



Evaluation of the San Diego Gas & Electric Lighting Field Services Efforts

Final Report

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Prepared for: San Diego Gas & Electric



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1 Program and Evaluation Background

SDG&E contracted with a firm on February 18, 2013, to conduct field services to support the 2013-2014 lighting program, which is implemented at approximately 420 participating retailer outlets. The contractor is providing management of participating retailers (including small retailers and big box retailers), and development and production of point-of-purchase materials.¹

The contractor's performance is measured based on six Key Performance Indicators (KPIs) that are specified in its contract with SDG&E. These KPIs are reported periodically to SDG&E via monthly reports, emails and phone calls.

In May of 2013, Evergreen Economics was hired to review the contractor documentation on KPIs and to gather feedback from participating retailers and field service representatives. The overall objective of the research was to identify ways the program can maximize the sales of energy efficient lighting through consumer and retailer education and marketing. Our research was primarily focused on evaluating the effectiveness of the contractor's program delivery (e.g., whether they are fulfilling their contract obligations, if SDG&E and the retailers they serve are satisfied with their performance, if there are ways in which program delivery could be improved to be more effective and/or efficient). In addition, through the course of our research, we also attempted to provide insights about the effectiveness of program design and market feedback.

¹ See "SDGE-[Contractor] 2013-14 Agreement MAN-28Jan13_2.pdf" for a description of the field services.

2 Research Approach

We conducted our research in two phases. The first phase included a cursory review of KPI documents covering up to Q4 of 2013 and a small number of in-depth interviews with staff from SDG&E and the contractor,² the findings of which we presented in an initial interim memo (Appendix A) We presented these interim findings for this first phase to program staff in February of 2014. This meeting resulted in a Data Analysis Plan Memo (Appendix B), which identified additional research questions and outlined the tasks to be completed in the second phase of our research.

This report builds on the interim findings we delivered in January and presents findings from the second phase of our research activities:

- Second round of interviews with marketing staff and the contractor staff; and
- Review of KPI documentation from July 2013 through June 2014.

Table 1 summarizes the research questions and objectives discussed with program staff during our meeting in February 2014 and shows how each question is linked to the second phase of data collection and analysis.

² We had planned to conduct interviews with high-level retail staff but could not complete any due to retailer lack of response after multiple attempts. We were able to get indirect input from retailers via the interviews with SDG&E and contractor staff. We were able to receive direct retailer input in the past and this can be found in Appendix A.

Table 1 – Research Questions and Associated Tasks

Research Questions	In-Depth Interviews		Analysis or Revision of KPI Documents
	Market- ing Staff	Contractor Staff	
How does marketing impact customers?	x	x	x
How does the contractor impact customers?	x	x	
What types of bulbs are carried across store types and regions?			x
Can specialty CFLs still be supported? Do retailers and manufacturers want to continue selling these? When should SDG&E back away from that market?		x	x
Are there perceived issues related to product turnover? What is the shelf life of a specific bulb?		x	
How does SDG&E get customers to walk away with a broader energy efficiency message? Are retailers interested in home displays?	x	x	
Is anyone else doing overall marketing better than SDG&E?			
Is the program impacting attitudes of consumers, retail staff and manufacturers?	x	x	x
When will SDG&E have transformed the market?		x	
Is SDG&E making a positive impact on the market?		x	

2.1 In-Depth Interviews

Evergreen conducted a small number of in-depth interviews to inform the research questions:

1. SDG&E Marketing Staff
2. Contractor Staff

2.1.1 SDG&E Marketing Staff Interviews

During our meeting with program staff in early February of 2013 where we presented our interim results, we held an initial discussion with SDG&E's marketing team. We continued these conversations through a subsequent telephone interview, which included the following topics:

- Merits of presenting an overall energy efficiency message;
- Customer attitudes and perceptions;
- Direct marketing impacts for consumers; and
- Contractor marketing strategies.

2.1.2 Contractor Staff Interviews

We conducted a conference call telephone interview with the contractor program staff members in various positions in July of 2014. Topics covered included:

- Perceptions of retailer willingness to have in-store overall energy efficiency messaging or demonstrations;
- Perceptions of advanced CFL market;
- Product shelf life;
- Marketing in other utility jurisdictions;
- Customer perceptions; and
- Market impacts, changes and direction.

2.2 Review of Key Performance Indicator Documentation

We conducted three tasks related to KPI materials over two phases. We reported on Phase One activities in early 2014 via two memos that are summarized in Section 4.1 (and included as Appendices B and C). The focus of this report is a review of KPI documentation covering the last two quarters of 2013 and the first two quarters of 2014, summarizing the data and providing feedback on program delivery, market outcomes and market impacts.

1. Review of KPI documentation (Phases One and Two)
2. Modification of KPI documentation (Phase One)
3. Creation of Store Questionnaire/Assessment (Phase One)

3 In-Depth Interviews

Evergreen Economics conducted a small number of in-depth interviews to inform our understanding of program design and implementation and to identify any high priority issues for our evaluation. We spoke with SDG&E marketing staff and the contractor staff members.

We organize our interview findings below by the research questions identified in Table 1. We grouped the research questions into four categories:

1. Overall Energy Efficiency Messaging
2. Market Influence
3. Store Stocking Practices
4. Regional Comparisons

3.1 Overall Energy Efficiency Messaging

When we met in early 2014 to present our interim findings, SDG&E staff were curious about how to provide an overall energy efficiency message to consumers and identified the following research questions:

- How does SDG&E get customers to walk away with a broader energy efficiency message? Are retailers interested in home displays?

In our discussions with the contractor staff and a member of SDG&E's marketing team, we asked questions to understand how both groups work to get an overall energy efficiency message to customers and what the merits of an overall energy efficiency message are. While the contractor is focused on energy efficient lighting, they see their major objectives as twofold: they aim to increase public awareness of energy efficiency (in general) and to educate consumers on how to get the right lighting. The marketing staff we interviewed also emphasized a goal of increasing customer education about energy efficiency. The interviewee noted increased customer interest in overall energy efficiency due to higher energy bills and the visibility of solar and electric vehicles.

As part of the contractor's broader energy efficiency education goal, they have been working with SDG&E and the marketing staff on an interactive end cap display in one of large retailer A's locations. As of mid-September, the contractor had presented their ideas to large retailer A and hoped to get the end cap in-store towards the end of the month. They plan to have a rotating focus on the end-cap (beginning with clothes washers) with a surrounding broader energy efficiency message. The first iteration of the end-cap will be centered on an interactive clothes washer (which will have materials inside the door) with surrounding information on tankless water heaters and lighting. Additionally, the end-cap will have a touch screen where customers can be educated about different energy efficiency products.

Both the touch screen and the interactive clothes washer will present a useful opportunity to track customer interest in various energy efficiency products. The touch screen display will

allow for tracking which pages were most viewed, allowing SDG&E to better understand customer interest in specific product types. The sensor on the clothes washer will allow SDG&E to understand how many customers are interacting with the display, which may support a decision to expand this end-cap energy efficiency messaging strategy to other stores.

Both the contractor and the marketing staff saw a need for both broad energy efficiency marketing and specific product education. The hope is that customers will have a positive experience overall (and specific to monetary savings) with a particular energy efficient product and then will know how to get information on additional energy efficient products. The marketing interviewee emphasized that customers can drill down on the greatest areas of need in their home and view usage on the SDG&E website. A broad energy efficiency message allows customers from various segments and income levels to consider what they can do to become more energy efficient. The contractor expressed that in addition to saving money, customers want quality products. Subsequently, they find it important to educate customers on *how* to pick the right light bulb so that they are satisfied with their energy efficient purchase (and will consider making more).

3.2 Market Influence

Our research planning discussions with SDG&E led us to attempt to further understand the market influence of the field services team and SDG&E's program overall, with a focus on these specific research questions:

- How does marketing impact customers?
- How does the contractor's field services impact customers?
- When will SDG&E have transformed the market?
- Is SDG&E making a positive impact on the market?
- Is the program impacting attitudes of consumers, retail staff and manufacturers?³

The contractor reported that in general, they are seeing a significant reduction in the number of people approaching them "completely hostile" to both energy efficiency and lighting in general. They take this as a sign that education efforts in various forms have been working to improve customer understanding of energy efficiency and lighting options. Despite these reported advances, the contractor's opinion is that it "will be awhile before there is no need for program support" and noted that older customers still struggle with the vast options in the lighting aisle.

Both the contractor and the SDG&E marketing staff we spoke with noted that the retailers and SDG&E have different goals. Retailers are focused on sales and SDG&E is focused on education and rebates. Retail appetite for marketing materials varies based even within a single retailer.

³ Note that these issues were not part of the initial primary research plan. These questions were explored where possible based on the relatively limited research that was already underway.

The length of time that materials placed by the contractor remain in place is very dependent on the store manager. The contractor reported that they have heard from associates that managers will have them take down signage the day after the contractor puts up materials. The contractor's increased visits in large retailers and continued discussion with staff in stores help to assure marketing material stays in place and matches the preferences of store management.

Aside from marketing materials, the contractor stressed the benefits of face-to-face contact with consumer and sales staff. These interactions allow the contractor to report on customer and retail concerns while educating these groups at the same time. The SDG&E marketing interviewee expanded upon the benefits of having the contractor in the field, noting that the contractor allows for first hand customer feedback to be reported to marketing staff and combined with other research done by the marketing team.

The contractor noted that they couldn't say if SDG&E is having a significant impact on suppliers further up the supply chain, but they do see that the suppliers are "following the river down the course." That is, the suggestions that the contractor gathers in the field (desire for more three way LEDs and multi-packs) and reports to SDG&E are making their way to the store shelves.

3.3 Store Stocking Practices and Bulb Comparisons

In our interview with the contractor, we asked two questions regarding specialty CFLs and shelf life of specific bulbs:

- Can/should specialty CFLs still be supported? Do retailers and manufacturers want to continue selling these? When should SDG&E back away from that market?
- Are there perceived retailer issues related to product turnover? What is the shelf life of a specific bulb? SDG&E would like to know if customers have issues finding the same bulb that they purchased earlier upon returning to a store and how quickly a certain SKU is likely to stay on the shelf.

The contractor identifies screw-in CFLs as the most popular option but also notes that the CFL market is compacting and is understood to be a "transitional product" by manufacturers. They estimate that the amount of LEDs (in large retailer A stores, for example) has doubled in the past three years and are now much lower in price. Customers are reportedly happy to be able to replace can lighting with LED R20s and R30s and the contractor hears many requests for GU24-based LEDs and multi-packs for large retrofits.

More multi-packs (both in variety and in quantity) may ease the problem of quick LED turnover. The contractor reports that they see customers who are unable to find a match for a LED they had bought for a fixture at an earlier date. This is credited to high product turnover. LEDs from prior years are placed on end caps in stores in order to make space for more retailers cost effective, and higher quality bulbs. The contractor reports that large retailer A gets a new LED SKU weekly and that resets on the lighting aisle are constant.

We asked the contractor about the need for specialty CFL support. The contractor noted that customers would continue to buy specialty CFLs without the SDG&E rebate because the market is small and customers who buy the specialty CFLs are already committed to energy efficient lighting and accept that the bulbs are not that attractive. There are not currently many LED options for specialty applications, but the contractor hopes to see more LED options in the future. The contractor believes that manufacturers feel specialty bulbs are a “necessary evil” because there is demand in the market for the products, but they are not as profitable as regular CFLs.

3.4 Regional Comparisons

In our discussion in early 2014, SDG&E expressed interest in knowing what was happening in other utility territories:

- What types of bulbs are carried across store types and regions?
- Is anyone else doing overall marketing better than SDG&E?

The contractor has begun to do work in Orange County and Los Angeles County and were asked to note any differences that they have observed between SDG&E’s service territory and other nearby areas. A contractor staff member noted “San Diego Gas & Electric is definitely in the driver seat in terms of marketing and are open to trying new and different solutions.” Differences in product stocking in surrounding territories has lead the contractor to think that SDG&E territory is moving more LEDs through store shelves. They noted that there are fewer rebated items on shelves in the surrounding areas. The contractor estimated CFL SKU numbers tend to be roughly the same but noted that they have seen more LEDs on shelves in SDG&E's service territory.

In addition to comparing bulb stock in surrounding areas, the contractor staff also discussed their observations regarding retailer sales staff awareness and understanding regarding energy efficient lighting. At an event in large retailer A in Orange County, the contractor educated a staff member on energy efficiency and said that they reported learning more in the 20 minutes talking with the contractor then they did in 20 hours of large retailer A standard salesperson training. The contractor also noted that they think it would be helpful to create an online training component that could be added into the training sessions that large retailer A requires of their new associates.

4 Review of Key Performance Indicator Documentation

The implementation contractor is required to submit documentation on the following KPIs:⁴

1. Number of channel outlet visits (quarterly in 2013, monthly in 2014);
2. Number of channel staff trained (quarterly in 2013, monthly in 2014);
3. Channel satisfaction survey (quarterly in 2013, monthly in 2014);
4. Number of incentivized SKU tracked (quarterly in 2013, monthly in 2014);
5. Number of non-incentivized and competing products (quarterly in 2013, monthly in 2014); and
6. Quarterly meeting/ report (quarterly in 2013, monthly in 2014).

The program was launched in March of 2013, and we analyzed data from March of 2013 through June of 2014. SDG&E reviews a series of reports that contain KPI data from the contractor periodically to ensure they are fulfilling their contract obligations and also to obtain secondary market feedback. The reports are provided electronically. Many are at the chain store-level (e.g., with tabs for each individual store), adding up to a large volume of data each quarter. Table 2 lists the various reports along with their frequency and the KPI that is addressed within each report. Note that in 2014, many reports changed from quarterly submissions to monthly submissions.

Table 2—Key Performance Indicator Documentation

Report (frequency)	KPI Addressed
Lighting demos and trainings report (monthly)	2, 3
Retailer visit report (quarterly in 2013, monthly in 2014)	1, 3, 4, 5
Incentivized products survey report (quarterly in 2013, monthly in 2014)	4, 5
Quarterly summary report (quarterly in 2013, monthly in 2014)	6, 2

Evergreen reviewed the quarterly and monthly reports to:

- Track KPI performance ;
- Provide background on the program status;
- Ensure that all the KPIs are reported on comprehensively;
- Identify any issues with program delivery;
- Ensure that SDG&E is receiving the information they need to effectively oversee the program; and
- Ensure that the reports are provided in a useful format for SDG&E.

⁴ Note that schedule is actual and may not align with the contract between SDG&E and their contractor.

Evergreen reviewed a sample of the bulb, training and demo reports to ensure that:

- The contractor is reporting on the KPIs that are in their contract;
- The data are accurate, complete and comprehensive;
- There is sufficient documentation (e.g., pictures of customer interactions and displays, SKU numbers in bulb reports, pictures of marketing materials); and
- That the reports are provided in a useful format for SDG&E.

For the bulb, training and channel satisfaction surveys, Evergreen analyzed all of the report data (covering mid-2013 through second quarter of 2014) in mid-2014 to:

- Provide summary data to SDG&E; and
- Provide feedback on program delivery, market outcomes and possibly market impacts.

Evergreen performed the review in two phases. The first phase reviewed data presented through the end of 2013 and presented suggestions and findings in early 2014 in interim memos that are attached to this document as appendices. The second phase reviews data from the second half of 2013 and the first half of 2014 and has a greater focus on summarizing the data while providing feedback on program delivery, market outcomes and possibly market impacts.

4.1 Phase One Analysis

We made recommendations to SDG&E to make review of data easier, facilitate the collection of more meaningful data to help SDG&E better monitor the contractor's field service support and obtain market feedback. Many of those recommendations were addressed by SDG&E and the contractor and KPI documentation was modified accordingly.

More information on these efforts can be found in two separate deliverables: the Data Analysis Plan Memo (included as Appendix B), and the SDG&E Analysis of Large Retailer Bulb Tracking Memo delivered in July (Appendix C). Table 3 shows which KPI documents were modified, and which Appendices in this report contain the modified KPI.

Table 3 – Location of Modified KPI Documentation

Document Name	KPI Task	Location
Modified In-Store Demonstration Report	2. Modification of KPI documentation	Appendix B: Data Analysis Plan Memo – Appendix A
Modified Quarterly Store Report	2. Modification of KPI documentation	Appendix B: Data Analysis Plan Memo – Appendix B
Quarterly Store Report Analysis Alteration	2. Modification of KPI documentation	Appendix C: Analysis of Large Retailer Bulb Tracking Spreadsheets for Evaluation of SDG&E Lighting Field Services Contract
Creation of Store Questionnaire/Assessment	3. Creation of Store Questionnaire/Assessment	Appendix B: Data Analysis Plan Memo – Appendix C

4.2 Phase Two Analysis

Evergreen reviewed a sample of KPI documents to confirm that the numbers summarized in the monthly summary sheets were accurate. We found that all summary data was reported correctly in the sample. This section contains summaries of each of the six KPI.

From July to December of 2013, the contractor reported on the six KPI on a quarterly basis. In 2014, these reports are being delivered monthly. In this section, we utilize these summaries to show KPI over a full year.⁵ To facilitate comparison, in Figure 1, monthly KPI data from 2014 is aggregated into quarterly data. The chart shows the six KPI:

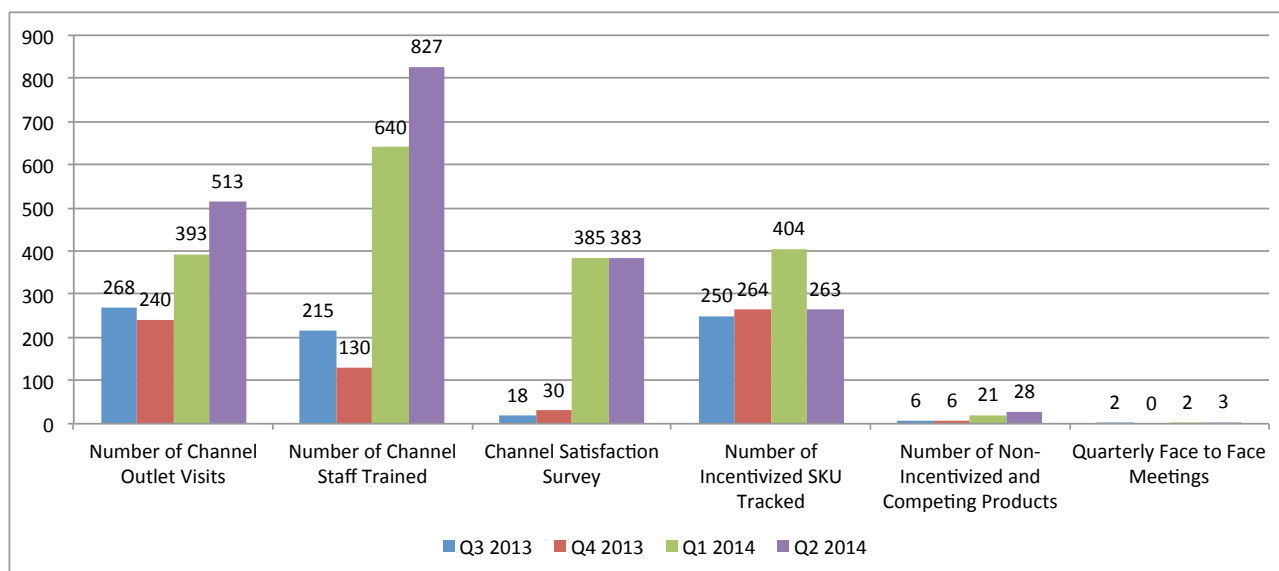
- **Number of channel outlet visits** – The contractor performs three types of outlet visits including monthly visits to large/medium retailers (for placement of signage/materials and incentivized product verification), quarterly visits to small retailers (to verify compliance, replenish products and place signage) and visits to large and medium retailers to hold educational outreach events.
- **Number of channel staff trained** – The contractor trains staff when they visit retailers. They also train staff during the educational outreach events mentioned above.
- **Number of Channel Satisfaction Surveys Collected** – Satisfaction surveys are filled out after the contractor has spoken with a retail staff member and collects feedback on training and the program in general.
- **Number of Incentivized SKU Tracked** – The contractor tracks a sample of incentivized SKU in each store with the intent of verifying participation and tracking shelf content over time.

⁵ We analyzed data from the 2013:Q3 – 2014:Q2 reports.

- **Number of Non-Incentivized and Competing Products** – The contractor tracks non-incentivized and competing products each month, with a focus on comparison to one type of incentivized product each month.
- **Number of Quarterly Face to Face Meetings** – The contractor is required to have one face to face meeting with SDG&E each quarter.

In the following sub sections, we discuss each of the six KPI from July of 2013 to June of 2014. Each metric listed above is shown in Figure 1 in chronological order by quarter. The program launch was delayed slightly in early 2014, which may explain the jump in channel outlet visits and staff training between Q1 2014 and Q2 2014. Each of these KPI are discussed below.

Figure 1: Quarterly KPI from Q3 2013 to Q2 2014



4.2.1 Number of Channel Outlet Visits

Over the past year, there has been a general increase in the number of channel outlet visits with the number of visits in Q2-2014 almost double those visited in Q3-2013. In 2014, the contractor began visiting large retailers monthly instead of quarterly in an effort to keep up with frequent aisle resets that are largely due to constant product rotation and manager display preferences.

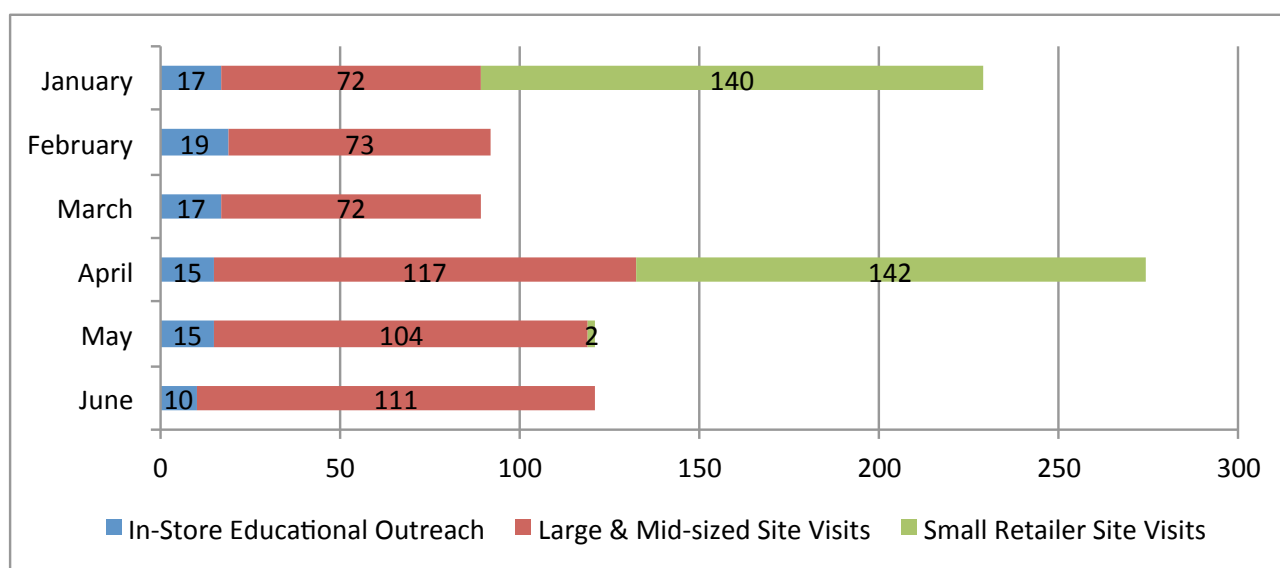
There are three types of visits that the contractor performs:

1. Visits to large and mid-size retail stores for placement of signage/materials and incentivized product verification;
2. Visits to smaller retailer stores to verify compliance, replenish products, and place signage; and

3. Visits to large and mid-size retailers to hold educational outreach events.

The numbers presented in Figure 1 are broken out further in Figure 2 to show that the majority of visits are allocated to the large and mid-size retail stores for material placement and verification. Due to changes in tracking between 2013 and 2014, we are only presenting 2014 data in Figure 2. This allows us to look at the share of site visits on the monthly level. Figure 2 indicates that the contractor generally conducts on-site visits for smaller retailers during the first month of each quarter.

Figure 2: Site Visit Allocation in 2014⁶



Outreach visits, specifically the in-store educational visits, provide an opportunity for the contractor to gather information on customer preferences, requests and questions and report this information back to program staff. Beginning in May of 2014, the contractor began summarizing data in the monthly report that had previously been reported in multiple documents, making it hard to digest quickly. The contractor is now reporting each month on the number of:

- Customer interactions;
- Customers assisted with purchase;
- Customers educated on lumens/color/CRI;
- Customers using cell phone for bulb research;
- Customers choosing/persuaded to energy efficient bulbs;
- Inquiries about 3-way LEDs;

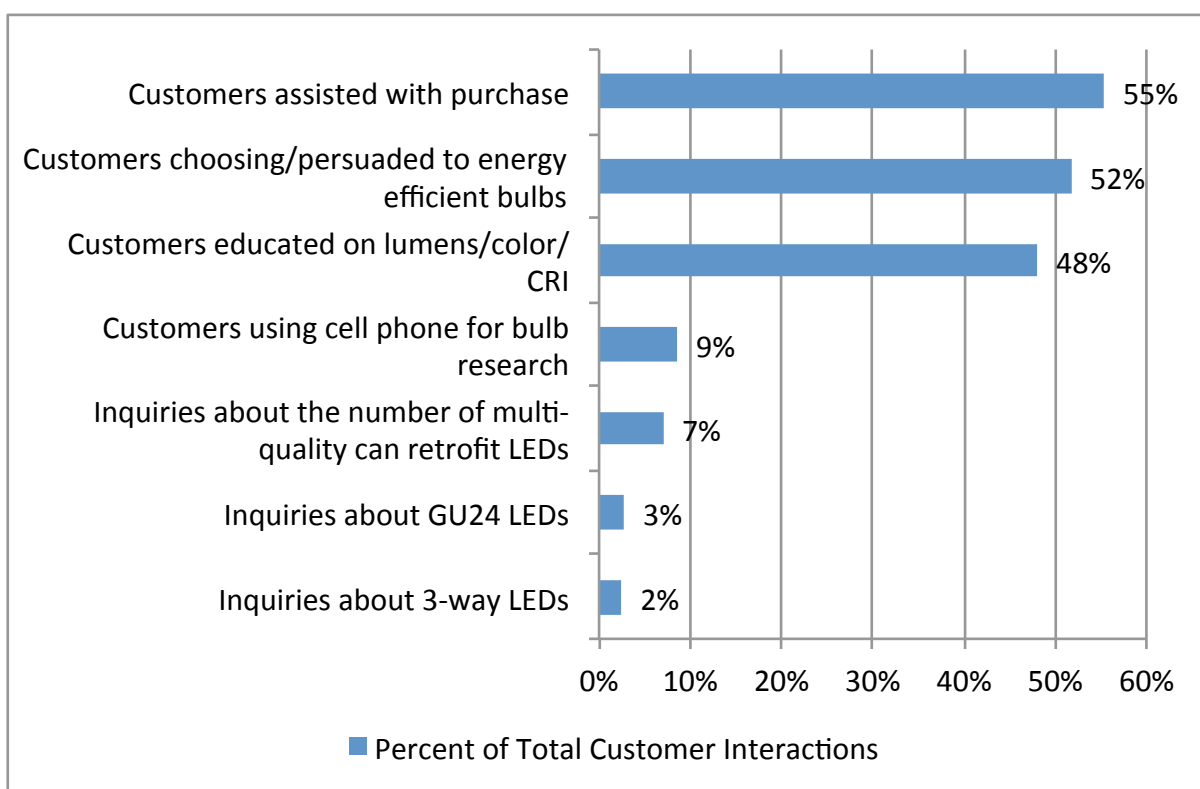
⁶ Total visits in Q2 differ slightly from the sum of visits in the preceding figure due to a discrepancy in the number of total visits reported in June (118) compared to the sum of the reported visits by type (121).

- Inquiries about GU24 LEDs; and
- Inquiries about the number of multi-quality can retrofit LEDs.

Because we only have two months of data (May and June) summarized from the contractor, for analysis of these data points we chose to use the year-to-date summary given in the June monthly report. On average, during the in-store educational outreach, the contractor reports that they interact with 40 customers. Figure 3 shows that of the 40 customers that the contractor interacts with at a single event, 55 percent are assisted with a purchase. Based on the contractor reported data, nearly half (52%) of customers were choosing or were persuaded to choose energy efficient bulbs.

This summary data can be useful to help SDG&E prioritize customer requests when sharing information with manufacturers. Seven percent of customers that the contractor interacted with asked about multi-packs, which is close to double the amount of customers that asked about GU24 (pin based rather than spiral based) bulbs. While we understand that SDG&E cannot dictate what manufacturers produce, we do think that having this data can assist the utility in reporting market feedback to manufacturers.

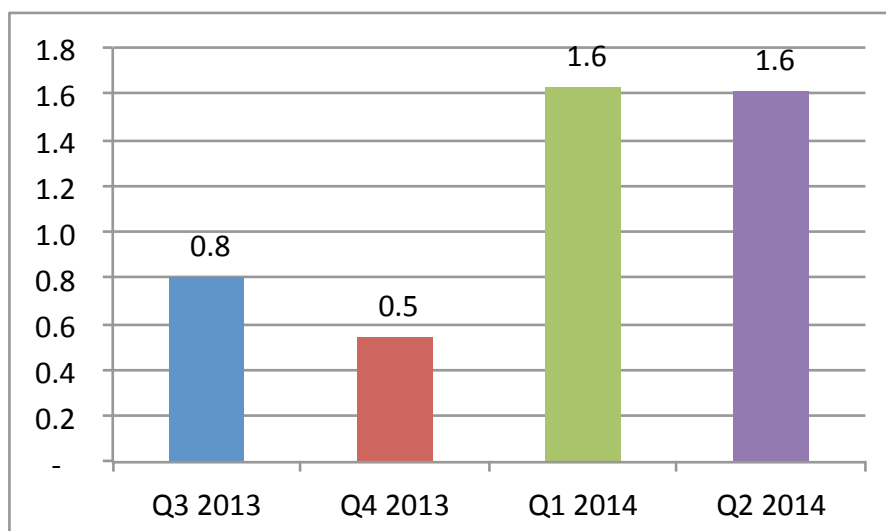
Figure 3: Average Customer Interaction Results in 2014 (n=3,702 reported customer interactions)



4.2.2 Number of Channel Staff Trained

The reported number of channel staff trained⁷ in the first half of 2014 is four times larger than it was in the second half of 2013. Not only are the contractor staff performing more site visits (as discussed above), but they are training more than twice the number of staff on average in the first half of 2014 (1.6 staff per store visit) compared to the last half of 2013 (0.7 staff per store visit) as shown in Figure 4.

Figure 4: Average Staff Per Store Visit from Q3 2013 to Q2 2014



4.2.3 Channel Satisfaction Survey

Satisfaction surveys are filled out after the contractor has spoken with a retail staff member and collects feedback on training and the program in general. The reported number of channel satisfaction surveys⁸ has increased immensely in 2014 compared to 2013 (Figure 1). SDG&E program staff should discuss what information in the survey is most valuable and create a summary metric for the contractor to report. As an example, WSA reports on the percent of surveys that the respondent rates the work as good or excellent for their Plug Load and Appliance work. This allows the program staff to see a quick snapshot of what the satisfaction levels are rather than how much satisfaction information has been collected.

⁷ When comparing the monthly reports with site documentation, it was unclear where the number of trained staff was coming from. The number did not match the number of staff that filled out the post-training survey. For this analysis, we utilize the numbers provided on the monthly summary documents.

⁸ When comparing the monthly reports with site documentation, it was unclear where the number of submitted satisfaction surveys was coming from. The number did not match the number of staff that filled out the post-training survey. For this analysis, we utilize the numbers provided on the monthly summary documents.

4.2.4 Number of Incentivized SKU Tracked and Number of Non-Incentivized and Competing Products

The number of incentivized SKU tracked is similar across all quarters with the exception of a spike in the first quarter of 2014 as shown in Figure 1. In 2014 SDG&E program managers asked the contractor to shift their reporting to focus on a singular category each month for the non-incentivized product comparison. This decision allows the contractor to balance their task of collecting data that can be useful to SDG&E while still continuing their customer interactions.

4.2.5 Quarterly Face to Face Meetings

The contractor has exceeded their KPI of one quarterly face-to-face meeting. They report doing 1.75 face-to-face meetings on average per quarter since the middle of 2013. The contractor also communicates via phone and email to the SDG&E program staff.

5 Findings

This section presents findings based on the research that has been conducted during the second phase of our evaluation. Preliminary findings from the first phase of research can be found in Appendix A.

Field Service efforts allow for an open line of communication with retailers.

Continuation of field service efforts assists with quicker reactions to program changes, an educated sales staff, and familiarity with SDG&E programs and goals. It also helps to maintain relationships with retailers, which is valuable to support current programs and could be useful in the future should programs be expanded or new programs added. Field services may be a relatively inexpensive way to maintain the continuity of the utility relationship with retailers and indirectly with their suppliers.

Overall energy efficiency messaging coupled with specific energy efficiency messages may be a good strategy to address all customer sectors and encourage broader efficiency behaviors. A broad energy efficiency message allows customers from various segments and income levels to consider what they can do to become more energy efficient. By giving customers many options, customers are able to choose the purchase or behavior that is best for them. SDG&E marketing staff and the contractor independently felt that this strategy will encourage customers to take advantage of other SDG&E energy efficient programs in the future.

SDG&E will be able to collect valuable data about customer interest and preference from end-cap trial. The end cap will track data on customer page visits on the touch screen, and the number of people who interact with the clothes washer door. SDG&E should be sure to leverage this data to understand what customers are most interested in and could tailor future program design and marketing strategies.

Anecdotally, customers are more open to energy efficiency than they have been in the past. The contractor has noted that customers are more open to energy efficiency and the newer lighting technologies than they have been in the past. According to the contractor, this is not a justification for ramping down program activities; rather, it presents an opportunity for field services staff to set customers up for a successful experience with an energy efficient product. Fifty two percent of reported interactions with customers consisted of customers choosing or being persuaded towards energy efficient bulbs in the first half of 2014.

Retail stores care about selling products, not energy efficiency. This inhibits energy efficiency sales motivation of staff in addition to acceptance of SDG&E marketing support. The contractor is able to fill gaps in staff training and marketing collateral consistency due to this lack of alignment of goals between retailers and SDG&E.

The contractor sees more advances in the energy efficient lighting market in the SDG&E service territory compared to the surrounding area. The contractor reports that retailer staff in SDG&E territory are more educated and that there are more LED SKU in SDG&E

territory compared to their observations in surrounding areas where they perform similar activities for other entities.

The contractor reports that nearly half of intercepted customers in store are choosing or are persuaded by the contractor to choose energy efficient bulbs. In the first half of 2014, the contractor reported interacting with 3,702 customers. The contractor collects information on which type of lighting customers are looking for (if any) at the start of their in-store interactions. The contractor also tracks what customers walk away with after their interaction with the contractor staff. These data, though not a representative sample, are an efficient way for SDG&E to gauge customer interest and acceptance over time, and to spot trends.

The contractor has started collecting more useful market feedback that will provide a way to anecdotally gauge market changes over time. The contractor just recently started collecting summary data on the amount of customer inquiries for certain kinds of products. By tracking the changes in these inquiries over time, SDG&E will be able to get a sense of the retailer energy efficient lighting market based on the changes in the percentage of customers who are making inquiries.

SDG&E may want to follow up with their contractor and retailers to increase their understanding of the lighting market in store. Particular questions discussed with program staff include the influence of codes on store stocking practice, the preference among customers between CFLs and LEDs, and the presence of a reputation of poor quality among CFLs.

6 Appendix A: Interim Memo

This appendix contains the interim memo, which has results from the first set of in-depth interviews and KPI review.



1648 Martin Luther King Jr. Way
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MEMORANDUM

January 24, 2014

To: Rob Rubin, Michael Nguyen, SDG&E

From: Martha Thompson and Tami Rasmussen

Re: Interim Findings Memo Regarding Evaluation of SDG&E Lighting Field Services Contract

This memorandum provides interim findings based on the first six months of our evaluation and contains the following sections:

1. Program and Evaluation Background
2. Research Approach
3. Interim Findings
4. Suggestions for Potential Program Improvements
5. Evaluation Next Steps

1. Program and Evaluation Background

SDG&E contracted with a firm on February 18, 2013 to conduct field services to support the 2013-2014 lighting program, which is implemented at approximately 420 participating retailer outlets. The contractor is providing management of participating retailers (including small retailers and big box retailers) and development and production of point-of-purchase materials.¹

The contractor's performance is measured based on six Key Performance Indicators (KPIs) that are specified in their contract with SDG&E. These KPIs are reported on periodically to SDG&E (e.g., via monthly and quarterly reports, email and phone calls).

¹ See "SDGE-[Contractor] 2013-14 Agreement MAN-28Jan13_2.pdf" for a description of the field services.

In May of 2013, Evergreen Economics was hired to review the contractor documentation on KPI and to gather feedback from participating retailers and field service representatives. Based on feedback from SDG&E at the project initiation meeting, the overall objective of the research is to identify ways the program can maximize the sales of energy efficient lighting through consumer and retailer education and marketing. While our research approach is focused on evaluating the effectiveness of the contractor's program delivery (e.g., are they fulfilling their contract obligations, are SDG&E and the retailers they serve satisfied with their performance, are there ways in which program delivery could be improved to be more effective and/or efficient), through the course of our research we can also provide insights about the effectiveness of program design.

2. Research Approach

Since we initiated this evaluation, we conducted a cursory review of KPI documents covering up to 2013:Q4 and a small number of in-depth interviews with staff from SDG&E, the contractor and participating retailers.

At the close of the second quarter of 2014, we will conduct another review of the KPI documents, conduct analysis of the data contained in them, follow-up interviews and deliver a draft evaluation report in September.

Review of Key Performance Indicator Documentation

The implementation contractor is required to submit documentation on the following KPIs²:

1. Number of channel outlet visits (quarterly)
2. Number of channel staff trained (quarterly)
3. Channel satisfaction survey (quarterly)
4. Number of incentivized SKU tracked (quarterly)
5. Number of non-incentivized and competing products (quarterly)
6. Quarterly meeting/ report (quarterly)

² Note that schedule is actual and may not align with the contract between SDG&E and their contractor.

SDG&E reviews a series of reports that contain KPI data from the contractor periodically to ensure they are fulfilling their contract obligations and also to obtain secondary market feedback. The reports are provided electronically, but typically are not cumulative in nature. Many are at the chain store-level (e.g., with tabs for each individual store), adding up to a large volume of data each quarter. Table 1 lists the various reports along with their frequency and the KPI that is addressed within each report.

Table 1—Key Performance Indicator Documentation

Report (frequency)	KPI Addressed
Lighting demos and trainings report (monthly)	2, 3
Retailer visit report (quarterly)	1, 3, 4, 5
Incentivized products survey report (quarterly)	4, 5
Quarterly summary report (quarterly)	6, 2

Evergreen reviews the quarterly and monthly reports to:

- Track KPI performance
- Provide background on the program status
- Ensure that all the KPIs are reported on comprehensively
- Identify any issues with program delivery
- Ensure that SDG&E is receiving the information they need to effectively oversee the program and
- Ensure that the reports are provided in a useful format for SDG&E.

Evergreen reviews a sample of the bulb, training and demo reports to ensure that:

- The contractor is reporting on the KPIs that are in their contract
- The data are accurate, complete and comprehensive
- There is sufficient documentation (e.g., pictures of customer interactions and displays, SKU numbers in bulb reports, pictures of marketing materials) and
- That the reports are provided in a useful format for SDG&E.

For the bulb, training and channel satisfaction surveys, Evergreen will analyze all of the report data (covering 2013 through second quarter of 2014) in mid-2014 to:

- Provide summary data to SDG&E and

- Provide feedback on program delivery, market outcomes and possibly market impacts.

This interim memo provides initial feedback on the first two reviews described above. The September draft report will include results from the third review above.

In-Depth Interviews

Evergreen conducted a small number of in-depth interviews to inform our understanding of program design and implementation, and to identify any high priority issues for our evaluation.

- **SDG&E Program Staff Interviews** - we interviewed two SDG&E program staff members in August 2013.
- **Contractor Interviews** - we interviewed three contractor staff members in October 2013.
- **Retailer Interviews** - we interviewed four participating retailers or manufactures (including corporate staff and managers) in January 2014.

3. Interim Findings

This section presents preliminary findings based on the research that has been conducted to-date. The findings are organized as follows:

- Program Overview
- Program Accomplishments
- Program Delivery
- Market Barriers and Program Influence
- Program Monitoring and Reporting

Program Overview

The program includes three major activities, described below.

Large chain store visits – The contractor staff visit each large retailer once per quarter to assure that stores are acting according to their agreements with SDG&E and to update marketing materials. These visits may also include salesperson training. The contractor

staff collect information on a sample of incentivized products and solicit feedback from retailers on trainings and marketing materials.

Lighting demonstrations – The contractor staff set up a display typically at large chain stores (but sometimes at other locations such as large corporate clients) where they educate customers about how to make lighting purchasing decisions. These visits may also include salesperson training. The in-store demonstrations are only done at stores where the contractor believes that the customer and staff interactions are common in-aisle, at stores like large retailer A, large retailer G, retailer H and retailer E. The contractor attempts to do demonstrations at times when stores have the highest foot traffic. The contractor has found that the best times are Saturday and Sunday mornings (excluding football season) for the general population and weekdays for contractors.

Small retailer store visits – The contractor staff visit smaller stores (around 75% of participating retailers) on a quarterly basis to provide discounted bulbs and marketing materials. The contractor also provides basic information to sales staff and store managers about energy efficient lighting but do not conduct in-store demonstrations. These visits are supplemented with monthly calls.

Program Accomplishments

At the close of the third quarter of 2013 (the program contract commenced in February 2013), the field services contractor had visited 1,011 stores, which was nearly 100 percent of their goal (estimating a goal of 420 participating stores visited once a quarter). They conducted numerous demonstrations with customers (performing 75 in-store or corporate demonstrations in the last two quarters) and trained 1,056 staff people.

The contractor is maintaining a consistent relationship with participating retailers and is able to assure that marketing material is in place and up to date on a quarterly basis. The contractor has been less successful at collecting data for non-incentivized competing products (only 18 data points have been collected in 2014). The contractor and SDG&E have a continuous feedback loop that allows for the contractor to share information learned from in-store interactions with retail customers and staff, which then informs program decisions. The contractor and SDG&E constantly discuss the program progress over the phone and met in person eight times in 2013.

Market and program implementation feedback loop. Based on the contractor and SDG&E interviews, there is a successful feedback loop between the field service

implementers and SDG&E staff. SDG&E utilizes the field service team to gather feedback from retailers and customers to refine program strategies and tactics.

For example, SDG&E uses the contractor feedback to update program-marketing materials. SDG&E's marketing package includes aisle violators, stickers for price tags, educational post cards, break room posters, apron cards, and tear off pads according to a member of the program staff. One of the SDG&E staff members that we interviewed reported that after viewing visit reports produced by the contractor, he noticed that a lot of people were confused about wattage, lumens, and color temperature. The next round of marketing material was tailored to answer these questions.

The continuous feedback loop from customers and retailers through the contractor to SDG&E is a valuable benefit to the lighting program efforts. SDG&E is able to receive continuous (monthly and quarterly) feedback in an efficient manner, which means that programs can grow and improve without waiting for larger scale evaluations to come out or expending significant program resources on customer market research. SDG&E program staff report that this feedback loop extends beyond just marketing material and is also used to inform manufacturers about customer preferences.

The lighting field service efforts also provide benefits outside of the lighting program goals. The contractor reports that their customer interactions also give them the opportunity to discuss other SDG&E programs with inquiring consumers and to discuss rate changes with customers.

Knowledgeable support to retail sales staff. The contractor reported positive relationships with retailer sales associates, who are appreciative of them coming in and educating the consumer about lumens, brightness, and CFL recycling. Retail store and corporate managers highly value the training and support of their sales associates. Without the program, there would be less (e.g., not continuous, comprehensive or consistent) energy efficiency sales training of staff.

Retailer relationship maintenance. The program provides a valuable communication link between SDG&E and retail stores. Retailer interviews indicated that store associates recognize the contractor team members when they are making their quarterly visits. A corporate level retail staff we spoke with was pleased with the continued communication and felt that they could contact the contractor when needed. This open relationship between the contractor and retailers allows retailer barriers and preferences to be communicated to the utility level when necessary.

Direct interaction with and education of consumers. The program provides direct contact with customers via the periodic in-store demonstrations. The booth attracts customers from all over the store, not just customers shopping for lighting products, and provides comprehensive education and messaging consistent with the program's objectives. This mode also allows for interactive feedback from customers on their opinions about efficient lighting products. While some retailers have sales staff that are available to educate customers, the program is able to make a bigger impact through this dedicated effort.

Streamlined marketing material development. SDG&E worked directly with the contractor to develop marketing materials, a much more streamlined process than if SDG&E had to work with each individual manufacturer. The contractor and SDG&E both view the marketing package that they created this year as a major accomplishment. In the future, the contractor believes that the marketing process could move more rapidly if they were able to print the approved material.

Program Delivery

Significant barriers exist in the retail business model that make maintaining a constant program presence in retail stores challenging. Constant in-store changes such as rotating staff and restocking practices mean that training and marketing efforts need to be constantly checked on and repeated. Various corporate/local retailer structures can make program communications and implementation difficult. The additional time needed to address these barriers creates added cost for implementation. We identify some opportunities for possible refinements in program delivery based on our interim research.

Frequent aisle resets. The contractor constantly finds that aisles are reset or shifted, and prices and SDG&E marketing material are either removed or misplaced when they arrive in store for their quarterly visits. Large retailer I orders product in bulk, which causes products to be shifted until the next shipment arrives. Large retailer A is currently moving to a larger share of LED stock and does quarterly resets at the corporate level, and has the option to do more frequent (monthly, according to one of our retail manager interviews) resets at the stores level. Large retailer A has also added dimming displays that will help with customer education but required yet another aisle reset. This barrier reinforces the need for the contractor to make quarterly (if not more frequent) visits to check on in-store changes. We suggest that it could be beneficial to characterize stores based on their

restocking practices and for the contractor to develop visitation plans as consistent as possible with restocking practices.

Corporate retailer policy incompatibility. Both SDG&E staff and the the contractor team noted issues with retailer systems being incompatible with program mechanisms or preferences. Large retailer G cannot print price tickets at the local level and are therefore not able to show the price reduction in their stores. The contractor reports that they are working with large retailer G on an internal system so that price reductions can be shown in the future. While last year retailer H was in the buy down program, the contractor found that they have not been able to make the product ordering template work at the corporate level due to a switch in manufacturer. The contractor provides value in these situations by working to continue retailer relationships through store-specific hurdles.

Inability to fully utilize the SDG&E brand. The contractor is able to deliver SDG&E marketing material, but are limited in the extent they can use SDG&E's brand. The contractor reported that they have been mistaken to work for the store or a manufacturer at times. SDG&E is working with their legal department to see if they can give the contractor greater use of the SDG&E name and logo. Our large retailer interviewees did not have difficulty with associating the contractor and SDG&E but this may be helpful for efforts with smaller retailers. Based on prior evaluations, Evergreen thinks this may help to lend more legitimacy to their efforts. This may be particularly helpful for the smaller and hard to reach retailers that are less savvy when it comes to dealing with vendors.

Inability to enter stores. Both SDG&E staff and the contractor staff reported that on occasion (around twice a year) a store employee would not let them in the store. For this purpose, the contractor carries signed retailer approval forms with them to site visits. All retailers that we interviewed were aware and informed of the program, suggesting that regular visits help to improve familiarity with the contractor and their work for SDG&E.

Market Barriers and Program Influence

While our evaluation is focused mainly on validating that the contractor is meeting its performance targets (i.e., KPIs), our research provides some insights on the program's influence on the market.

Shift towards LEDs. Both the contractor and large retailer A interviewees reported that their shelving stock is shifting to feature more LEDs. An interviewee who is knowledgeable about Costco stocking practices noted that 75 percent of their current lighting SKU are

LEDs and that this is indicative of a shift over time towards LEDs. One of large retailer A staff noted that they are constantly revising their shelf stock based on which lights are selling, and which are not selling. Likewise, interviewees reported that customers like having more lighting options and are pleased to have energy efficient options that do not contain mercury. Current marketing materials appropriately feature both LEDs and CFLs. SDG&E could utilize the contractor's store specific knowledge about where LEDs are more prominent than CFLs and can adjust marketing accordingly.

Program influence on sales. The program currently collects some data (mainly, incentivized bulbs) that could inform this question, but it lacks comprehensive total sales data. While the retailers sign agreements that they are required to provide sales data if requested, this is done on an ad hoc basis.

For the next phase of the evaluation, we could work with SDG&E to review what sales data are available and conduct analysis.

In the following section, we report on the data that is being collected comprehensively and provide a plan for analyzing it for the draft evaluation report.

We did obtain some anecdotal feedback from the three retail representatives we spoke with for this interim effort. One large home improvement chain representative discussed how the market is moving towards greater acceptance of LEDs, and that the program has influenced the decline in price, accelerating LED market progress. From our past experience researching mass market retailers, the program can encourage stocking of certain efficient lighting products that they may not stock in absence of the program, and/or heavily promote the product (e.g., feature in an end cap with promotional displays), which tends to substantially increase sales. The mass-market retailer representative we spoke with was not knowledgeable about the market impact of the program.

A person familiar with Costco's lighting sales noted that the SDG&E incentive creates a 200 to 300 percent sales lift. This same interviewee (also familiar with efforts at large retailer A and large retailer G) suggested that SDG&E work to give the same incentive across retailers for the same product in order to encourage retailers to alter their profit margin (rather than rely on the utility to create similar prices across the various retailers). We did not speak with any of the small retailers, but our past experience suggests that many discount stores would not stock efficient lighting products at all without the program discount.

Customer income. According to the contractor, customer income is not directly correlated with demand for energy efficient products, but it does effect their ability to purchasing energy efficient products. The contractor noted that while products move faster in stores in higher income areas, that there is the same interest in energy efficiency in low-income areas and high-income areas alike.

Non-English speakers. The contractor identified a language barrier in some smaller retail stores. Providing in-language materials to stores that serve a non-English speaking customer base may help further disseminate messaging to hard to reach customers. SDG&E can utilize the contractor's store specific knowledge to assure that the most appropriate material gets to each store.

Consumer education. Currently, the program has a plan to conduct consumer education in phases. This year, the focus is on teaching consumers how to pick the right bulb. Next year, the focus will be on how to use the right bulb, followed by a third phase that offers information about controls and sensors.

The contractor has reported some positive effects from this campaign, with less negative feedback from consumers about CFL performance and aesthetics. Likewise, there has been progress in consumer understanding of the concepts of lumens, brightness, and CFL recycling.

Program Monitoring and Reporting

Below we provide information on current monitoring and reporting. This is followed by suggestions and options for analysis by Evergreen Economics given current data collection and possible modifications to existing KPI.

Current Monitoring and Reporting

The implementation contractor is required to submit the documentation on the following KPIs:

1. Number of channel outlet visits (quarterly)
2. Number of channel staff trained (quarterly)
3. Channel satisfaction survey (quarterly)
4. Number of incentivized SKU tracked (quarterly)
5. Number of non-incentivized and competing products (quarterly)
6. Quarterly meeting/ report (quarterly)

Table 2 lists the various reports along with their frequency and the KPI that is addressed within each report.

Table 2—Key Performance Indicator Documentation

Report (frequency)	KPI Addressed
Lighting demos and trainings report (monthly)	2, 3
Retailer visit report (quarterly)	1, 3, 4, 5
Incentivized products survey report (quarterly)	4, 5
Quarterly summary report (quarterly)	6, 2

Internal documentation review process. Reports are delivered at differing frequencies (monthly and quarterly) and are reviewed at various times by SDG&E staff. A staff member with an operational focus reviews KPI reports to understand what challenges the contractor is facing in order to continue forward progress of the field service efforts. Another SDG&E staff member will review documentation at a higher level twice a year. Having staff that work in various capacities review the same documentation is helpful in that it allows multiple interpretations of barriers and success metrics. The overall project manager assesses similarities and solutions between both the Plug Load and Appliance and Lighting programs’ field service efforts.

Collection of sales data. A SDG&E staff mentioned that they will look at sales data to view market progress twice a year to see what needs to be incorporated into the next marketing piece or educational materials. They mentioned that they would also look for sales differences during in-store demonstrations. Note that Evergreen did not have any sales data to review but did hear from one SDG&E staff member that as retailer relationships get stronger over time, retailers are more willing to share quarterly stocking data. It is also important to note the retailer contract contains a provision that states that “SDG&E reserves the right to request that the Retailer provide accurate summary sales data, sales rates, square footage, and foot traffic rates by store of Committed Products as a condition for future participation” indicating that SDG&E has been given store permission to request such data. In our past experience, even when required contractually, retailers have had a hard time handing over comprehensive sales data. The strong relationship between SDG&E, the contractor, and retail stores may reduce this barrier somewhat.

Tracking of purchasing decision before and after the contractor education. While the current reporting format makes the information difficult to analyze, the contractor collects

valuable information on what customers intended to purchase, and what they ended up purchasing after the contractor education at in-store demonstrations. This can offer a rough indicator of the value of in-store demonstrations and the education that the contractor offers. Tracking change in choices over time can help further hone in on the best messaging and on various customer wants and needs. The current layout of the data collected is very general and challenging to analyze. Evergreen suggests creating check boxes that indicate bulb type and incentive level in order to see if interventions lead to purchase of more efficient bulbs.

Balancing the need for more data with the impact on efficient implementation.

SDG&E staff thinks critically about the value of the data that they collect and makes continuous improvements to attempt to strike an appropriate balance. The contractor can get bogged down trying to collect and report too much data, and SDG&E program staff has limitations on their time to be able to make use of data. For example, the contractor used to collect information on every incentivized bulb in stores, but now they report that they take a sample of incentivized bulbs (bulbs per package, location and pricing). SDG&E staff came to the conclusion that it would be more valuable to have the contractor spend their time setting up and doing demonstrations than collecting detail on every incentivized bulb in the store.

Format of reports. Currently, the data are provided in spreadsheet and PDF form. SDG&E staff are satisfied with the format and one staff noted that they are pleased with the format as long as it allows the contractor to collect information efficiently. Typically, the staff do not attempt to combine and analyze the data on a cumulative basis. If that was an objective, the format would not facilitate such analysis. Evergreen sees possible benefit in creating reports that can track progress cumulatively (either by changing the format or making use of electronic data collection) but also understands SDG&E's desire to assure that the contractor is spending their time being useful in the field rather than working on formatting report information.

Analysis Plan for Current KPI and Options for KPI Modification

The key performance indicators are valuable for different SDG&E staff and serve varied purposes:

1. **Tracking program outputs:** Tracking program accomplishments towards their goals

2. **Refining program outcomes:** Providing information that helps refine program delivery
3. **Understanding market impacts:** Providing information that informs its influence on the market

The current KPI documentation is heavily focused on tracking outputs (number one above) but Evergreen believes that with some additions and modifications, KPI could also be utilized to further understand market impacts (3) and program outcomes (2).

We reviewed the KPI reports and provide an overview of our proposed plan for analyzing the data in the evaluation report in Table 3 below. The table includes analysis of existing data, and options based on modifying the existing data and adding new data, if desired by SDG&E. Analyses are categorized according to the list above as measuring program outputs, program outcomes, or market impacts in the fourth column of Table 3.

For our next deliverable, Evergreen proposes to analyze all data that is labeled as “existing” in column three. When these findings are presented to SDG&E in early February, Evergreen plans to discuss these suggestions and receive feedback on what KPI can be modified, if any, and what analysis would be useful to SDG&E to further program improvement.

Table 3—Data Analysis Plan

Analysis	Objective	Data (New, Modified or Existing)	Output, Outcome or Market Impact
In-Store Demonstration Reports			
Create categories for tracking original item customer was considering for purchase and item that customer ended up purchasing for the contractor report of six customer interactions. Tracking categories can include bulb type and if bulb type was/is incentivized or not.	Understand if and how education is modifying purchase decisions.	Modified	Market impact
Roll up data on date, time and number of people and employees assisted at demonstrations.	Understand the best time to hold demonstrations for both staff and customers.	Existing	Outcome
Quarterly Store Reports			
Encourage elaboration on the reported question “Have you found that customer attitudes have changed towards EE lighting in the past year?” to see if particular messaging is working.	Understand how attitudes are changing.	Modified	Market impacts
Modify format to a horizontal layout that allows data collection to be tracked for an entire year on the same sheet. Can remove activity description to add space, as it is repetitive.	Track changes in store over time and reflect on what issues are continually not being addressed.	Modified	Outcome and market impact
Add clarification on rating systems. Is 5 high or low? Some stores have a score of 5 but have no incentivized bulbs in store.	Add consistency to reporting.	Modified	Output
Bulb Tracking Spreadsheet			
Create an automated summary page as the first sheet for this document which could show mix of bulbs by type (basic or advanced CFL, LED), number of stores, etc.	Further customize program for each retailer and track change in store stock from one quarter to the next.	Can be created from existing data	Outcome and market impact
Share of store SKU that are incentivized. This is a modification of the tracking that is supposed to collect information on incentivized and non-incentivized product. In 2013, little data was collected on non-incentivized products in 2013.	Understanding which retailers are moving to feature more incentivized products.	Modified	Outputs and market impact

Analysis	Objective	Data (New, Modified or Existing)	Output, Outcome or Market Impact
Store Questionnaire/Assessment – This assessment could be given to stores when they sign up for participation and to all participating stores in order to assess where best to allocate the contractor resources.			
Number of staff in department. Percent of light bulb sales that involve store associate/customer interaction.	Find out value of staff trainings based on their in-aisle availability.	New	Outcomes
Which shift has the highest turnover rate?	Find out during which time shifts should staff be trained.	New	Outcomes
How often (and on what schedule) are aisles completely reset?	Understand how often price tags and signage may be interfered with and allocate visits to be more or less than quarterly depending on results.	New	Outcomes
How often are items shifted (rather than just restocked)?			
Checklist of acceptable or desired marketing materials in addition to language needs.	Learn on outset what types of material are acceptable and focus efforts there.	New	Outcomes

4. Suggestions for Potential Program Improvements

In this section we discuss potential program improvements based on our interim research which may improve the effectiveness and efficiency of program delivery.

Format of reporting. As discussed in section three, modifying the data collection format could allow for a better more efficient understanding of the program’s progress over time. A horizontal layout would allow for each quarterly store visit to be tracked on the same sheet. Additionally, technology such as digital data collection (via a tablet) could make the data collection process more efficient. Drop down menus allow data to be categorized at the point of collection and tablets could facilitate the shelf and display photography that is incorporated into reports. Before visiting a store, the field service representative could pull up information from the prior report and understand what issues to look for. Digital collection would help to lower the amount of time that information is processed at the

contractor for consumption by SDG&E. While the digital data collection solution may help save time in the long run, the up front costs of the tablet and the time to create the interface may take budget and focus away from other program activities.

Sales data collection. Ideally if there were no resource limitations, all sales data would be collected electronically and available to SDG&E real-time on a cumulative basis. While sharing sales data is part of the retailer contract, in Evergreen's experience, this data is difficult and time consuming to gather. Total sales data would facilitate understanding of program effects on the market but it is important to be realistic about the challenges in receiving this type of information. According to one of the SDG&E staff, some retailers already give sales data to SDG&E (although Evergreen has not seen such data and was not able to review), suggesting that the program outcome of continued retailer relationships may help to increase trust and facilitate shared sales data at a later date.

Permanent lighting aisle displays. SDG&E staff discussed the benefits of utilizing technology to have in-store live touch screen displays. While this may allow for easily updated marketing material, interactive displays, and the ability to track what customers click through to further understand their interest, many of these functions are already provided by the contractor. The contractor can gauge customer wants and needs and allow for an opportunity for customers to engage face to face. KPI reports also indicate that the tear-off sheets are well received by customers and contain messaging material that would likely be used in an in-aisle display. If SDG&E proceeds with this project it would be valuable to first run a pilot to see if customer interaction occurs with this type of information display.

Expanding demonstrations. SDG&E would like to expand demonstrations in the future. They reported that the contractor is already meeting with community outreach group and demonstration reports reflect that product demonstrations are occurring at large companies. Likewise, a large corporate retail staff member that we interviewed noted that SDG&E's field service efforts are in the top quartile of retailer efforts that they assist with and suggested that the only improvements they could see being useful would be additional time spent in-store. When deciding if and how to expand demonstrations SDG&E should consider the link between education and purchase of energy efficient product. This direct link is much more likely (and easier to track) in-store compared to at community events and corporations, but out of store events have the added benefit of educating people who may have not been seeking out bulbs or information on lighting in the first place.



5. Evaluation Next Steps

After discussions with SDG&E about our proposed plan for data analysis, we will deliver a memo that provides the final plan for data analysis in February. We will submit data requests in the first two quarters of 2014, and analyze data through the second quarter of 2014. We will deliver a draft evaluation report in September of 2014.

Deliverables:

- Interim findings memo (this document)
- Final data analysis plan memo – February 2014
- Data requests – April 1, 2014 and July 1, 2014
- Draft evaluation report – September 2014

7 Appendix B: Data Analysis Plan Memo

This appendix contains both the research plan and revised documents that were suggested in the Interim Memo (Appendix A).



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MEMORANDUM

March 19, 2014

To: Rob Rubin, Thomas Van, Edmond Binuya, SDG&E

From: Martha Thompson and Tami Rasmussen

Re: Data Analysis Plan for Evaluation of SDG&E Lighting Field Services Contract

This memorandum provides our data analysis plan for the Lighting Field Services Evaluation report that will be drafted and delivered in September 2014. The plan is based on discussions with SDG&E staff with regards to the Interim Findings Memo submitted in January 2014. This memo contains the following sections:

1. Program and Evaluation Background
2. Research/Analysis Approach
3. Schedule of Deliverables

1. Program and Evaluation Background

SDG&E contracted with a firm on February 18, 2013 to conduct field services to support the 2013-2014 lighting program, which is implemented at approximately 420 participating retailer outlets. The contractor is providing management of participating retailers (including small retailers and big box retailers) and development and production of point-of-purchase materials.¹

The contractor's performance is measured based on six Key Performance Indicators (KPIs) that are specified in their contract with SDG&E. These KPIs are reported on periodically to SDG&E (e.g., via monthly and quarterly reports, email and phone calls).

In May of 2013, Evergreen Economics was hired to review contractor documentation on KPI and to gather feedback from participating retailers and field service representatives.

¹ See "SDGE-[Contractor] 2013-14 Agreement MAN-28Jan13_2.pdf" for a description of the field services.

Based on feedback from SDG&E at the project initiation meeting, the overall objective of the research is to identify ways the program can maximize the sales of energy efficient lighting through consumer and retailer education and marketing. While our research approach is focused on evaluating the effectiveness of the contractor's program delivery (e.g., are they fulfilling their contract obligations, are SDG&E and the retailers they serve satisfied with their performance, are there ways in which program delivery could be improved to be more effective and/or efficient), through the course of our research we can also provide insights about the effectiveness of program design.

2. Research/Analysis Approach

In January 2014, Evergreen Economics presented our interim findings to program staff, which were based on review of key performance indicator (KPI) documentation and in-depth interviews with program staff, field service contractor staff, and retailers. For more detail on those efforts please see the Interim Findings memo, dated January 24, 2014. During the presentation of interim findings, and subsequent discussions, we solicited feedback from program staff regarding the remaining study analyses. This Data Analysis Plan Memo incorporates their feedback.

Remaining research efforts for 2014 include the following and are detailed below.

- In-Depth Interviews with marketing staff, high level retail staff, and the contractor staff and
- Analysis or revision of KPI documentation.

Table 1 summarizes the research questions and objectives discussed with program staff and shows how each question is linked to the data collection and analysis.

Table 1 – Research Questions and Associated Tasks

	In-Depth Interviews			Analysis or Revision of KPI Documents
	Market- ing Staff	High Level Retail Staff	Contractor Staff	
How does marketing impact customers?	x		x	x
How does the contractor impact customers?	x	x	x	
What types of bulbs are carried across store types and regions?		x		x
Can specialty CFLs still be supported? Do retailers and manufacturers want to continue selling these? When should SDG&E back away from that market?		x	x	x
Are there perceived issues related to product turnover? What is the shelf life of a specific bulb?		x	x	
How does SDG&E get customers to walk away with a broader energy efficiency message? Are retailers interested in home displays?	x	x	x	
Is anyone else doing overall marketing better than SDG&E?		x		
Is the program impacting attitudes of consumers, retail staff, and manufacturers?	x	x	x	x
When will SDG&E have transformed the market?		x	x	
Is SDG&E making a positive impact on the market?		x	x	

In-depth Interviews

Evergreen will conduct a small number of in-depth interviews to inform the research questions. In-depth interviews will include:

1. **SDG&E Marketing Staff Interviews** – During our meeting with program staff in early February we found discussions with the marketing team to be valuable. We will continue these conversations through interviews which will include topics such as:
 - Merits of presenting overall energy efficiency message,
 - Customer attitudes and perceptions,
 - Direct marketing impacts for consumers, and
 - Contractor marketing strategies.

2. **Contractor Interviews** – we will follow up our October 2013 interviews with the contractor. This will be done in a similar format, with program staff from various positions on one call. Topics covered will include:
 - Perceptions of retailer willingness to have in-store overall energy efficiency messaging or demonstrations,
 - Perceptions of advanced CFL market,
 - Product shelf life,
 - Marketing in other utility jurisdictions,
 - Customer perceptions, and
 - Market impacts, changes and direction.

3. **High Level Retail Staff Interviews** – we will follow up our January 2014 retailer interviews to discuss high level questions with up to two management level retail staff. Note that like the prior set of retailer interviews, these are intended to be anecdotal since there are so few based on budget restrictions (this was an added task not in our original scope). The intent is to get some high level feedback to guide the program, rather than statistically representing lighting retailers' opinions. Topics covered will include:
 - Willingness to have in-store overall energy efficiency messaging or demonstrations,
 - Perceptions of advanced CFL market,
 - Product shelf life,
 - Marketing in other utility jurisdictions,
 - Customer perceptions, and
 - Market impacts, changes and direction.

Deliverables: Draft guides for each interview group, May 30, 2014. Interview findings will be reported in the draft findings memo that will be submitted in September, 2014.

Analysis or Revision of KPI Documents

This section includes the following tasks:

- Review and Analysis of KPI documentation
- Modification of KPI documentation
- Creation of Store Questionnaire/Assessment

1. Review and Analysis of KPI documentation

For the Interim Findings Memo we conducted a cursory review of KPI documents covering up to 2013:Q4. We will submit two additional quarterly data requests for KPI documents on April 1, 2014 and July 1, 2014 in order to include quarter one and quarter two of 2014 in our analysis.

Evergreen reviews the quarterly and monthly reports to:

- Track KPI performance
- Provide background on the program status
- Ensure that all the KPIs are reported on comprehensively
- Identify any issues with program delivery
- Ensure that SDG&E is receiving the information they need to effectively oversee the program and
- Ensure that the reports are provided in a useful format for SDG&E.

Evergreen reviews a sample of the bulb, training and demo reports to ensure that:

- The contractor is reporting on the KPIs that are in their contract
- The data are accurate, complete and comprehensive
- There is sufficient documentation (e.g., pictures of customer interactions and displays, SKU numbers in bulb reports, pictures of marketing materials) and

- That the reports are provided in a useful format for SDG&E.

For the bulb, training and channel satisfaction surveys, Evergreen will analyze all of the report data (covering 2013 through second quarter of 2014) in mid-2014 to:

- Provide summary data to SDG&E and
- Provide feedback on program delivery, market outcomes and possibly market impacts.

Deliverables: Data requests on April 1, 2014 and July 1, 2014 and analysis included in the September draft report.

2. Modification of KPI documentation

One of our recommendations in the Interim Findings Memo was to modify select KPI documentation to increase efficiency and/or usefulness of the data. We have included two of the modified KPI documents as attachments to this memo.

We anticipate that SDG&E program staff will work with their field service contractor to implement these changes as appropriate and feasible. In Table 2, we outline the edits made, and the analysis we expect they will facilitate if incorporated into reporting data for the first half of 2014.

Table 2 – Document Modifications

Analysis	Objective
In-Store Demonstration Reports	
Create categories for tracking original item customer was considering for purchase and item that customer ended up purchasing for the contractor report of six customer interactions. Tracking categories can include bulb type and if bulb type was/is incentivized or not.	Understand if and how education is modifying purchase decisions.
Quarterly Store Report	
Encourage elaboration on the reported question “Have you found that customer attitudes have changed towards EE lighting in the past year?” to see if particular messaging is working.	Understand how attitudes are changing.
Modify format to a horizontal layout that allows data collection to be tracked for an entire year on the same sheet. Can remove activity description to add space, as it is repetitive.	Track changes in store over time and reflect on what issues are continually not being addressed.
Add clarification on rating systems. Is 5 high or low? Some stores have a score of 5 but have no incentivized bulbs in store.	Add consistency to reporting.
Bulb Tracking Spreadsheet	
Create an automated summary page as the first sheet for this document which could show mix of bulbs by type (basic or advanced CFL, LED), number of stores, etc.	Further customize program for each retailer and track change in store stock quarterly.

Deliverables: The Modified In-Store Demonstration Report is attached as Appendix A. The Modified Quarterly Store Report is attached as Appendix B. The Quarterly Store Report analysis alteration will be delivered during the second quarter of 2014.

3. Creation of Store Questionnaire/Assessment

In-depth interviews with retailers, program staff, and field service contractors made it apparent that retail locations vary greatly in their needs, acceptable marketing material, stocking refresh practices, and interactions with customers. One recommendation in the

Interim Findings Memo was to create a store questionnaire/assessment for each store when they signed up with the program that would allow the contractor to have a profile of each store that could assist with the objectives shown in the second column of Table 3. This could be an addition to the SDG&E Lighting Retailer Guide that contains the store agreement.

Table 3 – Questionnaire Suggestions

Questionnaire Item	Objective
Number of staff in department. Percent of light bulb sales that involve store associate/customer interaction.	Find out value of staff trainings based on their in-aisle availability.
Which shift has the highest turnover rate?	Find out during which time shifts should staff be trained.
How often (and on what schedule) are aisles completely reset?	Understand how often price tags and signage may be interfered with and allocate visits to be more or less than quarterly depending on results.
How often are items shifted (rather than just restocked)?	
Checklist of acceptable or desired marketing materials in addition to language needs.	Learn on outset what types of material are acceptable and focus efforts there.

If these forms are completed before the data request on July 1, 2014, Evergreen can perform analysis and include findings in the September deliverable. Evergreen suggests that SDG&E leverage the contractor staff knowledge to complete these questions for existing stores, and use this questionnaire for new stores going forward.

Deliverables: Questionnaire draft which can be found in Appendix C of this memo.

3. Schedule of Deliverables

Below we present the schedule of deliverables.

Table 4 - Scheduled Deliverables

Item	Deliverable Date
Status Updates	On or before the 10 th of each month
Modified In-Store Demonstration Report	See Appendix A
Modified Quarterly Store Report	See Appendix B
Retailer Questionnaire Additions	See Appendix C
Bulb Tracking Spreadsheet Update	Q2, 2014
2014 Q1 Data Request	April 1, 2014
2014 Q2 Data Request	July 1, 2014
Draft Interview Guides	May 30, 2014
Draft Findings Report	September 2014



Appendix A: Modified In-Store Demonstration Report

Please see below for the modified in-store demonstration report.

CUSTOMER INTERACTIONS:		
Overall # of Customer Interactions: 82	# of Customers Assisted with Bulb Purchase: 47	
# of Customers Choosing Energy Efficient Bulbs: 38	# of Customers Educated on Lumens/Color: 33	
# of Customers with Negative CFL Opinions: 2	# of Customers Interested in LED: 42	
CUSTOMER PROFILES:	Customer 1	Customer 2
Demographic	Female, 50s	Couple, 60s
Did you educate them on lumens/color?	Yes	Yes
What were they looking for?	LEDs for her can lights	Replacement bulb for track lights
What did they end up buying?	Nothing, will bring her existing bulb tomorrow (she wasn't sure what size she currently has)	Dimmable CFL (2700K was only color available, but they prefer 3500K)
What questions did they ask?	Color, size, style, price?	Brightness, sizes, works with older dimmer switch?
Any positive/negative opinion on EE lighting?	Likes LED, but price is high.	Want to use more EE bulbs (LEDs look nice but too expensive.)
	Customer 3	Customer 4
Demographic	Mother and son (20s)	Couple, 50s
Did you educate them on lumens/color?	Yes	Yes
What were they looking for?	"Regular" bulb for lamp	CFLs for bathroom that don't take long to warm up
What did they end up buying?	4 pack 13w 3500K CFLs	"instant on" 3500K CFL 2pk
What questions did they ask?	Color, cost, long life?	Brightness, color, warm-up time?
Any positive/negative opinion on EE lighting?	Happy to know CFLs last longer.	Their current CFLs take too long to reach full brightness.
	Customer 5	Customer 6
Demographic	Couple, 20s	Male, 30s
Did you educate them on lumens/color?	Yes	Yes
What were they looking for?	<input type="checkbox"/> Basic CFL <input type="checkbox"/> Adv. CFL <input type="checkbox"/> LED <input type="checkbox"/> Other <input type="checkbox"/> Incentivized <input type="checkbox"/> Non-incentivized	Incandescent yellow bug light
What did they end up buying?	<input type="checkbox"/> Basic CFL <input type="checkbox"/> Adv. CFL <input type="checkbox"/> LED <input type="checkbox"/> Other <input type="checkbox"/> Incentivized <input type="checkbox"/> Non-incentivized	Yellow 13w CFL bug light
What questions did they ask?	Differences in color, how bright would they need for a floor lamp?	How long would they last?
Any positive/negative opinion on EE lighting?	They want to be energy efficient	

Evergreen recommends creating check boxes rather than open ended reporting for all six customer profiles in order to better categorize the change in customer decision.



Appendix B: Modified Quarterly Store Report

Please see below for the modified quarterly store visit report.

**PRIMARY LIGHTING FIELD SERVICE RETAILER
VISIT REPORT**

RETAILER NAME: _____
 RETAILER ADDRESS: _____
 STORE MANAGER: _____
 PHONE: _____

PHOTOS

Photo 1	Photo 2
Photo 3	Photo 4
Photo 5	Photo 6
Photo 7	Photo 8

	Q1 2014	Q2 2014	Q3 2014	Q4 2014
Visit Information				
Visit Date				
Total Retailer SKUs				
<input type="checkbox"/> Staff Name				
Marketing				
Vertical Beam Signs				
Break Room Posters				
Window Clings				
Lighting Facts tear-off pads				
Apron Cards				
Shelf Tags				
Retailer Assessment and Observations (1 to 5, 5 being best)				
Retailer open during stated hours				
Product in visible location				
Product attractively merchandised				
Compliance with pricing guidelines				
Store cleanliness				
Store organization				
Participation enthusiasm				
<i>Additional comments</i>				
<i>Things to check on next visit</i>				

	Q1 2014	Q2 2014	Q3 2014	Q4 2014
Retailer Survey & Training #1				
Name				
Department/Title				
What was the sales associates' feedback?				
What POSITIVE comments regarding EE lighting do you hear from customers?				
What NEGATIVE comments regarding EE lighting do you hear from customers?				
Are you aware of the SDG&E lighting incentive/buy-down program?				
Do you know what bulbs are incentivized by SDG&E in this store?				
Do you find that customers will select the SDG&E incentivized bulbs over non- discounted bulbs when making a purchase decision?				
Is brand name recognition or lowest price most important to your customers when making an EE bulb purchase decision?				
Did you provide sales associate training and education on lumens vs. wattage?				
Did you provide sales associate training on EE lighting color temperatures?				
Have you found that consumer attitudes have changed towards EE lighting in the past year? If so, how?				

	Q1 2014	Q2 2014	Q3 2014	Q4 2014
Retailer Survey & Training #2				
Name				
Depart/Title				
What was the sales associates' feedback?				
What POSITIVE comments regarding EE lighting do you hear from customers?				
What NEGATIVE comments regarding EE lighting do you hear from customers?				
Are you aware of the SDG&E lighting incentive/buy-down program?				
Do you know what bulbs are incentivized by SDG&E in this store?				
Do you find that customers will select the SDG&E incentivized bulbs over non- discounted bulbs when making a purchase decision?				
Is brand name recognition or lowest price most important to your customers when making an EE bulb purchase decision?				
Did you provide sales associate training and education on lumens vs. wattage?				
Did you provide sales associate training on EE lighting color temperatures?				
Have you found that consumer attitudes have changed towards EE lighting in the past year? If so, how?				

Appendix C: Retailer Questionnaire Suggestion

The questions below are the suggested additions to the Lighting Retailer Guide. Questions are in the same format as the fields on page 14 of the Lighting Retailer Guide where the retailer gives additional information such as address, phone, email, and signature.

Average number of staff at one time in lighting department:	
What portion of light bulb sales involves store associate interaction with customers?	<input type="checkbox"/> None <input type="checkbox"/> Few <input type="checkbox"/> Some <input type="checkbox"/> A lot <input type="checkbox"/> All
Which work shift has the highest turnover rate? (Used for training scheduling, if applicable)	
How often (and on what schedule) are lighting aisles completely reset?	
How often are lighting items shifted (rather than just restocked)?	
Please check all marketing material or education products you would be willing to post:	<input type="checkbox"/> Small shelf sign <input type="checkbox"/> Break room poster <input type="checkbox"/> Aisle apron card <input type="checkbox"/> Shelf tag <input type="checkbox"/> End cap
Do you have other suggestions for marketing material that would be useful for yourself, employees, and customers? If so, What?	
Would your store be interested in creating an area dedicated to an overall energy efficiency message with demonstration household products?	



8 Appendix C: Analysis of Large Retailer Bulb Tracking Spreadsheets for Evaluation of SDG&E Lighting Field Services Contract

This appendix contains an interim deliverable based on the Data Analysis Plan Memo in Appendix B.



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MEMORANDUM

July 29, 2014

To: Rob Rubin, Edmond Binuya, SDG&E

From: Martha Thompson and Tami Rasmussen

Re: Analysis of Large Retailer Bulb Tracking Spreadsheets for Evaluation of SDG&E Lighting Field Services Contract

This memorandum is an interim deliverable for the Evaluation of SDG&E Lighting Field Services Contract, the most recent deliverable of which was a Data Analysis Plan delivered on March 19th, 2014. The Plan included a task to improve SDG&E's ability to efficiently analyze large retailer bulb tracking spreadsheets to enable further customization of the program for each retailer and store and track changes in store stocking over time. We recommended that SDG&E create an automated summary page as the first sheet for the bulb tracking spreadsheet that shows mix of bulbs by type (basic or advanced CFL, LED), number of stores, etc.

The information in this memo was reviewed with Edmond Binuya in late June and this memo serves as a summary of the completed analysis in addition to instructions for using this example to create similar analysis across other large retailer bulb tracking spreadsheets.

For this example, we looked at Large retailer A bulb tracking data across five reporting time periods. The first three tracking spreadsheets represented three site visits over the year 2013. The second two spreadsheets were delivered monthly¹ for the first two months of 2014. Utilizing these five sets of data, we completed analysis on the following:

¹ Conversations with program staff and the contractor confirmed that large retail stores are now visited on a monthly (as opposed to quarterly) basis after the beginning of the year.

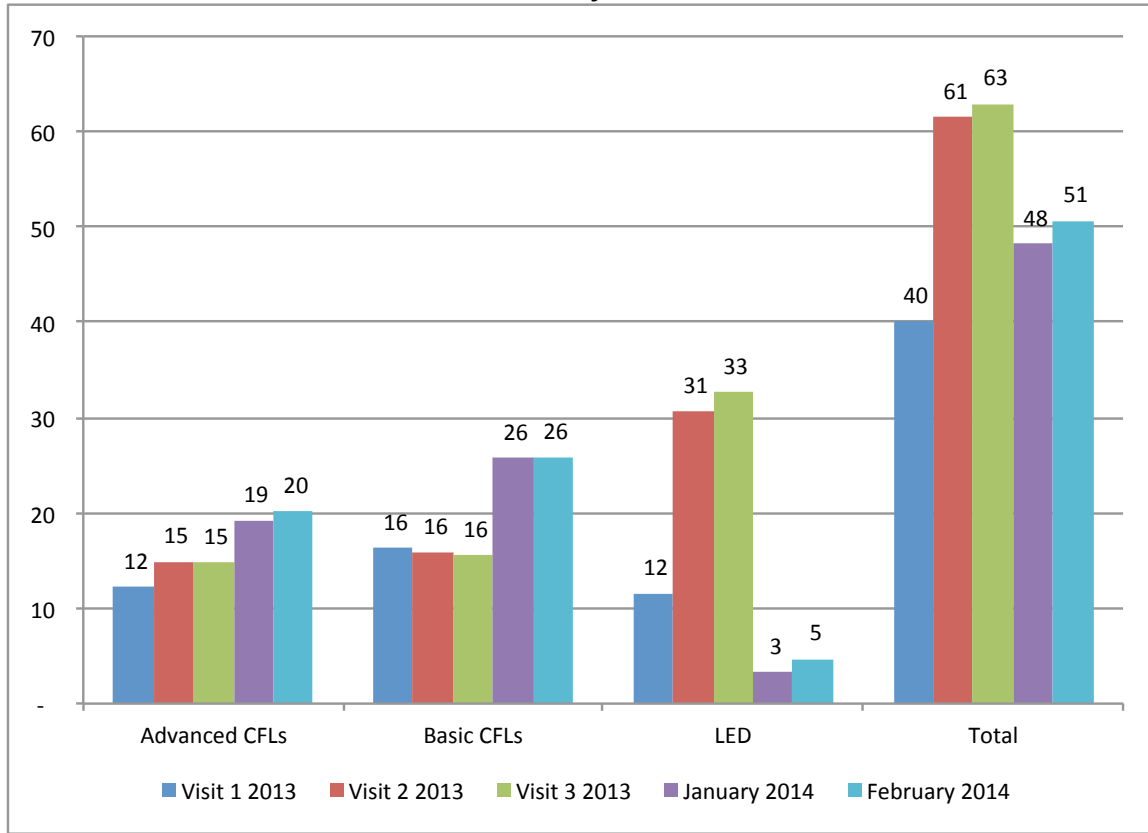
1. **Tracking of mean bulbs by type across all participating large retailer A locations over time:** Mean number of incentivized bulbs (individual SKU) present on the shelf, with an identifiable price, by bulb type (Basic CFL, Advanced CFL, and LED) over time.
2. **Tracking of bulbs in individual stores:** Mix of incentivized bulbs (present on the shelf, with an identifiable price) in each participating store.
3. **Tracking of location of incentivized bulbs on store shelf:** Location of incentivized bulbs (present on the shelf, with an identifiable price) across all stores.

This memo contains two sections. The first shows examples of the above listed analyses that can be done using reports from 2013 through February of 2014 for a single retailer (Large retailer A) and the second section describes how this process can be automated for other retailers and what barriers exist to automation. The process to create each table or figure presented in the first section is explained in detail in the second section. All spreadsheets along with the formulas that create the tables and figures presented in section one will be explained in section two and will be submitted along with this memo.

1. Sample Analysis Utilizing Bulb Tracking Spreadsheets

Figure 1 shows the number of individual SKU presented on average over 24 large retailer A stores by bulb type over the five reporting periods (2013 through February of 2014). This figure shows that there has been an increase in the mean amount of incentivized basic CFLs and a decrease in incentivized LEDs from 2013 to 2014. In our discussion with Edmond he was not surprised by this change due to a late launch this year (March of 2014) and requested this data to further investigate.

Figure 1: Average Number of Individual Incentivized SKU Presented in Store 2013 to February 2014



Evergreen also created an automated table that looks at the mean blubs presented in the figure above, but at the store level (Table 1). Unlike the figure above, this table is representative of one period of site visits, not all five. Seeing the store number (column one) in analysis could be useful to understand which stores may need more encouragement to present more incentives overall or more incentives of a certain bulb type that may be lacking compared to other retail locations. At four of the 24 Large retailer As in February 2014, only four percent of their incentivized SKU are LEDs.

Table 1: Share of Individual Incentivized SKU Present in Store by Bulb Type in February 2014

Row Labels	Advanced CFL	Basic CFL	LED	Grand Total
614	41%	49%	10%	51
658	42%	53%	4%	45
659	40%	49%	11%	53
660	38%	50%	12%	52
669	36%	52%	12%	50
671	43%	53%	4%	47
673	40%	51%	9%	53
674	36%	52%	12%	50
679	39%	50%	11%	54
680	38%	52%	10%	50
1018	39%	53%	8%	51
1030	42%	53%	5%	43
1032	45%	51%	4%	47
1034	44%	52%	4%	50
1053	39%	50%	11%	54
1074	40%	51%	9%	53
1077	41%	48%	11%	56
1848	40%	51%	9%	53
6612	38%	50%	12%	52
6628	41%	48%	11%	56
6634	40%	50%	10%	52
6656	40%	49%	11%	53
6679	39%	53%	8%	49
8949	37%	51%	12%	51
Grand Total	40%	51%	9%	1,225

Evergreen also created a table of bulb placement by bulb type (Table 2). We understand that SDG&E does not have control over placement of bulbs in stores, but this information could be tied to inventory data to understand the relation between product placement and sales patterns. This shows that in February, across large retailer A stores, LEDs were more likely to be placed on displays and endcaps than advanced and basic CFLs.

Table 2: Location of Incentivized SKU in Stores by Bulb Type in February 2014

Row Labels	<input type="checkbox"/>	Display	Display and middle	Endcap	High	Low	Mid	Unknown	Grand Total
Advanced CFL		0%	0%	0%	12%	36%	51%	0%	100%
Basic CFL		0%	1%	0%	5%	53%	42%	0%	100%
LED		2%	9%	8%	2%	29%	47%	4%	100%
Grand Total		0%	1%	1%	8%	44%	46%	0%	100%

2. Further Automation of Bulb Tracking Spreadsheets

Evergreen Economics performed the above analysis with the intention to make the process applicable to additional participating large retailers. In this section we describe the steps needed to create the tables and figures presented in section one, a list of barriers and issues that may complicate these steps, and suggestions that would help to minimize these barriers in the future.

During the process of creating automation and analysis for other retailers, it may be helpful to see examples from large retailer A analysis and automation. The following five spreadsheets will be delivered in a folder with this memo:

- [large retailer A]_AnalysisDemonstration_Visit1_13
- [large retailer A]_AnalysisDemonstration_Visit2_13
- [large retailer A]_AnalysisDemonstration_Visit3_13
- [large retailer A]_AnalysisDemonstration_0114
- [large retailer A]_AnalysisDemonstration_0214
- [large retailer A] Summary Information_0214

The first five spreadsheets are all original Excel documents given to us by lighting program staff (with added analysis tabs) and the final Excel document summarizes data contained in all five of the preceding Excel documents. Note that large retailer A Summary Information Excel sheet contains formulas that reference the preceding five documents, which may need to be relinked (Microsoft Excel should prompt you to do so if necessary) as the file path will be different than it is on the Evergreen server.

The six steps to create the figures and tables presented in section one are as follows:

1. Creation of a Summary Page
2. Create a Bulb Classification Sheet to be referenced by Summary Sheets Created in Step One
3. Create Indicator Variable for Bulbs Being Found in the Store
4. Create a Table with Mean Number of Bulbs in Store by Bulb Type
5. Create a New Spreadsheet which Summarizes the Mean Bulbs by Type Over Time Using the Pivot Table Created in Step Four
6. Create a Table of the Location of Incentivized SKU in Stores by Bulb Type

Step One: Creation of a Summary Page

This step will need to occur for each bulb tracking spreadsheet. Each individual spreadsheet represents one period of visits to each store at a single retailer. This section describes this process for a singular bulb tracking spreadsheet. All analysis will build on this creation of a summary tab in the front of the bulb tracking spreadsheet. This tab should contain information from each of the existing tabs in the spreadsheet along with an added column to note the store number (from each tab) in the Excel spreadsheet. For an example of this, open [large retailer A]_AnalysisDemonstration_0214 and click on the tab that is called “Summary”.

To replicate this in another bulb tracking spreadsheet, create a new tab titled “Summary” and then create a header in the first column for store number. Then, look across each store tab, and find out how many rows are in each tab. If there are 70 rows in each tab, in cell B1, create a reference to cell A1 in the first store tab, and then drag that formula down 70 rows, and across until it captures all of the data. You will then repeat this process for the second store tab by creating a reference to cell A2 (in order to not repeat the header) in the second store tab in cell B72 of the summary tab. Make sure to update column A with the store ID number (found in each tab) as you continue this process for each store.

Once this has been done for one retailer’s bulb tracking spreadsheet, it can be repeated easily in a second bulb tracking spreadsheet, as long as the store tabs are for the same group of stores and as long as each tab has the same number of rows (or fewer) than the original bulb tracking spreadsheet. Be sure to check that the formulas reference the tabs in the current document rather than the tabs in the original document.

Barriers/Issues: Blank rows were added in subsequent visits when this was done for large retailer A so the original number of rows changed and the formulaic summary sheet could not be copied and pasted across each of the five visit documents. This can be avoided in the future by scanning all visit spreadsheets and using the maximum number of rows.

Suggestions for Ease of Use: The contractor could collect the data in a summary format going forward and filters could be used to see data by store number rather than clicking on a separate tab.

Step Two: Create a Bulb Classification Sheet to be referenced by Summary Sheets Created in Step One

In order to look at the type of bulbs found on store shelves, a new variable must be created that takes the more specific bulb description and creates a variable with three categories: advanced CFL, basic CFL, or LEDs. To do this, (after the summary sheet is created in step one above) make an additional tab that is titled “Bulb Classification.” This will then be used as a reference sheet to add a simplified bulb classification to the summary sheet where bulbs are Advanced CFLs, Basic CFLs, or LEDs. An example of this can be seen in the “Bulb Classification” tab of each of the tracking spreadsheets for large retailer A.

The instructions here reference the February 2014 bulb tracking spreadsheet that is included with this memo. The name of that document is [large retailer A]_analysisDemonstration_0214.xlsx. The bulb classification tab is a list of each product description (column D) in the summary sheet with an additional column that categorizes the product description into an Advanced CFL, Basic CFL, or LED (in column F). To get a list of the product descriptions, create a pivot table with the product description variable in rows. This list is in column D of the bulb classification tab in the February 2014 example. After this list is created, add a column (see column F) that has one of three categories depending on the bulb description (advance CFL, basic CFL, or LED). Next, create a column in the summary sheet with a VLOOKUP formula to list the type of bulb for the product description. An example of this VLOOKUP function from column M of the summary tab in the file titled “[large retailer A]_AnalysisDemonstraitno_0214.xlsx” is pasted below.

=VLOOKUP(E2,'Bulb Classification'!\$D\$1:\$F\$69,3,FALSE)

E2 references the column with the bulb description in the summary spreadsheet, and \$D\$1:\$F\$69,3 allow the bulb category in column F of the bulb classification tab to be reported back when the bulb description is found in column D of the bulb classification tab.

Barriers/Issues: In the case of large retailer A, the first visit had a bulb classification variable in the summary data that did not appear in later versions. The second and third visit reports had slightly different names and product descriptions from those in 2014. This made it difficult to utilize the same bulb classification tab across each visit summary.

Suggestions for Ease of Use: Create a master bulb classification sheet that tracks bulb descriptions over time through program changes, and as new products are added to the market, and add a column that identifies each of these bulb names as either a basic CFL,

advanced CFL, or an LED. Bulb classification (as a basic or advanced CFL or LED) could also be added to each tab going forward so that summary data already contains this categorization variable.

Step Three: Create Indicator Variable for Bulbs Being Found in the Store

In the summary sheet, create a variable called “Bulbs in store” which will be equal to 1 unless any of the following are found in the comments variable: “not found,” “out of stock,” “no,” or “not on shelf.” This is used to ensure that when tables and figures are created later, that bulbs that were not found on the shelf are not included in means or totals. The formula below can be used to create the “Bulbs in store” variable.

```
=IF(ISNUMBER(SEARCH("not found",K2)),0,IF(ISNUMBER(SEARCH("out of stock",K2)),0,IF(ISNUMBER(SEARCH("no",K2)),0,IF(ISNUMBER(SEARCH("not on shelf",K2)),0,1))))
```

In this example (from cell N2 in the summary tab of the Excel document titled [large retailer A]_AnalysisDemonstration_0214.xlsx) K2 refers to the comments variable. Additional phrases that note that the bulb was not found can be added to this formula if they are found in other retailer bulb tracking spreadsheets. This formula can be dragged down the column to create this indicator variable for the entire summary tab.

Barriers/Issues: Missing price and blank prices are also indicators of bulbs not being found on a shelf. These can be filtered out using the pivot table in step four.

Suggestions for Ease of Use: In the future, this “bulbs in store” indicator variable could be added by the contractor during data collection and reporting.

Step Four: Create a Table with Mean Number of Bulbs in Store by Bulb Type

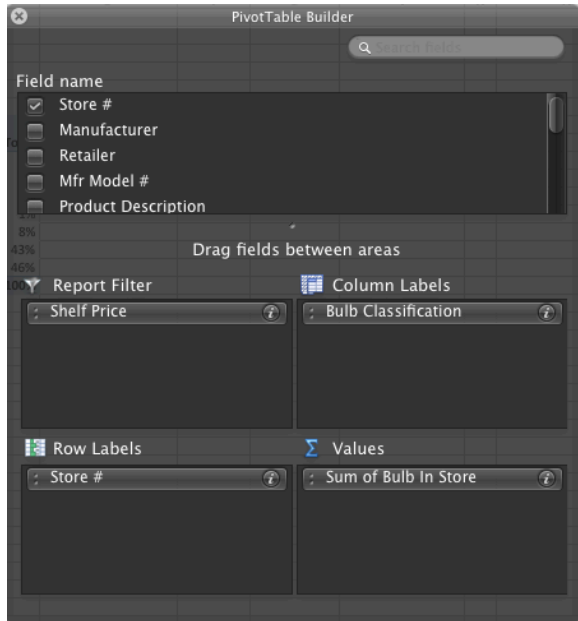
This step creates Table 1 from the first section of this memorandum (also shown below as Table 3).

Table 3: Share of Individual Incentivized SKU Present in Store by Bulb Type in February 2014

Row Labels	Advanced CFL	Basic CFL	LED	Grand Total
614	41%	49%	10%	51
658	42%	53%	4%	45
659	40%	49%	11%	53
660	38%	50%	12%	52
669	36%	52%	12%	50
671	43%	53%	4%	47
673	40%	51%	9%	53
674	36%	52%	12%	50
679	39%	50%	11%	54
680	38%	52%	10%	50
1018	39%	53%	8%	51
1030	42%	53%	5%	43
1032	45%	51%	4%	47
1034	44%	52%	4%	50
1053	39%	50%	11%	54
1074	40%	51%	9%	53
1077	41%	48%	11%	56
1848	40%	51%	9%	53
6612	38%	50%	12%	52
6628	41%	48%	11%	56
6634	40%	50%	10%	52
6656	40%	49%	11%	53
6679	39%	53%	8%	49
8949	37%	51%	12%	51
Grand Total	40%	51%	9%	1,225

This utilizes steps one through three to create a table that has the percentage of reported SKU that are found in each store that are either basic CFLs, advanced CFLs, or LEDs. To create this table, utilize the pivot table tool in Excel. First select all the cells (including the headers and the new variables created in steps one through three) from the summary sheet created in steps one through three. Create this new pivot table in a tab called "Share of Bulbs." An example of this tab can be found in each of the Excel spreadsheets attached to this document. Next, go to "Data" in the top bar of Excel, and select "PivotTable...". Once the pivot table builder opens, you will want to place the appropriate variables into certain areas as shown in the image to the left below. Once the table is created you will want to uncheck any shelf price that is zero or blank so those data are excluded. You will also want

to edit the bulb in store variable in the “Values” area of the pivot table builder so that it totals the sum of the bulbs in the store rather than the count. You will then need to duplicate this table (which can be done by copying and pasting all of the pivot table cells) to



create a table where the sum of bulbs in store is presented as the percent of row. This can be done by clicking the “i” next to where it says sum of bulbs in store in the “Values” area of the builder (see image to the left) and clicking on the options button to show data as percent of row.

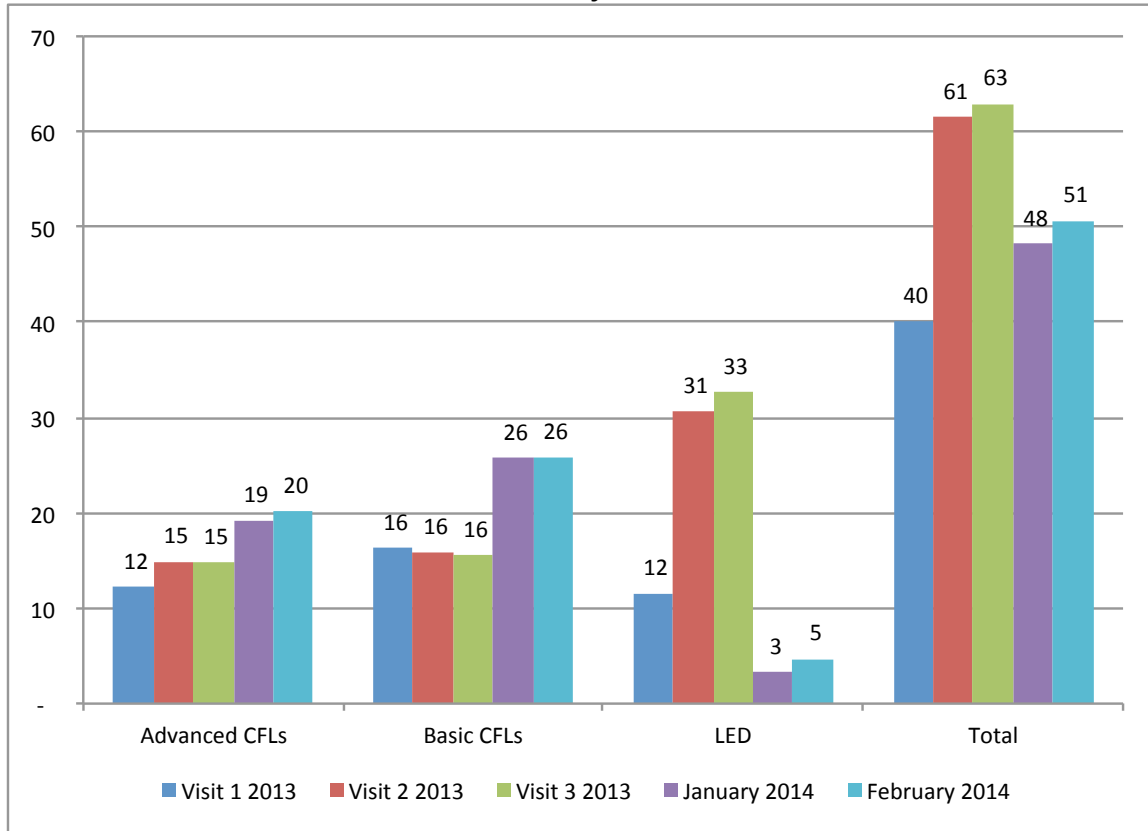
Barriers/Issues: None

Suggestions for Ease of Use: If you create the pivot table with row percents first, and the pivot table with the sum of bulbs in store to the right of that, you can hide columns so that the bulb categories are shown as percentages, and the total shows the sum of SKU at each store.

Step Five: Create a New Spreadsheet which Summarizes the Mean Bulbs by Type Over Time Using the Pivot Table Created in Step Four

This step will create Figure 2 shown below (which is the same as Figure 1 in the first section of this memo).

Figure 2: Average Number of Individual Incentivized SKU Presented in Store 2013 to February 2014



In order to create this table, you will need to add a row to the bottom of the pivot table created in step four that calculates the average SKU found in each store. Once this is done on each “share of bulbs” tab within each tracking spreadsheet for the retailer, a new Excel spreadsheet can be created to pull in these historical averages. An example of this can be found in the spreadsheet titled “[large retailer A] Summary Information_0214” that is delivered with this memo. This table is also included here as Table 4.

Table 4: Mean SKU Per Store Across Five Site Visits at a Single Retailer

	Mean SKU Per Store (n=24)			
	Advanced CFLs	Basic CFLs	LED	Total
Visit 1 2013	12	16	12	40
Visit 2 2013	15	16	31	61
Visit 3 2013	15	16	33	63
January 2014	19	26	3	48
February 2014	20	26	5	51

Figure 2 above is created using Table 4 which references the cells in each of the other five historical bulb tracking spreadsheets that contain the average number of bulbs per store. Once this table is created it can be utilized to show the data in a bar chart as is done in Figure 2 above.

Barriers/Issues: This will need to be updated with each new bulb tracking spreadsheet that is delivered by the contractor.

Suggestions for Ease of Use: None.

Step Six: Create a Table of the Location of Incentivized SKU in Stores by Bulb Type

This step will create Table 5 shown below (which is the same as Table 2 in the first section).

Table 5: Location of Incentivized SKU in Stores by Bulb Type in February 2014

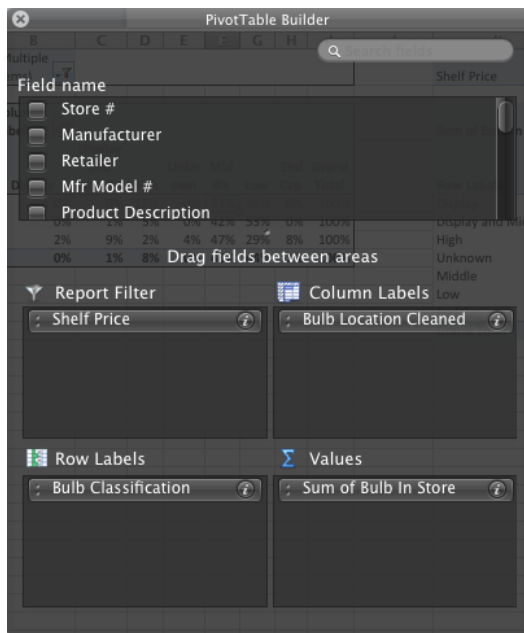
Row Labels	Display	Display and						Grand Total
		middle	Endcap	High	Low	Mid	Unknown	
Advanced CFL	0%	0%	0%	12%	36%	51%	0%	100%
Basic CFL	0%	1%	0%	5%	53%	42%	0%	100%
LED	2%	9%	8%	2%	29%	47%	4%	100%
Grand Total	0%	1%	1%	8%	44%	46%	0%	100%

First, go to the summary sheet created in step one and create a new column for a variable called “Bulb Location Cleaned.” An example of this can be found in [large retailer A]_AnalysisDemonstration_0214.xlsx in the summary tab in column P. This variable is used

to clean the various responses in the tracking data that describe the location of the bulb on the shelf. The formula used to do this is shown below.

```
=IF(G2=0,"Unknown",IF(G2="Display","Display",IF(G2="Display and Display Mid","Display and Middle",IF(G2="e","Unknown",IF(G2="e anDisplay Mid","Display and Middle",IF(G2="End Cap","End Cap",IF(G2="High","High",IF(G2="Low","Low ",IF(G2="Mid","Middle",IF(G2="Mid anDisplay Display","Display and Middle",IF(G2="n","Unknown"))))))))))))
```

G2 references the original variable that identified the location of the SKU. This equation will likely be different for each tracking sheet as data gathered in the location variable is very diverse. To create a list of the original location information, create a pivot table where the rows are the variable in G2. It will help to recreate this formula for future use by understanding that the text that follows “G2=” is the original variable, and the word in quotations that follows that is what it will recode as for the cleaned variable.



As a next step, create a pivot table similar to the pivot table created in Step 4. The variables in the builder should look similar to the image to the left. As in step four, use the percent of row tool to display the data. An example of this pivot table can be seen in the “Bulb Location” tab of [large retailer A]_AnalysisDemonstration_0214.xlsx.

Barriers/Issues: The bulb location variable in the original tracking data is messy and needed to be recoded.

Suggestions for Ease of Use: Creating a dropdown menu for the location reporting going forward would remove the need to create a cleaned up version of the variable later on in the tracking process.

The six steps above give a detailed outline of how to create analysis for other large retailers going forward. If more detail is needed on some of the Excel tools used in this memo please contact Martha Thompson at 510.899.5558 and she can walk you through some of the tools and formulas used in Excel for this analysis.