Tomorrow Lighting Prize* (L Prize) competition. The L Prize competition is the first government-sponsored technology competition designed to spur development of ultra-efficient, solid-state lighting products to replace the common light bulb. The L Prize will offer significant cash prizes, ²⁰ along with opportunities for federal purchasing agreements, utility programs, and other incentives for winning products. The requirements for entering the competition call for a 60-watt incandescent lamp replacement to provide more than 90 lumens per watt, with a life in excess of 25,000 hours, while the PAR 38 halogen incandescent replacement lamp should provide more than 123 lumens per watt, with a life in excess of 25,000 hours. ²¹

One interviewee believes the L Prize winner will be on the market in 2010, though the price will likely be high. In September 2009, Phillips submitted an entry to the L Prize competition and now will undergo a year of testing to document performance. Until a winner is declared, other applicants are encouraged to continue to submit entries to the competition. Other design competitions for LEDs include *Lighting for Tomorrow*, which added a category for solid-state lighting in 2006 and expanded it to include a wider range of applications in 2009.²²

6.2 FUTURE OUTLOOK FOR PROGRAM DESIGN

While not explicitly asked in the interview process, respondents from both NYSERDA and Lockheed Martin expressed concern about the potential for decreased program support in energy-efficient lighting programs across the country due to the diminished evidence of program effects that has surfaced in some

http://www.annualreport2008.philips.com/pages/sector_performance/lighting/lighting_landscape.asp. Accessed 9/22/09.

¹⁸ Philips 2008 Annual Report.

¹⁹ California Emerging Technologies Coordinating Council. http://www.etcc-ca.com. Accessed 10/20/09.

²⁰ Subject to the availability of appropriated funds, up to \$10 million for a 60-watt incandescent replacement lamp and \$5 million for a PAR 38 halogen incandescent replacement lamp.

²¹ See: http://www.lightingprize.org. Accessed 9/17/09.

²² See: http://www1.eere.energy.gov/buildings/ssl/competitions.html. Accessed 9/17/09.

studies. There is concern about how movement by other energy efficiency programs to remove program support may impact NYSERDA's CFL Expansion Program.

The evaluation team reviewed documentation and interviewed individuals from various programs across the country to better understand how programs are evolving, given lower attribution rates in recent years.

6.2.1 New York

One NYSERDA staff member noted that the program needs to be responsive to what is going on in the marketplace. NYSERDA receives real time information from the field, and the respondent noted that what they are doing today and what they decide to do six months from now might be very different. The respondent emphasized that it is important that the program be flexible in its approach and that it gets a good understanding of what is happening in the marketplace.

The market in SBC territory does not appear to be as mature as markets where CFLs have been heavily promoted over a long period of time. There is still untapped potential for energy savings with CFLs in SBC territory – even though CFLs have achieved high rates of consumer awareness (91% statewide and 79% in New York City) and currently are used in about 84% of households statewide and in 79% of those in New York City, saturation (the percentage of total sockets using CFLs) is low (19% statewide and 21% in New York City). ²³

6.2.2 California

For the 2009 to 2011 period, respondents expect that California investor-owned utilities (IOUs) will continue to support CFLs with upstream lighting programs. They believe that there still are opportunities for savings by replacing incandescent lamps with CFLs. California estimates that about half of the lighting sockets in the state currently have CFLs, but about one-third of households have not yet tried them. Some selective targeting of markets or demographic populations may be part of the program. There will be continued consideration about how CFL sales are tracked to ensure lift is taking place from program support, rather than outside market forces. Support continues for emerging technologies through initiatives such as the national L-Prize and through IOU development of an efficient "Super Lamp" specification that better fits consumer expectations for lighting.

In addition to EISA, state legislative action also continues to figure into improving the efficiency of lighting in California, including state building codes and the Huffman Bill (AB1109 California Lighting Efficiency and Toxics Reduction Act), which has set goals "to reduce average statewide electrical energy consumption by not less than 50 percent from the 2007 levels for indoor residential lighting and by not less than 25 percent from the 2007 levels for indoor commercial and outdoor lighting, by 2018."²⁴

6.2.3 Wisconsin

Wisconsin is continuing to support CFLs through upstream lighting programs; there are plans to expand program efforts to the drug and grocery channels.

Tracking CFL sales for program attribution continues to be an ongoing focus. In particular, Wisconsin has relied on using a comparison area to document baseline lighting sales, but notes that finding comparison states with similar market and consumer demographics is no longer possible, because most areas of the country now have some type of lighting program.

They are considering modifications to the way incentive payments are made to big box retailers by linking incentives to lift rather than just straight sales. The program may also increase efforts to target

²³ New York State Research and Development Authority. *Impact Evaluation, NYSERDA CFL Expansion Fast Track Program:* Random Digit Dial and Onsite Survey Results, Interim Report. Draft December 2009.

²⁴ See: http://leginfo.ca.gov/pub/07-08/bill/asm/ab_1101-1150/ab_1109_bill_20071012_chaptered.html. Accessed 12/22/09.

low-income customers because this group of consumers traditionally has not used CFLs, so there are untapped savings potential from this sector. Additionally, because low-income customers would not purchase CFLs on their own, this sector can be awarded full attribution of program savings. The program is considering lowering incentives for "commodity" lamps and at the same time increasing the selection of specialty lamps because there is less consumer knowledge and acceptance of those lamps. However, Wisconsin notes that the technology is still developing for specialty CFLs and may not meet consumer or quality expectations yet.

6.2.4 Massachusetts

In Massachusetts, there is a high CFL saturation level, but there are still a lot of sockets that are not filled with CFLs, including both standard and specialty applications. Faced with lower attribution rates for program efforts than in the past, Massachusetts sponsors are considering a three-pronged approach to promote efficient lighting that would include a focus on standard, spiral CFLs, specialty lamps, and hard-to-reach customers. Each category would have a distinct marketing strategy and savings goal. The program plans to continue an upstream buy-down/markdown approach to incentivizing CFLs, with specialty lamps receiving the highest incentive rates. Consumer education and marketing will also be part of the program model. Noting that some specialty lamps have technical limitations, part of the education effort will likely be geared towards helping consumers to choose the right product for the intended application. Consideration will be given to low-income populations and to targeting the types of stores, such as dollar-type stores, in which these consumers may shop. However, this will also mean that the price point for CFLs will have to match the \$1.00 level in order for these stores to carry CFLs. The program has supported specialty products for several years, but is considering how greater support of them may achieve more savings for the program.

6.3 SUMMARY OF THE FUTURE OUTLOOK FOR EFFICIENT LIGHTING

The Federal Energy Independence and Security Act of 2007 includes new efficiency standards for lighting products and sets maximum wattage levels by lumen output for medium, screw-base lamps that have a range from 310 to 2,600 lumens and are capable of operating at a voltage range of 110 to 130 volts. The standards are to become effective under a phased approach, beginning in 2012, when general service bulbs will be required to use about 20% to 30% less energy than current incandescent lamps.

From a program attribution perspective, the savings that programs can claim from standard CFLs will be diminished after EISA becomes effective. However, the savings from specialty CFLs will continue to be high (specialty CFLs will not be regulated by EISA, so the delta watts will remain high compared to incandescent lamp alternatives); CFL savings from low-income or other hard-to-reach customers is not likely to be subject to free-ridership (under the assumption that these customers would not buy CFLs on their own as long as there is a choice); and savings from new technologies such as LEDs may also not be subject to free-ridership (low consumer awareness and higher prices may mean that consumers will not buy these products on their own). However, LED technology is still not ready for widespread use due to technical performance problems and high prices. Respondents recommend holding off on promoting them until their performance has improved to avoid consumer backlash against inferior products. Other technologies on the horizon include more efficient incandescent, halogen, and cold cathode lamps; each may serve different purposes and/or markets.

Despite concern about the potential for decreased program support for energy-efficient lighting programs across the country, due to diminished evidence of program effects, there appears to be a continued, but more targeted, commitment to energy-efficient lighting programs in California, Wisconsin, and Massachusetts.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This section summarizes the results of the process evaluation of the 2009 CFL Expansion Program, which is part of the **New York Energy \$mart** Products Program operated by the New York State Research and Development Authority as part of the Energy Efficiency Portfolio Standard process. The CFL Expansion Program partners with retailers and manufacturers to increase the supply of and demand for energy-efficient ENERGY STAR lighting within System Benefits Charge territory.

7.1 PROGRAM DELIVERY

Preliminary estimates of program activity at the time of the evaluation found that the EEPS program incentivized just over one million bulbs from April to December 2009. The EEPS program projects that it will incentivize 6.2 million CFLs with direct incentives over a period of about two and a half years. While it appeared that the program did not meet its 2009 goals, partner commitments remain strong and the pipeline of approved promotions is full.

7.2 MARKETING, OUTREACH, AND EDUCATION

The EEPS program was late in beginning its marketing, outreach, and education campaign for 2009, and most criticism by respondents was focused on the timing, rather than content, of the marketing effort. The delay in the marketing launch was problematic for the 2009 program year because there was no clear link between consumer education and incentivized products becoming available at participating retailers. The economic downturn slowed sales of all products, including CFLs, and many respondents speculated that a stronger marketing effort would have improved the program launch. Retail partners value the role that the NYSERDA program provides for retailer staff education and/or for increasing consumer awareness and knowledge about CFL lighting, but want even greater program visibility.

7.3 PROGRAM INCENTIVES

The funding cap to individual partnering manufacturers through EEPS increased from \$120,000 to \$400,000 in 2009. The EEPS increase was directed primarily to manufacturers as incentive payments for CFLs. Manufacturers benefited by being able to open up to new markets, stock more SKUs per store, get more retail shelf space, provide better stocking continuity for retailers, strengthen their relationships with retailers, and offer consumers better pricing.

The average incentive offered for standard CFLs was about \$1.79 per bulb and incentives for specialty products ranged from about \$1.18 for candelabras to \$3.52 for three-way bulbs. NYSERDA and its partners split all incentive amounts 50/50. Shared incentives between NYSERDA and its partners helped to keep the partners invested in the program and its success.

7.4 NYSERDA/MANUFACTURER/RETAILER PARTNERSHIPS

The EEPS program successfully engaged upstream partners by expanding the lighting program with manufacturer and retailer participation in 2009. The EEPS program incentivized CFLs across a variety of types of retailers, including hardware stores, price clubs, discount stores, grocery stores, specialty lighting stores, electrical supply stores, drugstores, mass merchandise/department stores, and home improvement

stores. A barrier to participation in the EEPS program for some manufacturers and retailers was the requirement that partners match NYSERDA's incentive contribution.

NYSERDA primarily worked with manufacturers for the EEPS program and manufacturers engaged retailers in their networks. From an administrative perspective, working with manufacturers gave NYSERDA the best return on investment for EEPS because a relatively small group of manufacturers supplies a large number and diverse range of retailers. Going through manufacturer channels also helped to ensure that smaller, independent retailers could participate in the program with less active recruiting of individual stores by NYSERDA. However, NYSERDA also found efficiencies working through retailers with multiple locations in SBC territory.

Manufacturers used the program to stay competitive or to help their retail partners stay competitive. They also used the program to open markets and increase product sales. Retailers participated in the program to improve their "green profile" and to educate consumers about the energy savings and environmental benefits of CFLs compared to incandescent lamps – and ultimately to increase product sales.

7.5 SALES/SHIPMENT DATA COLLECTION

To ensure that products incentivized by NYSERDA were being sold within SBC territory, partners were required to submit shipment or sales data to the program through a manufacturer bill of lading, which detailed by zip code the shipping destination of the products incentivized, or retailer sales documentation by store location. Program implementer Lockheed Martin was flexible in allowing partners to submit sales data in electronic or paper format to accommodate various recordkeeping systems by partners. A 15% retainage was held by NYSERDA until all sales documentation was submitted for the incentivized products.

Partners also were required to submit monthly sales data for all CFLs sold, regardless of whether or not a CFL was incentivized by NYSERDA. These data allowed the program to take a snapshot of the market activity for their partners, above and beyond program-level activity. Understanding market-level CFL sales is important for program attribution beyond incentivized product counts. However, the NYSERDA market-level data has limited functionality, in that only partners submit data, and any retailers that sold incentivized CFLs through a manufacturing partner were not themselves partners and were not required to submit market-level information. Not only do the data not include the full market picture among non-participants, they also do not provide a complete market picture among all retailers that sold incentivized products.

7.6 SHELF STOCKING / PRODUCT MIX

Retailer stocks of CFLs increased during EEPS program promotions, however most retailers also stocked CFLs year-round. Manufacturers reported that in the absence of the program, they would have shipped fewer products, and retailers reported that they would have stocked fewer models and product lines; stocks of specialty bulbs in particular would not be as extensive as they are under the EEPS program. All CFLs likely would have been offered at higher price points without the EEPS incentive and sales probably would have been slower. Most retailers reported that incandescent lamps are still their best-selling lighting products, an indication that there is still room for increased market share for CFLs.

The vast majority of products incentivized through the program were standard, spiral CFLs (including mini-twisters, the smaller profile CFLs). About 8% of the products incentivized through the program were specialty CFLs, which included a mix of various covered, globe, flood, reflector, outdoor, three-way, and dimmable CFLs. About half of the products incentivized (51%) were sold in single-bulb packages and most others were sold in two- to four-bulb packages. Only a handful of packages incentivized were large-multi-packs with more than six products per package.

7.7 FUTURE OUTLOOK FOR EFFICIENT LIGHTING

Many changes are occurring in the development of new energy-efficient lighting technologies, including advancements in solid-state lighting (SSL), mostly in the form of light emitting diodes (LEDs), and in pending lighting standards from the Federal Energy Independence and Security Act of 2007 (EISA) that will phase out certain types of inefficient lighting beginning in 2012.

Under EISA, higher wattage incandescent lamps will phase out first, beginning with the current 100-watt incandescent lamps (lumen range 1,490 to 2,600) in 2012 and reaching the current 40-watt incandescent lamps (lumen range 310 to 749) by 2014. Most types of specialty incandescent lamps are exempt from EISA. Even after EISA standards become effective, there will likely continue to be a need for a program focus on both standard and specialty CFLs to ensure that the full savings potential is met.

More efficient incandescent and halogen lamps may meet EISA standards, but they likely will not be as efficient as CFLs. While LEDs potentially will be more efficient than CFLs, the technology is still emerging and will not be ready for widespread general lighting use by 2012.

Despite concern about the potential for decreased program support for energy-efficient lighting programs across the country, due to diminished evidence of program effects, there appears to be a continued, but more targeted, commitment to energy-efficient lighting programs, even in areas with a history of long-running lighting programs such as in California, Wisconsin, and Massachusetts.

7.8 CONCLUSIONS AND RECOMMENDATIONS

1. *Conclusion*: The program was late in beginning its marketing, outreach, and education campaign, which was problematic for the 2009 program year because there was no clear link between consumer education and incentivized products becoming available at participating retailers.

Recommendation: NYSERDA should release marketing campaigns in conjunction with incentive funding to draw consumers to the retailers and educate them about the benefits of CFLs.

Recommendation: NYSERDA should encourage retailers to dovetail their marketing efforts with NYSERDA's to get a "bigger bang for the marketing dollars."

Recommendation: NYSERDA should provide more pamphlets and take-away educational materials for consumers and make point-of-purchase materials/signage more visible and dynamic.

Conclusion: The total average incentive paid by NYSERDA and its partners was about \$1.79 per standard CFL and, for specialty bulbs, from \$1.18 for a candelabrum to \$3.52 for a three-way bulb.

Recommendation: Incentive amounts on a per product basis are currently adequate, but NYSERDA should monitor levels to meet program needs and market conditions. CFL prices are declining over time and incentives should also be reduced gradually.

Recommendation: NYSERDA should consider higher incentives for targeted products and markets. For example, if the program wishes to target low-income customers, it may want to engage dollar-type stores, which only sell products priced at \$1.00 or less and would require a higher per-bulb incentive commitment than is currently offered.²⁵

Conclusion: Accounting for sales within SBC territory is essential to ensure that the assumed savings from incentivized products are occurring there. A concern that does not appear to be

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²⁵ In the period since the initial draft of this report was created, NYSERDA has allowed partners to use a higher level of incentives for targeted products such as specialty bulbs.

fully addressed by the program is accounting for shipments that have been made by a manufacturer to a warehouse in SBC territory, but are ultimately sold in retailer storefronts outside of SBC territory.

Recommendation: NYSERDA should work with the implementation contractor to consider how shipment data can better document sales of incentivized products in SBC territory. This may include more detailed accounting of the retail sales or confirmation from retailers that shipments from a distribution center are being sold in SBC territory.

Recommendation: In order to improve the accounting of sales in the SBC territory (and ease the assimilation of data received from the partners), the implementation contractor should streamline partner reporting requirements by providing regular reporting timelines and templates.

APPENDIX A:

INTERVIEW GUIDES

INTERVIEW GUIDE: NYSERDA STATEWIDE RESIDENTIAL POINT-OF-SALE LIGHTING (CFL EXPANSION) PROGRAM – NYSERDA PROGRAM STAFF

Date	Interviewer	
Name	Organization	
Title		
Phone	Email	
My name is, I am from Nexus Market Research and am part of the evaluation team for the NYSERDA CFL Expansion Fast Track Program. I am conducting a series of in-depth interviews with various parties who are involved with the program as part of the process evaluation. The process evaluation documents and analyzes program implementation activities to assess whether or not the program is operating as intended and solicits feedback about any program enhancements that could take place. Do you have time to talk right now?		
[If no, arrange for callback time.]		

Marketing, Outreach, and Education

- 1. The most recent wave of activity in the CFL Expansion Fast Track Program increased the marketing and co-op advertising promotion caps with retail stores and lighting manufacturers. Can you tell me how manufacturers responded to that funding increase?
 - A. How did manufacturers contribute to NYSERDA's outreach efforts versus designing their own outreach with NYSERDA support? [PROBE for use of TV commercials, radio commercials, print ads, Internet ads, other].
- 2. Can you describe how retailers responded to the funding increase?
 - A. How did retailers contribute to NYSERDA's outreach efforts versus designing their own outreach with NYSERDA support? [PROBE for use of TV commercials, radio commercials, print ads, Internet ads, other]
- 3. Do you think that level of marketing and co-op advertising support was sufficient to achieve the program's education efforts for manufacturers? How about for retailers?
 - A. If YES: How did the change in funding improve consumer education?
 - B. If NO: What changes would you make to improve consumer education? [PROBE: Increased incentives per Partner, changes in messaging, changes in delivery, other?]
- 4. What marketing messages do you believe are working best for the program? How have you seen messages vary by type of retailer? By geographic region? By consumer demographics [PROBE for language barriers, ethnic groups, other]?

- 5. In what ways should marketing, outreach, and consumer education efforts be changed or improved?
- 6. Do you that think Lockheed Martin has sufficient resources/personnel for program delivery in New York? Does this vary by geographic region?
- 7. How are the marketing, outreach and education efforts under the CFL Expansion Fast Track Program responding to market needs? Do you think this effort was adequate? If NO, what would you change?

Direct Program Incentives / Markdowns

[NOTE: Request copies of agreements and the RFP from NYSERDA staff.]

- 1. The CFL Expansion Fast Track Program allowed for more direct incentive or markdown opportunities for manufacturers and retailers than in the past. The program projected that it would incentivize 6.2 million CFLs with direct incentives, or about 37% of the estimated 16.9 million total CFLs sold within SBC territory through the program. In what time period was that goal expected to be reached? Is it reasonable to expect achievement in September 2009? How has the program performed to meet that goal? If not, Why?
- 2. Who handled the RFP and negotiation process? (Assuming it was a team) How did the team coordinate the process?
- 3. Did the incentive payments go solely to manufacturers or did retailers also receive them? (If so, how was that structured?)
- 4. The markdown or direct incentive amount averaged \$1.70 per bulb. What is your view on whether this incentive amount was sufficient to encourage participation by manufacturers and retailers? What is your perception of the effect of a smaller or larger incentive amount would have on response rates?
- 5. What type of feedback did you receive from retailers about consumer response to the incentivized products?
- 6. Do you think that the direct program incentives/markdowns under the CFL Expansion Fast Track Program adequately respond to market needs? If NO, What would you change?

Sales/Shipment Data Collection

[NOTE: NYSERDA staff to facilitate request of program database from Lockheed Martin. Additional questions may be generated during database review.]

- 1. Describe the process for receiving shipment and sales information from manufacturer and retailer partners. [PROBE for differences by participation agreement: Marketing, Co-op advertising, Markdowns, other]
 - A. How often are the data collected?
 - B. How much effort is required by program staff or Lockheed Martin to facilitate the data collection process?
 - C. Have manufacturer and retail partners expressed any concerns about disclosing shipment and sales information? Have there been any who have not provided the data?
 - D. What is being done about these partners?
 - E. Is there anything that you would like done differently that might improve the data collection process?

Manufacturer/Retailer Partnerships

[NOTE: Request lists of participating manufacturers and retailers from NYSERDA staff.]

- 1. Another goal of the Program was to expand the network of retail partners beyond the traditional partnerships that it had with grocery and drugstores. What type of response have you had from other types of retailers—bodegas, discount stores, department stores, membership clubs, do-it-yourself/hardware stores, and franchises? (How many of each are currently enrolled? Can we get a list of all the partners and their affiliations for 2009 and for 2008?))
- 2. How many retail partners does the program currently have? [NOTE: 930 retail partners in 2008]
- 3. How many lighting manufacturer partners does the program currently have? [NOTE: 34 manufacturers in 2008]

Shelf Stocking / Product Mix

- 1. Are retailers willing to stock CFLs all-year long, or do they prefer to stock them only during promotional periods? How does this vary by type of retailer? By geographic location? By time of year?
- 2. One of the goals of the program was to encourage the manufacture, sale, and usage of high power factor CFLs. What efforts have been made with manufacturers to encourage such products?
 - A. What efforts have been made to encourage retailers to stock high power factor CFLs?
 - B. How well have high power factor CFLs been received by consumers? Any issues with quality, light output, reduced lifetimes, other?
- 3. Another goal of the program was to increase the variety of CFLs that are sold by retailers. What is the mix of products sold through the program? [PROBE for counts of standard CFLs versus Specialty CFLs, including 3-way, dimming, covered products, candelabra, flood, other] What were the specific efforts taken to increase the variety of CFLs? What are the characteristics of the retailers who are stocking the specialty CFLs?
- 4. In your opinion, in the absence of any NYSERDA support of CFL sales, would participating retailers continue to stock CFLs or would they stock the same level and types of CFLs—including both standard twisters and specialty CFLs—as they do under the current program?
- 5. There is increasing evidence that CFL sales are falling nation-wide. Do you see this trend happening in SBC territory? If so,
 - A. How do you see it impacting consumer response to the CFL Expansion Fast Track program?
 - B. Have you received any feedback about the regional impact of slower CFL sales from the manufacturers and/or retailers that participate in the CFL Expansion Fast Track program?

CFL Disposal / Mercury

- 1. Another goal of the Program was to increase in-store promotions and point-of-purchases materials regarding proper CFL disposal and mercury. What is your experience with how retailers and manufacturers have responded to efforts to educate consumers about proper disposal of CFLs and/or dispel negative publicity surrounding CFLs based mercury disposal issues.
- 2. What have you done to encourage retailers to provide collection and recycling services for CFLs?
- 3. How many retailers currently have collection and recycling services available for spent CFLs? Are the collection services free or are consumers required to pay a fee? What feedback have you had from retailers on how consumers used these services?

Consumer Response

1. What feedback have you received from retailers about consumer satisfaction? Are you aware of any quality issues that have come up with product returns? Are you aware of any feedback about product pricing? Anything else?

New Technologies / EISA 2007

- 1. What role do you anticipate that other energy-efficient lighting products, such as LEDs or more efficient incandescent lamps, should have in future NYSERDA lighting programs?
- 2. How do you anticipate that the EISA 2007 standards on lighting will impact the savings potential for lighting savings in the future? How do you see the program adapting to address the new regulations?

Other

Thank you for your time. Do you have anything else to share with me on these topics that I have not addressed?

INTERVIEW GUIDE: NYSERDA STATEWIDE RESIDENTIAL POINT-OF-SALE LIGHTING (CFL EXPANSION) PROGRAM – IMPLEMENTATION CONTRACTOR – LOCKHEED MARTIN

Date	Interviewer
Name	Organization
Title	
Phone	Email
various parties who are involved with the program a evaluation documents and analyzes program impler program is operating as intended and solicits feedbaplace. Do you have time to talk right now?	am conducting a series of in-depth interviews with as part of the process evaluation. The process
[If no, arrange for callback time.]	
[NOTE: RESPONDENTS HAVE DIFFERENT ROMAY NOT BE IN A POSITION TO RESPOND TO	

Marketing, Outreach, and Education

FEEDBACK FROM EACH AS APPROPRIATE.]

- 1. The most recent Wave of activity in the CFL Expansion Fast Track Program increased the marketing and co-op advertising promotion caps with lighting manufacturers at participating retailers. Can you tell me how manufacturers responded to that funding increase?
 - A. How did manufacturers contribute to NYSERDA's outreach efforts versus designing their own outreach with NYSERDA support? [PROBE for use of TV commercials, radio commercials, print ads, Internet ads, other].

Can you describe how retailers responded to the funding increase?

B. How did retailers contribute to NYSERDA's outreach efforts versus designing their own outreach with NYSERDA support? [PROBE for use of TV commercials, radio commercials, print ads, Internet ads, other]

Do you think that level of marketing and co-op advertising support was sufficient to achieve the program's education efforts for manufacturers? How about for retailers?

- C. If YES: How did the change in funding improve consumer education?
- D. If NO: What changes would you make to improve consumer education? [PROBE: Increased incentives per Partner, changes in messaging, changes in delivery, other?]

What marketing messages do you believe work best for the program? How have you seen messages vary by type of retailer? By geographic region? By consumer demographics [PROBE for language barriers, ethnic groups, other]?

In what ways should marketing, outreach, and consumer education efforts be changed or improved?

Do you that think you have sufficient resources/personnel for program delivery in New York? Does this vary by geographic region?

How are the marketing, outreach and education efforts under the CFL Expansion Fast Track Program responding to market needs? Do you think this effort was adequate? If NO, what would you change?

Direct Program Incentives / Markdowns

- 1. The CFL Expansion Fast Track Program allowed for more direct incentive or markdown opportunities for manufacturers than in the past. The program projected that it would incentivize 6.2 million CFLs with direct incentives, or about 37% of the estimated 16.9 million total CFLs sold within SBC territory through the program. In what time period was that goal expected to be reached? Is it reasonable to expect achievement in September 2009? How has the program performed to meet that goal? If not, Why?
- Who handled the RFP and negotiation process? (Assuming it was a team) How did the team coordinate the process?
- The CFL Expansion Fast Track incentive payments went to manufacturers; did manufacturers or retailers provide any additional incentives on their own? (If so, how was that structured?)
- The markdown or direct incentive amount averaged \$1.70 per bulb. What is your view on whether this incentive amount was sufficient to encourage participation by manufacturers and retailers? What is your perception of the effect of a smaller or larger incentive amount would have on response rates?
- What type of feedback did you receive from retailers about consumer response to the incentivized products?
- Do you think that the direct program incentives/markdowns under the CFL Expansion Fast Track Program adequately respond to market needs? If NO, What would you change?

Sales/Shipment Data Collection

[NOTE: NYSERDA staff to facilitate request of program database from Lockheed Martin. Additional questions may be generated during database review.]

- 1. Describe the process for receiving shipment and sales information from manufacturer and retailer partners. [PROBE for differences by participation agreement: Marketing, Co-op advertising, Markdowns, other]
 - A. How often are the data collected?
 - B. How much effort is required by program staff or Lockheed Martin to facilitate the data collection process?
 - C. Have manufacturer and retail partners expressed any concerns about disclosing shipment and sales information? Have there been any who have not provided the data?
 - D. What is being done about these partners?
 - E. Is there anything that you would like done differently that might improve the data collection process?

Manufacturer/Retailer Partnerships

1. Another goal of the Program was to expand the network of retail partners beyond the traditional partnerships that it had with grocery and drugstores. What type of response have you had from other types of retailers—bodegas, discount stores, department stores, membership clubs, do-it-yourself/hardware stores, and franchises? (How many of each are currently enrolled? Can we get a list of all the partners and their affiliations for 2009 and for 2008?))

How many retail partners does the program currently have? [NOTE: 930 retail partners in 2008]

How many lighting manufacturer partners does the program currently have? [NOTE: 34 manufacturers in 2008]

Shelf Stocking / Product Mix

- 1. Are retailers willing to stock CFLs all-year long, or do they prefer to stock them only during promotional periods? How does this vary by type of retailer? By geographic location? By time of year?
- One of the goals of the program was to encourage the manufacture, sale, and usage of high power factor CFLs. What efforts have been made with manufacturers to encourage such products?
 - A. What efforts have been made to encourage retailers to stock high power factor CFLs?
 - B. How well have high power factor CFLs been received by consumers? Any issues with quality, light output, reduced lifetimes, other?
- Another goal of the program was to increase the variety of CFLs that are sold by retailers. What is the mix of products sold through the program? [PROBE for counts of standard CFLs versus Specialty CFLs, including 3-way, dimming, covered products, candelabra, flood, other] What were the specific efforts taken to increase the variety of CFLs? What are the characteristics of the retailers who are stocking the specialty CFLs?
- In your opinion, in the absence of any NYSERDA support of CFL sales, would participating retailers continue to stock CFLs or would they stock the same level and types of CFLs—including both standard twisters and specialty CFLs—as they do under the current program?
- There is increasing evidence that CFL sales are falling nation-wide. Do you see this trend happening in SBC territory? If so,
 - C. How do you see it impacting consumer response to the CFL Expansion Fast Track program?
 - D. Have you received any feedback about the regional impact of slower CFL sales from the manufacturers and/or retailers that participate in the CFL Expansion Fast Track program?

CFL Disposal / Mercury

1. Another goal of the Program was to increase in-store promotions and point-of-purchases materials regarding proper CFL disposal and mercury. What is your experience with how retailers and manufacturers have responded to efforts to educate consumers about proper disposal of CFLs and/or dispel negative publicity surrounding CFLs based mercury disposal issues.

What have you done to encourage retailers to provide collection and recycling services for CFLs?

How many retailers currently have collection and recycling services available for spent CFLs? Are the collection services free or are consumers required to pay a fee? What feedback have you had from retailers on how consumers used these services?

Consumer Response

1. What feedback have you received from retailers about consumer satisfaction? Are you aware of any quality issues that have come up with product returns? Are you aware of any feedback about product pricing? Anything else?

New Technologies / EISA 2007

1. What role do you anticipate that other energy-efficient lighting products, such as LEDs or more efficient incandescent lamps, should have in future NYSERDA lighting programs?

How do you anticipate that the EISA 2007 standards on lighting will impact the savings potential for lighting savings in the future? How do you see the program adapting to address the new regulations?

Other

Thank you for your time. Do you have anything else to share with me on these topics that I have not addressed?

INTERVIEW GUIDE: NYSERDA STATEWIDE RESIDENTIAL POINT-OF-SALE LIGHTING (CFL EXPANSION) PROGRAM – PARTICIPATING MANUFACTURERS

Date	Interviewer
Name	Organization
Title	
Phone	Email

My name is _____, I am from Nexus Market Research and am part of the evaluation team, headed by Research into Action, for the NYSERDA CFL Expansion Program, also known as the **New York Energy \$mart** Products Program. I understand that you participated in NYSERDA's CFL program during the past year, and I would like to ask you a few questions about how things are going.

- 1. Are you familiar with your company's participation in the program over the past year?
 - A. Yes
 - B. No [Ask to speak with the person who is familiar with the program. Set up callback time, if necessary.]

Do you have time to talk right now?

- C. Yes
- D. No [If no, arrange for callback time.]

Program Involvement

- 1. Are you aware of the NYSERDA initiative called the Energy Efficiency Portfolio Standard (or EEPS) CFL Expansion Program through which additional buy-down funds became available to manufacturers? Are you participating in this program? [NOTE: If this info is available from NYSERDA records, confirm participation]
- Prior to this, had you worked with NYSERDA on the **New York Energy \$mart**SM Products Program to promote CFLs or educate consumers about their advantages? [NOTE: If this info is available from NYSERDA records, confirm prior participation.] About how long ago did your company become involved with the program?
- What is your primary reason for participating in the program? What other reasons do you have for participating?
- Besides receiving financial incentives for CFL product buy-downs through the NYSERDA CFL Expansion Program, what other opportunities has the program provided to you?
- In general, would you say your involvement in the NYSERDA CFL program has focused more on reaching the end-consumer or focused more on satisfying the needs of retail or utility partners? Why do you say that?

Marketing, Outreach, and Education

1. What marketing messages do you believe work best for the program? Do you believe messages should vary for different customer segments? [PROBE for language barriers, ethnic groups, other]? How about for different types of retailers? Different (geographic) areas?

How well are the marketing, outreach and education efforts under the EEPS CFL Expansion Program responding to market needs? Do you think this effort is adequate? If NO, what would you change?

Direct Program Incentives / Markdowns

- 1. The EEPS CFL Expansion Program allowed for more direct incentive or markdown opportunities for manufacturers than in the past. The program projected that it would incentivize 6.2 million CFLs with direct incentives, or about 37% of the estimated 16.9 million total CFLs sold within New York state excluding Long Island through the program. Do you think this is a reasonable goal? If no, why not?
- The most recent wave of activity in the EEPS CFL Expansion Program increased the funding allotted for product buy-downs with lighting manufacturers. Can you tell me how your company responded to that funding increase?
- Do you think that the direct program incentives/markdowns under the EEPS CFL Expansion Program adequately respond to market needs? If NO, What would you change?

Has your company provided any of its own price discounts in addition to the incentives provided by the EEPS CFL Expansion Program?

- A. If, yes, to what types of retailers have you provided your own discounts?
- B. If yes, for what types of products have you provided your own discounts [PROBE for standard twister CFLs versus specialty CFLs, including 3-way, dimming, covered products, candelabra, flood, other]?
- C. What is the typical range of these discounts on a \$ per bulb basis for the types of bulbs discounted?

Sales/Shipment Data Collection

[NOTE: NYSERDA staff to facilitate request of program database from Lockheed Martin. Additional questions may be generated during database review.]

- 1. What type of shipment or sales information have you provided to the program's implementer, Lockheed Martin?
 - A. How often have you provided this data?
 - B. Do you have any concerns about how the process works? (timing, detail, format?)
 - C. Do you have any concerns about disclosing shipment or sales information? If yes, have you talked about these concerns with anyone?
 - D. Is there anything that you would like done differently that might improve the data collection process?

There is increasing evidence that CFL sales are falling nationwide. Why do you think this is happening?

Do you see this trend of falling CFL sales happening in SBC territory? If so,

- E. How do you see it impacting consumer response to the EEPS CFL Expansion program?
- F. Do you think this trend will continue through 2012? After 2012?

Manufacturer/Retailer Partnerships

- 1. Another goal of the EEPS CFL Expansion Program was to expand the network of retail partners beyond the traditional partnerships that it had with grocery and drugstores. Are there certain types of retailers such as bodegas, discount stores, department stores, membership clubs, do-it-yourself/hardware stores, franchises, or other types with which you have been encouraged to partner?
- Have you partnered with retailers that you did not work with before the EEPS CFL Expansion Program? If yes, what types of retailers?
- Are there any retailers or retailer categories that you think would not be selling any CFL products if the EEPS CFL Expansion Program were not available? If yes, which retailers or retailer categories?
- Are there any retailers or retailer categories that you think would be selling a different assortment of CFL products if the EEPS CFL Expansion Program were not available? If yes, which retailers or retailer categories and how would the product mix be different?
- What feedback have you received from retailers regarding the EEPS CFL Expansion Program? Are they getting the support that they need to effectively promote and sell the incentivized CFLs?

Product Mix and Free-Ridership

- One of the goals of the EEPS CFL Expansion Program was to encourage the manufacture, sale, and usage of high power factor CFLs. [NOTE: Power factor is the ratio of watts to current and voltage (volt-amps). A high power factor draws less current than a load with a low power factor relative to the energy transferred to the CFL and this reduces energy lost in the distribution system.] Have you shipped such products under the program?
 - A. How did the program encourage shipments of these products?
 - B. Do you have any feedback on how well high power factor CFLs are received by consumers? Any issues with quality, light output, reduced lifetimes, other?
- Another goal of the program was to increase the variety of CFLs that are sold by retailers. What mix of products have you shipped through the program? [PROBE for standard twister CFLs versus specialty CFLs, including 3-way, dimming, covered products, candelabra, flood, other] How did the program encourage shipments of this mix of products?
- In the absence of any NYSERDA support of CFL sales, do you believe your company would have shipped as many CFLs to SBC territory in 2009? If no, by approximately how much would your shipments have been off?
- In the absence of any NYSERDA support of CFL sales, do you believe your company would have shipped the same types of CFLs to SBC territory in 2009? If no, how would the mix of CFLs shipped have differed? [PROBE for approximate percentages of standard twister CFLs and types of specialty CFLs]

Spillover

1. Are you shipping CFL bulbs in SBC territory (areas served by Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York Electric & Gas

Corporation, National Grid, Orange and Rockland Utilities, Inc., and Rochester Gas & Electric Corporation New York state; does not include Long Island) that are not covered by the EEPS CFL Expansion Program? If yes, what types of CFLs? If yes, what effects, if any, do the program-discounted CFLs have on shipments of non-program discounted CFLs? How does this vary by the type of CFL? [PROBE for approximate increase or decrease in non-program CFLs, differences for standard and specialty bulbs]

What effects do you think program-discounted CFLs have on consumer expectations regarding prices of non-discounted CFLs?

CFL Disposal / Mercury

1. One goal of the NYSERDA CFL Expansion Program was to increase in-store promotions and point-of-purchase materials regarding proper CFL disposal and mercury. As a result of the program, have you participated in any partnership with retailers for CFL disposal? Have you worked to encourage retailers to provide collection and recycling services for CFLs? If yes, please describe. About what percentage of the retailers that you work with provide collection and recycling services for CFLs? About what percentage provide free CFL collection services and what percentage charge a fee? Are there any differences by types of retailers?

Who do you believe should be primarily responsible for CFL recycling? [PROBE: manufacturers, retailers, consumers, municipalities, energy efficiency programs, or some partnership of the above]

Consumer Response

- 1. What feedback have you received from retailers and others about consumer satisfaction with CFLs?
 - A. Are you aware of any quality issues that have come up with product returns?
 - B. Are you aware of any feedback about product pricing
 - C. How do these factors vary by the type of product; that is, standard twister CFLs and specialty CFLs, including 3-way, dimming, covered products, candelabra, and flood lights?

New Technologies / EISA 2007

1. Are you familiar with Energy Independence and Security Act of 2007 (EISA 2007 or "The 2007 Energy Bill") that mandates energy efficiency improvements for lighting?

[READ IF NECESSARY OR IF THE CHANGES THEY NAME DO NOT COINCIDE WITH WHAT WE WANT TO DISCUSS] The Energy Independence and Security Act of 2007 (EISA 2007 or "The Energy Bill") is creating higher efficiency standards for lighting, and beginning in 2012 will require that light bulbs use about 30% less energy than standard incandescent lamps currently use. The change will happen in phases, beginning in 2012, with a ban on 100-watt bulbs, which must use no more than 72 watts for the same lumen output (1490-2600). By 2014 the standard will include restrictions on bulbs currently produced in the 40-watt range. By 2020, Tier 2 standards of EISA would require that all bulbs be 70% more efficient than incandescent lamps, or about the same efficiency as most CFLs today.

- How do the EISA 2007 standards affect your outlook for manufacturing energy-efficient lighting products in the near future, that is, from now until 2012? [PROBE: R&D, level of production, focus on particular products over others] What about in the longer term, from 2012 through 2014? After 2014? After 2020?
- Do you anticipate retailers and/or consumers will be stockpiling incandescent lamps before the 2012 standards take effect? If yes, how significant do you think this will be? [PROBE: Would it lead to a shortage of incandescent lamps? Will manufacturers need to increase incandescent lamp shipments to keep up]
- Do you believe you have enough manufacturing capacity to meet the anticipated demand for CFLs in the US once EISA takes effect? Are you planning to add capacity? Do you think manufacturers, as a whole, have enough capacity to meet the increased demand in the US? How does the global market for CFLs, which is also being pressured by bans on incandescent lamps in Europe and elsewhere, impact the supply of CFLs available in the US?
- What lighting technologies do you anticipate will be important for NYSERDA to be considering for the immediate future, until 2012? What about in the longer term, until 2020? [PROBE: What role do you anticipate that other energy-efficient lighting products, such as LEDs or more efficient incandescent lamps, should have in future NYSERDA lighting programs?]

Other

Thank you for your time. Do you have anything else to share with me on these topics or suggestions for program improvement that I have not addressed?

INTERVIEW GUIDE: NYSERDA STATEWIDE RESIDENTIAL POINT-OF-SALE LIGHTING (CFL EXPANSION) PROGRAM – PARTICIPATING RETAILERS

Date	Interviewer
Name	Organization
Title	
Phone	Email
Research into Action, for the New York I participated in New York Energy \$mart	et Research and am part of the evaluation team, headed by Energy \$mart SM Products Program. I understand that you Products Program for compact fluorescent lighting (CFLs) and CFLs, and I would like to ask you a few questions about how
1 May I speak to the store manager	or person in the store who is responsible for purchasing and

- 1. May I speak to the store manager or person in the store who is responsible for purchasing and stocking the light bulbs you carry?
 - A. Yes
 - B. No [Attempt to get the respondent, if not available, ask if there is anyone else in the store who deals with the light bulb purchasing and stocking decisions. Set up callback time, if necessary.]

Our records show that you participate in the **New York Energy \$mart**SM Products Program for compact fluorescent lighting. Are you familiar with your store's participation in the program over the past year?

- C. Yes
- D. No [Attempt to get the respondent, if not available, ask if there is anyone else in the store who deals with the light bulb purchasing and stocking decisions and is familiar with the program. Set up callback time, if necessary.]

Do you have time to talk right now?

- E. Yes
- F. No [If no, arrange for callback time.]

Program Involvement

1. About how long ago did your company become involved with the **New York Energy \$mart** Products Program? [NOTE: If this info is available from NYSERDA records, confirm prior participation.]

Prior to this, had you worked with NYSERDA to promote CFLs or educate consumers about their advantages? [NOTE: If this info is available from NYSERDA records, confirm prior participation.]

- What is your primary reason for participating in the program? What other reasons do you have for participating?
- Besides making CFLs available at reduced cost, what other opportunities has the program provided to you?
- In general, would you say your involvement in the **New York Energy \$mart**SM Program has focused more on reaching the end-consumer or focused more on satisfying the needs of manufacturing or utility partners? Why do you say that?

Marketing, Outreach, and Education

- 1. How did your company contribute to NYSERDA's outreach efforts and/or design your own outreach with NYSERDA support? [PROBE for use of TV commercials, radio commercials, print ads, Internet ads, other].
- What marketing messages do you believe work best for the program? Do you believe messages should vary for different customer segments? [PROBE for language barriers, ethnic groups, other]? How about for different types of retailers? Different (geographic) areas?
- How well are the marketing, outreach and education efforts under the **New York Energy \$mart**SM Products Program responding to market needs? Do you think this effort is adequate?
 - A. What, if any, changes would you make to improve consumer education? [PROBE: Increased incentives per Partner, changes in messaging, changes in delivery, other?]

Direct Program Incentives / Markdowns

- 1. Has your company received any price discounts from manufacturers in addition to the manufacturer incentives provided by the **New York Energy \$mart**SM Products Program?
 - A. If yes, for what types of products were you provided these discounts [PROBE for standard twister CFLs versus specialty CFLs, including 3-way, dimming, covered products, candelabra, flood, other]?
 - B. What is the typical range of these discounts on a \$ per bulb basis for the types of bulbs discounted?

What pricing level do you think is appropriate to sell CFLs?

Has your company provided any of its own price discounts in addition to the incentives provided by the **New York Energy \$mart** Products Program?

- C. If, yes, to what types of retailers have you provided your own discounts?
- D. If yes, for what types of products have you provided your own discounts [PROBE for standard twister CFLs versus specialty CFLs, including 3-way, dimming, covered products, candelabra, flood, other]?
- E. What is the typical range of these discounts on a \$ per bulb basis for the types of bulbs discounted?

Sales/Shipment Data Collection

[NOTE: NYSERDA staff to facilitate request of program database from Lockheed Martin. Additional questions may be generated during database review.]

- 1. What type of shipment or sales information have you provided to the program's implementer, Lockheed Martin?
 - A. How often have you provided this data?
 - B. Do you have any concerns with the process for providing data? (timing, format, etc.)
 - C. Do you have any concerns about disclosing shipment or sales information? If yes, have you talked about these concerns with anyone?
 - D. Is there anything that you would like done differently that might improve the data collection process?

There is increasing evidence that CFL sales are falling nationwide. Why do you think this is happening? Do you see this trend of falling CFL sales happening in SBC territory? If so,

- E. How do you see it impacting consumer response to the **New York Energy \$mart** Products Program?
- F. Do you think this trend will continue through 2012? After 2012?

Product Mix and Free-Ridership

- 1. Prior to participating in the **New York Energy \$mart**SM Products Program did you stock any CFLs? If yes, have you increased what you stock under the program? Did you stock CFLs throughout the year or only at certain times of the year before the **New York Energy \$mart**SM Products Program? If the latter, during which times did you stock these products?
- One of the goals of the program was to increase the variety of CFLs that are sold by retailers. What mix of products have you stocked through the program? [PROBE for standard twister CFLs versus specialty CFLs, including 3-way, dimming, covered products, candelabra, flood, other]
 - A. How did the program encourage you to stock this product mix?
 - B. Did you stock this product mix before the **New York Energy \$mart** Products Program? What, if any, changes have you made to your product mix under the program?
 - C. If stocking specialty products, how well are specialty products selling compared to standard, twister CFLs? Are sales higher, lower, or about the same as you expected?
 - D. If stocking specialty products, do you have any feedback on how well specialty CFLs are received by consumers? Any issues with quality, light output, reduced lifetimes, other?
- In the absence of any NYSERDA support of CFL sales, do you believe you would have sold as many CFLs in stores in SBC territory in 2009? If no, by approximately how much would your sales have been off?
- In the absence of any NYSERDA support of CFL sales, do you believe you would have sold the same types of CFLs in stores in SBC territory in 2009? If no, how would the mix of CFLs sold have differed? [PROBE for approximate percentages of standard twister CFLs and types of specialty CFLs]

In general, what lighting product lines sell best in your store(s)? Why do you think this is so?

Would you be interested in stocking a wider variety of CFLs in the future? If so, what types of CFLs would you like to stock?

Spillover

1. Are you selling other CFLs that are not discounted through the NYSERDA program? If yes, what types of CFLs? If yes, what effects, if any, do the program-discounted CFLs have on sales of non-program discounted CFLs? How does this vary by the type of CFL? [PROBE for approximate increase or decrease in non-program CFLs, differences for standard and specialty bulbs]

What effects do you think program-discounted CFLs have on consumer expectations regarding prices of non-discounted CFLs?

CFL Disposal / Mercury

1. One goal of the **New York Energy \$mart** Products Program was to increase in-store promotions and point-of-purchase materials regarding proper CFL disposal and mercury. Do you offer such materials in your store(s)? As a result of the program, have you participated in any partnership with manufacturers or others for CFL disposal? Do you offer collection and recycling services for CFLs? If yes, please describe. [PROBE: who they have partnered with; whether service is offered free of charge or for a fee; whether it is available at all times, only when the store(s) is (are) open, or only at certain times during business hours]

Who do you believe should be primarily responsible for CFL recycling? [PROBE: manufacturers, retailers, consumers, municipalities, energy efficiency programs, or some partnership of the above]

Consumer Response

1. What feedback have you received about consumer satisfaction with all types of CFLs? Are you aware of any quality issues that have come up with product returns?

Are you aware of any feedback about product pricing

How do these factors vary by the type of product; that is, standard twister CFLs and specialty CFLs, including 3-way, dimming, covered products, candelabra, and flood lights?

New Technologies / EISA 2007

1. Are you familiar with Energy Independence and Security Act of 2007 (EISA 2007 or "The 2007 Energy Bill") that mandates energy efficiency improvements for lighting?

[READ IF NECESSARY OR IF THE CHANGES THEY NAME DO NOT COINCIDE WITH WHAT WE WANT TO DISCUSS] The Energy Independence and Security Act of 2007 (EISA 2007 or "The Energy Bill") is creating higher efficiency standards for lighting, and beginning in 2012 will require that light bulbs use about 30% less energy than standard incandescent lamps currently use. The change will happen in phases, beginning in 2012, with a ban on 100-watt bulbs, which must use no more than 72 watts for the same lumen output (1490-2600). By 2014 the standard will include restrictions on bulbs currently produced in the 40-watt range. By 2020, Tier 2 standards of EISA would require that all bulbs be 70% more efficient than incandescent lamps, or about the same efficiency as most CFLs today.

How do the EISA 2007 standards affect your outlook for stocking energy-efficient lighting products in the near future, that is, from now until 2012? [PROBE: R&D, level of production, focus on particular products over others] What about in the longer term, from 2012 through 2014? After 2014? After 2020?

Do you anticipate consumer demand for standard incandescent lamps will rise before the 2012 standards take effect as some people would want to stockpile these incandescent lamps before they are no longer manufactured? If yes, how significant do you think this will be? [PROBE: Would it lead to a shortage of incandescent lamps; would retailers increase their orders of incandescent lamps and the shelf space allocated to incandescent lamps]

What lighting technologies do you anticipate will be important for NYSERDA to be considering for the immediate future, until 2012? What about in the longer term, until 2020? [PROBE: What role do you anticipate that other energy-efficient lighting products, such as LEDs or more efficient incandescent lamps, should have in future NYSERDA lighting programs?]

Other

Thank you for your time. Do you have anything else to share with me on these topics or suggestions for program improvement that I have not addressed?

INTERVIEW GUIDE: NYSERDA STATEWIDE RESIDENTIAL POINT-OF-SALE LIGHTING (CFL EXPANSION) PROGRAM – SPONSORS OF UTILITY PROGRAMS OUTSIDE OF NEW YORK AND INDUSTRY EXPERTS

Date	Interviewer		
Name	Organization		
Title			
Phone	Email		
•	d calling on behalf of the NYSERDA CFL Expansion looking at how technological advancements and policy ograms. Do you have time to talk right now?		
[If no, arrange for callback time.]			

Technological Advancements in CFLs

First, let's talk about compact fluorescent lighting (CFLs).

1. What are you expectations for national CFL sales over the next year—will they grow, decline, or stay the same?

What technological changes, if any, are you anticipating in the next couple of years for CFLs?

[PROBE: Reduced mercury dosing, smaller sizes, specialty bulbs—3-ways, dimming, covered products, color, lumen output, other]

A. How about in the longer term?

EISA 2007

1. Are you familiar with Energy Independence and Security Act of 2007 (EISA 2007 or "The 2007 Energy Bill") that mandates energy efficiency improvements for lighting?

[READ IF NECESSARY OR IF THE CHANGES THEY NAME DO NOT COINCIDE WITH WHAT WE WANT TO DISCUSS] The Energy Independence and Security Act of 2007 (EISA 2007 or "The Energy Bill") is creating higher efficiency standards for lighting, and beginning in 2012 will require that light bulbs use about 30% less energy than standard incandescent lamps currently use. The change will happen in phases, beginning in 2012, with a ban on 100-watt bulbs, which must use no more than 72 watts for the same lumen output (1490-2600). By 2014 the standard will include restrictions on bulbs currently produced in the 40-watt range. By 2020, Tier 2 standards of EISA would require that all bulbs be 70% more efficient than incandescent lamps, or about the same efficiency as most CFLs today.

What do you think about these standards? What do you like about them? What concerns do you have?

How do you think the EISA standard will affect CFL sales in 2012?

- A. How about in 2014?
- B. How about by 2020?
- Have you heard anything about how CFL manufacturers will respond to EISA? [PROBE: R&D, level of production, focus on particular products over others]
- Based on your experience, do you think current production capacity can meet increased demand for CFLs?
 - C. If no, how long would it take for manufacturers to build that capacity?
 - D. How does the global market for CFLs, which is also being pressured by bans on incandescent lamps in Europe and elsewhere, factor into that demand on manufacturers?
 - E. If there are constraints, how do you anticipate change will affect CFL prices here?

Have you heard anything about how manufacturers will respond to EISA from a marketing perspective? [PROBES: Any shifts in messaging]

Other Lighting Technologies (non-CFL)

- 1. What other technologies, besides CFLs, do you anticipate might realistically meet the EISA standard by 2012?
 - A. How about in 2014?
 - B. How about by 2020?
- Let's break this discussion down by different types of technologies: [Interviewer will highlight individual technologies and probe for details that the interviewee did not volunteer in the initial question]

More Efficient Incandescents/Halogens

1. How do you think incandescent lamp manufacturers will respond to EISA?

There currently are a few incandescent lamps that are being marketed as more efficient lighting technologies, including:

- A. Philips Halogena
- B. Philips Econ-o-Watt
- C. Sylvania E-logic
- D. GE??
- Are you aware of any other manufacturer product releases/plans to introduce more efficient incandescent lamps? Do you know if these product releases are a direct response to EISA 2007?
- Have you heard anything as to whether manufacturers will shift their product lines to "Modified Spectrum" incandescent lamps, which have less stringent standards under EISA?
- Have you heard whether light quality (such as brightness) with new incandescent lamps will be compromised for energy savings?
- Have you heard any indication of whether manufacturers will continue to develop efficient incandescent technologies or will their efforts shift to other technologies, such as CFLs and solid-state lighting?

[PROBE: GE announced in February 2007 that it was developing a high efficiency incandescent lamp, but by the end of 2008, the company seems to have stopped development of that product, and shifted its focus to the development of LEDs and OLEDs.]

Halogens

1. What are your expectations for whether halogens might serve as replacements for incandescent lamps under EISA 2007?

LEDs

Currently the ENERGY STAR program has 25-30 LED products that are qualified, but none so
far can be used as replacements for a standard incandescent lamp. [EXPLAIN IF NEEDED:
Currently, ENERGY STAR-qualified LEDs include recessed downlights, outdoor porch lights,
under cabinet lighting, surface mount luminaires with directional heads]

Is it realistic to expect that LEDs will be viable alternatives to standard household lighting applications? Why or why not?

What is your expectation about when LEDs will be market-ready for general lighting?

- A. By 2012?
- B. By 2014?
- C. When?

Additional Lighting Technologies

1. Are you aware of any other new energy-efficient lighting technologies on the horizon? Tell me about them.

What do you see as their potential to be viable alternatives to standard household lighting applications? How far off are these from being market ready?

[PROBE: VU1 (view one)-Uses technology similar to cathode ray tubes in older tv's with phosphor coating inside bulb.]

Utility and Efficiency Program Support

- 1. How do you see the role of utility or efficiency-based programs fitting into the new federal guidelines?
 - A. In 2012?
 - B. In 2014?
 - C. By 2020?

What potential program changes do you think programs could make about the types of products they are supporting and the way they are communicating with customers about energy saving lighting?

Do you think that there will be missed opportunities or lost savings associated with a shift to more efficient incandescent lamps that still use more energy than CFLs or alternatives?

D. If so, how should this be addressed by the efficiency community?

Will there be NEW opportunities for utility or efficiency-based programs associated with a shift to more efficient incandescent lamps that use more energy than CFLs or alternatives?

- What marketing messages should be considered about the savings of CFLs versus other lighting alternatives?
- How do you see programs allocating the shift in energy savings after 2012 with existing CFLs that have been incentivized through programs?
- There is increasing evidence that CFL sales are falling nation-wide. Do you see this trend happening? If so,
 - E. How long do you anticipate that the slow-down will last?
 - F. [IF PROGRAM SPONSOR] What efforts, if any, have you made to address lower CFL sales?

Regulatory Oversight of Sales

- 1. Have you had any conversations with manufacturers to know whether they will provide the sales data that are necessary for regulatory oversight of EISA?
 - A. Any thoughts on how to increase cooperation of sales data sharing?
- Currently incandescent lamps are manufactured both here in the U.S. and abroad. As far as I am aware, no single source tracks incandescent lamp shipment or sales. The Department of Commerce tracks imports. Are you aware of any source for domestic production of incandescent lamps that you can point me to?
- What is your estimate of the portion of total incandescent lamps that are produced domestically? What about breakdowns by wattage?

CFL Disposal / Mercury

- 1. Do you see mercury in CFLs becoming a more important issue to any of the following:
 - A. manufacturers,
 - B. retailers.
 - C. program supporters,
 - D. consumers?
 - E. If so, can the issue be resolved with more information and greater access to safe CFL disposal options? [PROBE: More information, greater access to safe CFL disposal options, other]
- Can the issue be resolved with lower mercury dosing? What drawbacks, if any, do you see with reducing the mercury dosing? [PROBE: CFL quality, manufacturing or production limitations, higher prices, other]

The European Union has set limits on mercury content in CFLs. Does that seem like a reasonable action for the U.S.?

Do you have a CFL recycling program?

- F. What was the response to the recycling program?
- G. Did the recycling program affect CFL sales and if so how?

What role do you think efficiency programs should have in CFL recycling?

H. How about manufacturers? Retailers?

Thank you for your time. Do you have anything else to share with me on these topics that I have not addressed?

Process Evaluation	n of the	CFL Ext	pansion	Program
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